



UNIVERSITY OF MINNESOTA
Driven to DiscoverSM

University of Minnesota Twin Cities 2022-24 Undergraduate Courses

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For current information, refer to:

- Program search: z.umn.edu/publicprogramsearch
- Course search: z.umn.edu/publiccoursecatalog
- University policies: policy.umn.edu

University of Minnesota Twin Cities
3 Morrill Hall, 100 Church St. S.E., Minneapolis MN 55455

Acad, Prof, & Personal Success (APPS)

APPS 1620. Current Topics: Strategies for Student Success. (; 1 cr. [max 6 cr.]; Student Option No Audit; Every Fall & Spring)
For topics see class schedule.

Academic Health Center Shared (AHS)

AHS 1101. Orientation to Health Careers. (; 1 cr. ; Student Option No Audit; Every Fall & Spring)
Interest/personality assessment, health-related academic majors/professions, professionalism/ethics in health care. Students integrate information about self and about careers to move toward major/career choice.

AHS 1102. Orientation to Health Careers. (; 1 cr. ; Student Option No Audit; Every Fall & Spring)
This one-credit, online course is for students who are exploring health careers. Students will have the opportunity to assess their work values and interests, to learn about the academic and experiential requirements of University health professional programs, and to develop a career action plan.

AHS 1104. Experiences in Health. (; 2 cr. ; Student Option; Every Spring)
AHS 1104 Experiences in Health is a two (2) credit course, offered in-person. Classes will be in the classroom every third week, and the other class days will be spent in an experiential learning opportunity in one of our health science schools. Locations will be provided on Canvas. This course is designed for students enrolled in the Health Professions Pathways program. This course will involve hands-on experiential learning in collaboration with many of our health science programs at the University. Including experiences in Dentistry, Medical Lab Science, Nursing, Occupational Therapy, Pharmacy, Physical Therapy, Public Health, and Veterinary Medicine. This course is designed for those interested in exploring a variety of health professions, learning about the different roles of a healthcare team, as well as the attributes and qualities of inter-professional teams in healthcare. The course will also cover materials related to professional development and preparation for a health professional program. prereq: Enrolled in the Health Professions Pathways Program; AHS 1101, AHS 1102 or AHS 1600.

AHS 1600. The Future Physician I: Medicine in the 21st Century. (1 cr. ; A-F only; Every Fall)
Multi-disciplinary field of medicine. Challenges shaping work of health professionals in health care field. History of medicine/health. Global health issues/health care. Roles of physicians, team members, patient.

AHS 1601. The Future Physician II. (; 1 cr. ; Student Option; Every Fall & Spring)
A career in medicine. Life/work of physicians, what it takes to be successful. Issues/

trends including Institute of Medicine core competencies, medical ethics, concept of health teams, multiculturalism, global issues, disparities in accessing medical care.

AHS 1602. Experiences in Health Care and Public Health. (; 2 cr. ; Student Option No Audit; Every Fall, Spring & Summer)
This course for students interested in a professional health career requires you to obtain a service-learning volunteer opportunity in the field in which you are interested (e.g. medicine - clinic or hospital, public health - health department, or other organization that works to promote health such as American Lung Association etc, dentistry - a dental clinic?) You will be required to complete 35 hours volunteering throughout the semester in addition to completing the weekly assignments on Canvas.

AHS 1901. Health in the Tropics: Humans, Animals, and Ecosystems. (GP; 3 cr. ; A-F only; Every Spring)
The future health of our world requires a generation of creative, motivated, strategic, and expansive thinkers prepared to collaborate across disciplines and sectors to proactively protect the health of human and animal populations and the environment in which they live. Through exploring the connections between culture and human, animal, and ecosystem health in Ecuador, this Freshman Seminar will expose freshman considering health profession careers to the variety of health professions involved in the One Health approach. Students will learn about the roles of various health professions and the challenges and opportunities for the various professions to work together on complex health challenges. Ecuador is an ideal location to incorporate cultural contexts with an understanding of the intersection between animal health, human health, and the environment. Ecuador is home to an amazing array of cultural diversity. Historically, Ecuador was home to a wide range of Amerindian groups and the Inca Empire later to be colonized by Spain and then became independent in 1830. During colonization, numerous new infectious diseases devastated parts of Ecuador. During the first half of the spring semester at UMN, students will learn about the challenges and opportunities of human, animal, and ecosystem health (One Health) in Ecuador while comparing and contrasting it to the US and/or Minnesota. Students complete reflections and journaling that will contribute to their final story project. Through taking and learning about the Intercultural Development Inventory and cultural development and reflection activities including Observe, Describe, Interpret, and Evaluate (ODIE), students will learn more about their own cultures while preparing to openly experience culture in Ecuador. During the Spring Break week, students will have the opportunity to apply the knowledge learned in the early Spring semester to observations and experiences in Ecuador. The teams will ask questions during site visits from their assigned One Health perspective in preparation for their final project on One Health in Ecuador. Site visits will include a visit to Colonial Quito and

the Mitad del Mundo City Museum. Students will visit an urban and rural health center, the CINCA Agroecological Center, the San Clemente Pukyu Pamba project featuring an indigenous community where they will share a meal with the community. Students will also participate in an indigenous healing ceremony. Finally students will visit Pambilino, a Bosque Escuela, located in the northwest of Ecuador near the community of Mashpi, a nature reserve of the Choco rainforest that has a 4 hectare permaculture farm in the North Occidental of Ecuador, nestled within the tropical foothills of Ecuador. They work to teach sustainable agroforestry techniques to those that want to learn on the Bosque-escuela. Upon returning to UMN, the students will participate in re-entry activities, present their final digital story, and have a final class debrief. Students will complete reflective journal entries throughout the semester and a final personal reflection on One Health in Ecuador compared and contrasted to Minnesota/USA.

AHS 2300. Orientation to Clinical Research. (1 cr. ; A-F only; Every Fall & Spring)
Seminar. Field of clinical research. Ethical conduct/professionalism. Research methods pertinent to dentistry, medicine, public health, pharmacy, nursing. Field experience.

AHS 2400. Writing a Personal Statement for a Health Program. (; 1 cr. ; S-N only; Every Fall, Spring & Summer)
AHS 2400 will keep you on track to write a compelling and unique personal statement. This course is designed for students who will be applying to a health professional degree program (i.e. medicine, pharmacy, physical therapy, etc.). Prerequisites: Junior or Senior status. Competitive GPA and demonstrated intention to apply to a professional health program. To be eligible for AHS 2400: Students must have a competitive GPA, and be within one year of submitting their application for a health professional degree program. You will be required to complete a form after enrolling to confirm your seat in the course. If the student does not meet these requirements they will be unenrolled from the course.

AHS 2707. Global Health Challenges for Future Health Professionals. (; 2 cr. [max 4 cr.]; A-F only; Periodic Fall, Spring & Summer)
This is a two-credit course designed for students who have an interest in learning more about global health careers, including the issues and the challenges and opportunities health professionals face as they work in global health. Every year this course is designed a little differently ? to respond to current events in global health. We have focused on topics including: pandemic flu, natural and man made disasters, social determinants of health, immigration and other topics.

AHS 3001. Health and Medicine in India in a Social and Cultural Context. (GP; 3 cr. ; A-F only; Every Spring)
Students are required to attend two pre-orientations, travel to India on the global seminar, and complete a project and presentation upon their return to the United States. prereq: instr consent

AHS 3002. Global Health in Thailand - Humans, Elephants, and Disease. (GP; 3 cr. ; A-F only; Every Spring)

Global Health in Thailand is a Global Seminar that travels to Chiang Mai, Thailand to examine the relationship between human, animal, and environmental health through the One Health approach. The course travels to Thailand over winter break and then meets for the first half of Spring semester. For more information, see the Learning Abroad Center website.

AHS 3003. Sustainable Approaches to Health in France. (GP; 3 cr. ; A-F only; Every Spring)

A wide range of factors influences health status in a country including politics, economics, culture, history and the systems that provide structure and process in country. As the global world developed the 2030 Sustainable Development Goals (SDGs) framework, we have seen an increase in innovative strategies by countries to meet the 2030 goals, with France emerging as a leader in their efforts. The 2030 Sustainable Development Goals are framed by five categories: planet, people, prosperity, peace, and partnership. France has made some innovative efforts to move the needle in each of these categories. For example, France is leading the way with food security, having introduced a new international strategy for food security, nutrition, and sustainable agriculture in October 2019. From public health and healthcare systems to food safety and security, the extensive challenges require collaboration, coordination, and an interprofessional approach to be successful. According to writer Kim Ann Zimmerman, "The culture and underlying values in France are distinctly different from the US. The French believe in 'galit?', which means equality, and is part of the country's motto: "Libert?, Egalit?, Fraternit?." Many say they place a higher importance on equality than liberty and fraternity, the other two words in the motto.? We will explore how France?s history, culture, and underlying values affect health, health disparities and systems that influence health, healthcare and SDGs

AHS 3101. The New Health Professions Team. (2 cr. ; Student Option; Every Spring)

The future health of our world population requires a generation of creative, motivated, strategic, expansive thinkers prepared to collaborate across disciplines and sectors to preempt and address the causes of poor health in patients and populations. The knowledge and skills needed to be successful come from all disciplines, not just the health professions, and require us to learn about and work with each other. In addition to sharing discipline specific knowledge, the key is to translate concepts and language so interprofessional teams can identify, dissect, define, and solve health-related grand challenges together. This course will help students grow in their understanding and capacity to work in interdisciplinary teams in a multitude of settings, from serving patients to serving communities. prereq: This course is recommended for junior and senior undergraduate students pursuing a health career.

AHS 4393. Directed Study. (1-3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Students participating in a directed study will carry out an independent project under supervision of an instructor from the Pre-Health Student Resource Center. Registering for directed study allows you to get credit for conducting research or independent studies that match with your interest as a future health professional. You should discuss your interest with an instructor prior to completing your directed study contract http://z.umn.edu/directed_activity prereq: instructor consent

AHS 5100. HIV Drug Discovery. (3 cr. ; A-F only; Every Fall)

Basic virology, medicinal chemistry, pharmacology of HIV chemotherapy. General process of drug discovery, including target selection/validation, in vitro assay development, computer-aided inhibitor design strategies/drug-like properties. Major classes of FDA-approved anti-HIV drugs. Intellectual properties, FDA regulatory issues, successful antiviral discovery story. prereq: One year of organic chemistry, [CHEM 2301 and 2302] or equivalent, [one semester of biochemistry], [BIOC 3021 or equivalent]

Accounting (ACCT)**ACCT 1911. The Language of Business.** (3 cr. ; A-F only; Every Fall & Spring)

Have you ever wondered why Tesla's stock price tripled in a 3-month time period? Why did Toys R Us go bankrupt? Why does Apple hold on to \$200 billion of cash? Why is Snapchat still not profitable yet? All of these questions can be answered by looking at a company's financial statements! Financial accounting is often called the language of business as it is the language that companies use to communicate their financial information to various parties. Regardless of whether you want to work in the field of accounting and finance, become a manager at a company, or just dabble in stock market investing, understanding how a business works, how managers make decisions, and how to analyze financial statements will be hugely beneficial for your future. This seminar will start by exposing you to basic business terminology and concepts, as well as analyzing how businesses make decisions. Next, we will focus on the ABCs of financial statements and financial analysis. Finally, we will apply these principles to real-life case studies and discussions that explore various companies such as Spotify, Tesla, Uber, Netflix, Starbucks, Apple, Snapchat, and more!

ACCT 2051. Introduction to Financial Reporting. (4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

This course introduces the topics of financial reporting and accounting. The purpose of financial accounting is to provide information to the entity owners and external parties to serve as the basis for making decisions about that entity. A student who successfully completes this class should be able to 1) understand the concepts and principles of accounting,

2) analyze, record and report the accounting treatment of business transactions, and 3) prepare, interpret, and analyze financial statements.

ACCT 2051H. Honors: Introduction to Financial Reporting. (4 cr. ; A-F or Audit; Every Spring)

This course introduces the topics of financial reporting and accounting. The purpose of the financial accounting is to provide information to the entity owners and external parties to serve as the basis for making decisions about that entity. A student who successfully completes this class should be able to 1) understand the concepts and principles of accounting, 2) analyze, record and report the accounting treatment of business transactions, and 3) prepare, interpret, and analyze financial statements.

ACCT 3001. Strategic Management Accounting. (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Costing techniques, including activity-based costing. Applying costing methods to determine costs of products, services, and production processes. Use of costs in operating/strategic decisions. prereq: ACCT 2051 or 2050

ACCT 5101. Intermediate Accounting I. (4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Valuation, measurement, reporting issues related to selected assets/liabilities of firm. Theory underlying accounting issues. Applying accounting principles. prereq: Grade of B- or better in Acct 2050/Acct 2051 OR passed the Acct pretest (z.umn.edu/Acct5101pretest); CSOM Major, MGMT minor, mgmt grad student

ACCT 5102. Intermediate Accounting II. (4 cr. ; A-F or Audit; Every Fall & Spring)

Basic valuation problems encountered in financial reporting. Focuses on valuation of liabilities. Accounting for leases, pensions, and deferred taxes. Introduces consolidated financial statements. prereq: 5101[mgmt or grad mgmt student]

ACCT 5125W. Auditing Principles and Procedures. (WI; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Concepts of auditing internal control/financial statements in accordance with generally accepted auditing/professional standards established by Public Company Oversight Board (PCAOB) and American Institute of Certified Public Accountants (AICPA). Writing Intensive course. prereq: [3101 or 5101 or 5100 or 6100], [acct major or grad mgmt student]

ACCT 5126. Internal Auditing. (2 cr. ; A-F or Audit; Every Fall & Spring)

Financial/operational auditing. Standards. Managing the function. prereq: 2050

ACCT 5135. Fundamentals of Federal Income Tax. (4 cr. ; A-F or Audit; Every Fall & Spring)

U.S. federal system of taxation. Concepts of gross income, deductions, credits. Analysis of structure of Internal Revenue Code, its provisions with respect to specific areas of law. Interrelationships between legislative,

judicial, and administrative authority. Methods, tools, and techniques to conduct tax research. prereq: [2050 and or 2051] or MBA 6030, [mgmt or grad mgmt student]

ACCT 5141. Financial-Data Analytics. (2 cr. ; A-F only; Every Fall & Spring)

This is a 2-credit undergraduate-level financial reporting data analytics course for Carlson students. The main learning objective is to introduce students specializing in business (accounting, auditing, tax, finance, marketing, operations, etc.) to data analytics, providing them the necessary knowledge and tools needed to effectively use data analytics in their specialized domain. The goal is thus for students to be able to consume and use available data analytics technologies to complement existing technical skills, rather than to train "data analytics specialists" (although this class is a good jumping-off point for students who wish to pursue a career specializing in data analytics!). Prior coding experience is thus not required, although students should have completed business statistics (SCO 2550 or BA 2551 or equivalent statistics course). After a general overview of data analytics and machine learning, we will dive into the ETL (extract, transform, load) process, covering topics and showcasing applications such as data joins, variable types, formulas, and regular expressions. We will then explore data visualization tools (including pivot tables and dashboards) and conclude the term by modeling data to create business insights via predictions. Students will gain hands-on experience using state-of-the-art data analytics tools and will learn how to conduct basic SQL queries. Students will improve their quantitative and problem-solving skills and learn how to apply scientific research methods to answer questions, present solutions, and discuss limitations. An emphasis will be placed on financial reporting datasets/applications, although the methods and concepts covered are applicable to other business settings/functions. Ultimately, students will enhance their analytical skills and achieve a deeper understanding of issues related to financial reporting specifically and business more generally. prereq: SCO 2550 or BA 2551 or equivalent statistics course and Acct 2050 or 2051

ACCT 5161. Financial Statement Analysis. (; 2 cr. ; A-F or Audit; Every Fall & Spring) Interpretation/analysis of financial statements. Introduces basic techniques of financial statement analysis and applies them in different settings (e.g., in investment/credit decisions). prereq: [5101]

ACCT 5181. Consolidations and Advanced Reporting. (2 cr. ; A-F or Audit; Every Spring & Summer) Theory underlying preparation of consolidated financial statements, as well as mechanical computations needed to prepare statements. prereq: 5101, 5102 recommended, or MBA 6031 (equiv. is also MBA 6030 before course number change in Fall 2022). MBA/Mgmt Sci MBA students must register A/F grade base.

ACCT 5201. Intermediate Management Accounting. (2 cr. ; A-F or Audit; Every Fall & Spring)

This course is an in-action course. The course explores the topic of management accounting in greater depth. The course expands introductory course material via special emphasis on decision making, problem solving skills and exploration of accounting's role within overall management. The course is an in-action class. We will have a project working on a business case from a firm as the final assessment for the course. prereq: 3001, acct or finance major

ACCT 5236. Introduction to Taxation of Business. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to the income tax laws governing the taxation of corporations, partnerships, limited liability companies, limited liability partnerships, and S corporations. Students will also increase their knowledge and skills related to tax research by writing research memorandums. prereq: 5135, acct major

ACCT 5311. International Accounting. (; 2 cr. ; A-F or Audit; Every Spring)

Causes/history of international differences in design of financial accounting/reporting systems, efforts to harmonize them into worldwide system. Role/impact of currency translation on financial statements. International Accounting Standards, conceptual framework. prereq: 5101; [5102 or concurrent registration is required (or allowed) in 5102] recommended

ACCT 5320. Financial Reporting Data Analytics. (; 2 cr. ; A-F only; Every Fall)

This is a core course for the students in the Master of Accounting program at Carlson School of Management. The main learning objective is to familiarize students with large-scale financial reporting and market information databases and to improve students' quantitative analytical and problem-solving skills in conjunction with these data. We will discuss financial reporting and corporate governance topics related to earnings management, fraud detection, audit quality, board structure, and SEC enforcement. Students will gain hands-on data analysis experience. Students will also learn how to apply scientific research methods to answer questions, present solutions, and discuss limitations. We will provide a brief overview of the concepts of probability distribution and statistical inference. Relying on the above tools, students enhance their analytical skills and ultimately achieve deeper understanding on issues related to financial reporting and capital markets. Topics vary.

ACCT 5420. MAcc directed study. (1-4 cr. ; Student Option; Every Fall, Spring & Summer) Internship or directed study in Master of Accountancy degree program. prereq: MAcc student

ACCT 5900. Topics in Accounting. (; 1-4 cr. [max 12 cr.] ; A-F only; Periodic Fall & Spring) Topics in Accounting which focus on specialized areas in ACCT that area currently relevant or have importance in the field

Addiction Studies (ADDS)

ADDS 5011. Foundations in Addiction Studies. (; 2 cr. ; A-F only; Every Fall & Spring)

Theoretical perspectives/concepts related to etiology of alcohol/drug dependency/abuse. Emphasizes bio-psycho-social models of addiction/disease: psychodynamics, social learning, contingency, family systems. Connection of theory to empirical research.

ADDS 5021. Introduction to Evidence Based Practices and the Helping Relationship. (3 cr. ; A-F only; Every Fall & Spring)

Initiating, conducting, and terminating a counseling relationship. Use of self in counseling process. Nature/process of helping. Evidence-based practices/theories. Reading, discussion, written exercises, role-play, observation, feedback, out-of-class practice.

ADDS 5031. Applied Psychopharmacology. (; 2 cr. ; A-F only; Every Spring & Summer)

This course provides a comprehensive survey of the basic concepts of psychopharmacology and psychiatric conditions for which psychoactive medication presents an appropriate intervention strategy. It is intended to be an introduction into the field and is designed to provide a working knowledge base to enable students to more competently address the experiences of their clients taking prescribed psychotropic medications.

ADDS 5041. Methods and Models I: Motivational Counseling. (2 cr. ; A-F only; Every Spring & Summer)

Concepts of motivational interviewing. Spirit of MI. Primary counseling skills. Working with resistance. Identifying/eliciting change talk. Transitioning into change, negotiating treatment plan. Strengths/shortcoming of MI.

ADDS 5051. Methods and Models II: Cognitive Behavioral Therapy. (2 cr. ; A-F only; Every Spring & Summer)

Components of cognitive model. Assessment, case formulation, automatic thoughts, core beliefs, cognitive restructuring, behavior change elements, therapeutic relationship. Learn, practice, master key concepts.

ADDS 5061. Foundations of Group Work. (3 cr. ; A-F only; Every Fall, Spring & Summer) Designing/facilitating therapy groups. Intra-/inter-personal dynamics, leadership skills, developmental aspects, ethical issues. Application to therapy of chemically addicted individuals. Lectures, discussion, experiential exercises, small groups, readings.

ADDS 5071. Foundations of Co-occurring Disorders. (; 2 cr. ; A-F only; Every Fall, Spring & Summer)

Understanding mentally ill/chemically abusive or dependent client. Intervention, advocacy, education, support for client/those part of his/her environment. Social, environmental, multicultural factors that contribute resources for these clients.

ADDS 5081. Multicultural Foundations of Behavioral Health. (3 cr. ; A-F only; Every Fall & Spring)

What is culture? How might culture, cultural practices, and history be significant in the use/abuse of substances? How is culture relevant to the attitudes/practices in the prevention/treatment of substance use/abuse? Multicultural counseling and cultural competence in addiction counseling. People as individuals. Clinician's own cultural worldview/ other cultural worldviews.

ADDS 5091. Assessment and Treatment Planning I. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Core addictions counseling. Clinical assessment, case management, documentation treatment planning, ethical issues. Students begin process of securing internship.

ADDS 5121. Professional Seminar 1: Internship Prep. (; 1 cr. ; S-N only; Every Fall, Spring & Summer)

Prepares students for successful entry into field of substance use disorder counseling by focusing on facets that are critical to their professional development. Through discussions, experiential learning activities, guest lectures and site visits, students gain further understanding of the internship placement process and requirements, settings that fit their individual training and career goals, requirements for initial licensing and renewal, the testing process, models of professional development, the importance of professional advocacy and associations, self-care and requirements and benefits of clinical supervision. Professional ethics, including state rules, statutes, codes of conduct and regulations for practitioners and agencies are also addressed. Students will also develop their job search skills and apply them to secure a field placement for the internship seminar.

ADDS 5950. Special Topics. (; 1-4 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)

Special topics in addiction studies. prereq: dept consent

ADDS 5993. Directed Study. (1-3 cr. [max 9 cr.] ; Student Option; Every Fall, Spring & Summer)

Directed study. prereq: dept consent

ADDS 5996. Internship in Behavioral Health. (1 cr. [max 8 cr.] ; S-N only; Every Fall, Spring & Summer)

Internship provides Addiction Studies students with practical experience in settings where substance abuse and/or co-occurring mental health treatment services are offered. The internship experience allows students to relate academic and theoretical learning to settings outside the classroom. General counseling skills, awareness and influence of self in the counseling process and competency in the 12 Core Functions are enhanced through clinical experience, on-site individual supervision and peer group supervision.

Adult Psychiatry (ADPY)

ADPY 5515. Neuropsychology: University Hospitals. (; 3-9 cr. ; O-N or Audit; Every Fall)

Aerospace Engineering and Mech (AEM)

AEM 1301. Ballooning: Design, Build, and Fly. (; 2 cr. [max 4 cr.] ; Student Option No Audit; Every Fall)

Outer space, sometimes called the "Final Frontier," has always been difficult to reach due to the tremendous expense of rocket launches and the limited number of launch opportunities. In this hands-on course, we will hone "amateur-spacecraft"-building skills including light-weight-but-rugged structural assembly, microcontroller programming, soldering, wiring, and CAD. Then we will design and build miniature spacecraft and use relatively-inexpensive helium-filled weather balloons to carry them into the stratosphere (AKA "near-space?"), which has many of the same physical properties (and view!) as outer space. The overarching theme for Fall 2022 payloads will be "Preparing for eclipse ballooning missions (to be conducted during solar eclipses in October 2023 and April 2024)." The balloon launch and recovery will be a required day-long class activity on a weekend date in late October or early November. This activity is weather dependent, so the flight date will need to be flexible. A "primary" date and several back-up dates will be announced at the start of the semester. After the balloon flight, the remainder of the semester will involve data analysis as well as discussions and activities relating to full-fledged (i.e. outer space) spaceflight, including scientific accomplishments and engineering challenges of past, current, and future space missions.

AEM 1303. Aircraft: Design, Build, and Fly. (; 2 cr. [max 4 cr.] ; Student Option No Audit; Every Spring)

Now ubiquitous, powered aircraft flight is little more than a century old. In this hands-on seminar, we will explore the fundamentals of flight through the design, flight test, and analysis of small, UAV (uninhabited aerial vehicle) aircraft. Initially, we will cover the history and fundamentals of flight through lectures and discussion, answering questions such as, "how do aircraft fly?" and "why do aircraft look so similar?" Then, working in small teams, students will design, build, and flight test an electric remote-control aircraft. Students will analyze the flight tests to see if the aircraft performed as expected, write reports, and present on the results. Additional elements of the seminar may include lectures, discussions, and activities associated with aircraft, including the engineering challenges of past, current, and future aircraft.

AEM 1305. Rocketry: Design, Build, and Fly. (; 2 cr. [max 4 cr.] ; Student Option No Audit; Periodic Fall)

This hands-on course will take students beyond (Estes-type) "model rocketry" into the realm of "high-power rocketry," building rockets with H-size (or larger) motors, some capable of reaching altitudes of several thousand feet! The class will begin by building a "kit" rocket (in teams) then attending a day-long "Round

1" launch event with will be a required class activity for a weekend date mid-semester. This will be followed by designing then building a "Round 2" custom "scratch" rocket (in teams) then sending representatives of the team to launch it late in the semester. In addition to learning basic rocketry physics, using rocketry computer simulations, constructing high-power rockets, and flying them, this class will include lectures, discussions, and activities associated with the past, present, and future of "real-spaceflight rocketry" for manned and unmanned rocket-powered missions to low-Earth-orbit and beyond. Required all-day class flight activities, often on a Saturday mid-semester. High-power rocketry classes will have a second class flight date to which every team will need to send attendees. Specific launch date(s) will be announced at the beginning of the semester. Transportation to rocket launches will be provided. prereq: Freshman, able to attend all-day flight activities

AEM 1805. First Year Projects: Aircraft and Spacecraft. (; 2 cr. [max 4 cr.] ; Student Option No Audit; Periodic Fall & Spring)

Topics related to air and space travel with an emphasis on hands-on projects and activities.

AEM 2011. Statics. (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Force/moment vectors, resultants. Principles of statics and free-body diagrams. Applications to simple trusses, frames, and machines. Distributed loads. Internal forces in beams. Properties of areas, second moments. Laws of friction. prereq: PHYS 1301W, [concurrent registration is required (or allowed) in Math 2374 or equiv], CSE

AEM 2012. Dynamics. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Kinematics/kinetics of particles. Newton's laws. Energy/momentum methods. Systems of particles. Kinematics/kinetics of planar motions of rigid bodies. Plane motion of rigid bodies. Mechanical vibrations. prereq: 2011, [concurrent registration is required (or allowed) in Math 2373 or equiv], CSE student

AEM 2021. Statics and Dynamics. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Force/moment vectors, resultants. Principles of statics and free-body diagrams. Applications to simple trusses, frames, and machines. Properties of areas, second moments. Internal forces in beams. Laws of friction. Principles of particle dynamics. Mechanical systems and rigid-body dynamics. Kinematics/dynamics of plane systems. Energy/momentum of 2-D bodies/systems. prereq: Phys 1301W, [concurrent registration is required (or allowed) in Math 2374 or equiv], CSE

AEM 2031. Mechanics for Materials Engineers. (3 cr. ; A-F only; Every Spring)

This course covers the basics of equilibrium of rigid and deformable bodies for Materials Engineers. The course begins with the principles of statics, including a review of vector operations and analysis of moments and resultant forces from multiple loads, including distributed loads, equilibrium and free body diagrams, center of gravity and moments of

inertia. The course then moves on to explore stress and strain, including normal and shear stresses, and stress and strain transformations. Then the materials properties of interest to the mechanical response and testing procedures used to determine these properties are discussed. Lastly, the stresses and strains associated with common loading modes (e.g., axial, torsion, shear and bending) are covered. Modes of failure, including yielding and buckling, are also introduced. prereq: Math 2374, Math 2373 (concurrent allowed), Phys 1301W, CSE Student, Materials Engineering Major or premajor

AEM 2301. Mechanics of Flight. (; 3 cr. ; A-F or Audit; Every Spring)

Standard atmospheric properties, basic aerodynamics, generation of lift/drag. Airfoils, finite wings. Elements of aircraft performance and atmospheric flight mechanics. Introduction to MatLab and simulations for aircraft design. prereq: PHYS 1301W, [concurrent registration is required (or allowed) in MATH 2373 or equiv], CSE

AEM 3031. Deformable Body Mechanics. (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Uniaxial loading/deformation. Stress/strain at point, Mohr's circle. Internal forces in beams. Material behavior, linear elasticity. Torsion of circular shafts. Bending of beams of symmetrical section. Column buckling. Statically indeterminate structures. prereq: [2011 or 2021 or [BMEN 3011, BMEN major]], [Math 2374 or equiv], [concurrent registration is required (or allowed) in Math 2373 or equiv], CSE

AEM 3101. Mathematical Modeling and Simulation in Aerospace Engineering. (2 cr. ; A-F or Audit; Every Fall & Spring)

Mathematical modeling of engineering systems/numerical methods for their solution. Use of MATLAB. Focus on systems found in aerospace engineering/mechanics. prereq: [MATH 2373 or equiv], AEM major

AEM 3391. Independent Design Project. (3 cr. ; A-F only; Every Fall & Spring)

Independent design project construction/testing under guidance of faculty member. Group projects allowed. Students responsible for finding faculty adviser for project. Final project report (written or oral). prereq: dept consent

AEM 4201. Fluid Mechanics. (4 cr. ; A-F or Audit; Every Fall)

First course in fluid mechanics. Stress/strain rate descriptions, fluid statics. Use of differential and finite control volume analysis with continuity. Momentum/energy equations, Bernoulli/Euler equations, vorticity, potential flow, incompressible viscous flow using Navier-Stokes equations, dimensional analysis, pipe flow, boundary layers, separation, introduction to turbulence. prereq: 2012, [Math 2373 or equiv], [Math 2374 or equiv], [CSE upper div or grad student]

AEM 4202. Aerodynamics. (; 4 cr. ; A-F or Audit; Every Spring)

Inviscid aerodynamics. Subsonic, transonic, and supersonic airfoil theory; wing theory. Introduction to compressible flow, normal

and oblique shock waves, Prandtl-Meyer expansions. Linearized compressible flow. Wing-body combinations. Computational aerodynamics methods. prereq: upper div CSE or grad, 4201

AEM 4203. Aerospace Propulsion. (; 4 cr. ; A-F or Audit; Every Spring)

Basic one-dimensional flows: isentropic, area change, heat addition. Overall performance characteristics of propellers, ramjets, turbojets, turbofans, rockets. Performance analysis of inlets, exhaust nozzles, compressors, burners, and turbines. Rocket flight performance, single-/multi-stage chemical rockets, liquid/solid propellants. prereq: 4202, [CSE upper div or grad student]

AEM 4247. Hypersonic Aerodynamics. (3 cr. ; A-F or Audit; Spring Even Year)

Importance/properties of hypersonic flow. Hypersonic shock and expansion-wave relations. Local surface inclination methods. Approximate/exact methods for hypersonic inviscid flow fields. Viscous flow: boundary layers, aerodynamic heating, hypersonic viscous interactions, computational methods. Hypersonic propulsion and vehicle design. prereq: 4202, CSE upper division

AEM 4253. Computational Fluid Mechanics. (3 cr. ; A-F or Audit; Every Fall)

Introductory concepts in finite difference and finite volume methods as applied to various ordinary/partial differential model equations in fluid mechanics. Fundamentals of spatial discretization and numerical integration. Numerical linear algebra. Introduction to engineering and scientific computing environment. Advanced topics may include finite element methods, spectral methods, grid generation, turbulence modeling. prereq: 4201, CSCI 1113, CSE upper division

AEM 4290. Special Topics in Fluid Mechanics. (; 1-3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)

Topics vary each semester within the field of Fluid Mechanics prereq: dept consent

AEM 4293. Directed Studies in Fluid Mechanics. (1-3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Topics of current interest. Individual projects with consent of faculty sponsor. prereq: dept consent

AEM 4301. Orbital Mechanics. (3 cr. ; A-F or Audit; Fall Odd, Spring Even Year)

The two-body problem. Earth-satellite operations, rocket performance, reentry dynamics, space environments, interplanetary trajectories. Numerical simulations. Design project. prereq: [2012 or equiv], [MATH 2373 or equiv], [CSE upper div or grad student]

AEM 4303W. Flight Dynamics and Control. (WI; 3 cr. ; A-F or Audit; Every Spring)

Forces/moments, trim, linearization, transfer functions, dynamic response characteristics for aircraft. Aircraft stability/control derivatives, static longitudinal/lateral stability. Phugoid, short period, spiral, roll subsidence, dutch roll modes. Handling qualities. Design project. prereq: [2012, 2301, 3101, [WRIT 1301 or

equiv], [CSE upper div or grad student]] or instr consent

AEM 4305. Spacecraft Attitude Dynamics and Control. (3 cr. ; A-F or Audit; Every Spring)

Kinematics/dynamics for six-degree of freedom rigid body motions. Euler's angles/equations. Torque free motion, spin stabilization, dual-spin spacecraft, nutation damping, gyroscopic attitude control, gravity gradient stabilization. Linear systems analysis, Laplace transforms, transfer functions. Linear control theory. PID controllers. prereq: [4301, [3101 or ME 3281 or EE 3015], CSE upper div] or grad student

AEM 4321. Automatic Control Systems. (3 cr. ; A-F or Audit; Every Fall)

Modeling, characteristics, and performance of feedback control systems. Stability, root locus, and frequency response methods. Nyquist and Bode diagrams. Lead-lag and PID compensators. Digital implementation and hardware considerations. prereq: CSE upper div or grad student

AEM 4331. Aerospace Vehicle Design. (; 4 cr. ; A-F only; Every Fall)

Multidisciplinary student teams perform conceptual designs of aerospace vehicles, components, missions, or systems that incorporate realistic constraints/applicable engineering standards. Papers on professional ethics/contemporary aerospace issues. Oral preliminary/critical design reviews. prereq: [2301, 4202, AEM sr] or instr consent

AEM 4333. Aerospace Design: Special Projects. (; 3 cr. [max 6 cr.] ; Student Option; Every Spring)

Student groups design, build, and test aerospace projects. Projects include designs from AEM4331 or projects such as microgravity experiments. Students create and maintain an electronic project data repository, prepare weekly status reports, build and test their design, and prepare a final report. prereq: 4331 or instr consent

AEM 4490. Special Topics in Aerospace Systems. (; 1-3 cr. ; A-F only; Every Fall, Spring & Summer)

Topics vary each semester within the field of Aerospace Systems

AEM 4493. Directed Studies in Aerospace Systems. (1-3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Topics of current interest. Individual projects with consent of faculty sponsor. prereq: dept consent

AEM 4501. Aerospace Structures. (; 3 cr. ; A-F or Audit; Every Spring)

Advanced strength of materials analysis of elastic structures with aerospace applications; failure modes and criteria, buckling, matrix methods for analysis, plane truss design; energy and Castigliano methods for statically determinate and indeterminate structures; torsion and bending of asymmetrical thin-walled sections. Design project. prereq: CSE upper div or grad, 3031 or equiv

AEM 4502. Computational Structural Analysis. (3 cr. ; Student Option; Fall Even Year)

Application of finite element methods to problems in structural analysis. Emphasizes properly posing problems and interpreting calculation results. Use of commercial FEA packages. Introduction to theory of finite elements. prereq: [Grade of at least C in 4501, [CSE upper div or grad student]] or instr consent

AEM 4511. Mechanics of Composite Materials. (; 3 cr. ; Student Option; Every Spring)
Analysis, design, and applications of laminated and chopped fiber reinforced composites. Micro-/macro-mechanical analysis of elastic constants, failure, and environmental degradation. Design project. prereq: 3031 (or 2031 if MatSci), [CSE upper div or grad student]

AEM 4581. Mechanics of Solids. (3 cr. ; Student Option; Fall Odd Year)
Continuum mechanics in one dimension: kinematics; mass, momentum/energy, constitutive theory. Wave propagation, heat conduction. Strings. Euler-Bernoulli theory. 3-D deformations/stress. Topics from fracture mechanics, structural stability, vibrations, thin films, layered media, smart materials, phase transformations, 3-D elastic wave propagation. Elasticity, viscoelasticity, plasticity. prereq: 3031, [Math 2373 or equiv], [Math 2374 or equiv], CSE upper div

AEM 4590. Special Topics in Solid Mechanics and Materials. (; 1-3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)
Topics vary each semester within the field of Solid Mechanics and Materials prereq: dept consent

AEM 4593. Directed Studies: Solid Mechanics. (1-3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Topics of current interest. Individual projects with consent of faculty sponsor. prereq: dept consent

AEM 4601. Instrumentation Laboratory. (; 3 cr. ; A-F or Audit; Every Spring)
Introduction to lab instrumentation. Computerized data acquisition. Statistical analysis of data. Time series data, spectral analysis. Transducers for measurement of solid, fluid, and dynamical quantities. Design of experiments. prereq: CSci 1113, EE 3005, EE 3006, [upper div BAEM]

AEM 4602W. Aeromechanics Laboratory. (WI; 4 cr. ; A-F or Audit; Every Fall)
Experimental methods/design in fluid/solid mechanics. Wind tunnel/water channel experiments with flow visualization, pressure, velocity, force measurements. Measurement of stresses/strains/displacements in solids/structures: stress concentrations, materials behavior, structural dynamics. Computerized data acquisition/analysis, error analysis, data reduction. Experiment design. Written/oral reports. Lab ethics. Writing intensive. prereq: 4201, 4501, 4601, [WRIT 1301 or equiv], [CSE upper div or grad]

AEM 4796. Professional Experience. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Work experience with substantive engineering component. Written report. prereq: CSE upper div, AEM major, dept consent

AEM 4894. Directed Studies: Senior Honors Thesis. (; 3 cr. ; A-F only; Every Spring)
Writing thesis under direction of AEM faculty member. prereq: Honors student, permission of University Honors Program, AEM major

AEM 4896. International Professional Experience. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)
International work experience with substantive engineering component. Written report. prereq: CSE upper div, AEM major, dept consent

AEM 5247. Hypersonic Aerodynamics. (3 cr. ; A-F or Audit; Spring Even Year)
Importance/properties of hypersonic flow. Hypersonic shock and expansion-wave relations. Local surface inclination methods. Approximate/exact methods for hypersonic inviscid flow fields. Viscous flow: boundary layers, aerodynamic heating, hypersonic viscous interactions, computational methods. Hypersonic propulsion and vehicle design. prereq: 4202 or equiv, CSE grad student

AEM 5253. Computational Fluid Mechanics. (3 cr. ; A-F or Audit; Every Fall)
Introductory concepts in finite difference and finite volume methods as applied to various ordinary/partial differential model equations in fluid mechanics. Fundamentals of spatial discretization and numerical integration. Numerical linear algebra. Introduction to engineering and scientific computing environment. Advanced topics may include finite element methods, spectral methods, grid generation, turbulence modeling. prereq: [4201 or equiv], [CSci 1113 or equiv], CSE grad student

AEM 5321. Modern Feedback Control. (; 3 cr. ; Student Option; Every Fall)
State space theory for multiple-input-multiple-output aerospace systems. Singular value decomposition technique, applications to performance/robustness. Linear quadratic gaussian and eigenstructure assignment design methods. Topics in $H[\infty]$ symbol]. Applications. prereq: 4321 or EE 4231 or ME 5281 or equiv

AEM 5333. Design-to-Flight: Small Uninhabited Aerial Vehicles. (3 cr. ; A-F only; Periodic Spring)
Designing, assembling, modeling, simulating, testing/flying of uninhabited aerial vehicles. Rapid prototyping software tools for vehicle modeling. Guidance, navigation, flight control, real-time implementations, hardware-in-the-loop simulations, flight tests. prereq: [[4202, concurrent registration is required (or allowed) in 4303W, 4601] or equiv], instr consent

AEM 5401. Intermediate Dynamics. (; 3 cr. ; A-F or Audit; Every Fall)
Three-dimensional Newtonian mechanics, kinematics of rigid bodies, dynamics of rigid bodies, generalized coordinates, holonomic constraints, Lagrange equations, applications. prereq: CSE upper div or grad, 2012, Math 2243

AEM 5451. Optimal Estimation. (; 3 cr. ; Student Option; Fall Even Year)
Basic probability theory. Batch/recursive least squares estimation. Filtering of linear/non-linear systems using Kalman and extended Kalman filters. Applications to sensor fusion, fault detection, and system identification. prereq: [[MATH 2243 or STAT 3021 or equiv], [4321 or EE 4231 or ME 5281 or equiv]] or instr consent

AEM 5501. Continuum Mechanics. (; 3 cr. ; Student Option; Every Fall)
Concepts common to all continuous media; elements of tensor analysis; motion, deformation, vorticity; material derivatives; mass, continuity equation; balance of linear, angular momentum; geometric characterization of stress; constitutive equations. prereq: CSE upper div or grad, 3031, Math 2243 or equiv or instr consent

AEM 5503. Theory of Elasticity. (; 3 cr. ; A-F or Audit; Every Spring)
Introduction to the theory of elasticity, with emphasis on linear elasticity. Linear and nonlinear strain measures, boundary-value problem for linear elasticity, plane problems in linear elasticity, three dimensional problems in linear elasticity. Topics from nonlinear elasticity, micromechanics, contact problems, fracture mechanics. prereq: 4501 or equiv, Math 2263 or equiv or instr consent

AEM 5581. Mechanics of Solids. (3 cr. ; Student Option; Fall Odd Year)
Continuum mechanics in one dimension: kinematics; mass, momentum/energy, constitutive theory. Wave propagation, heat conduction. Strings. Euler-Bernoulli theory. 3-D deformations/stress. Topics from fracture mechanics, structural stability, vibrations, thin films, layered media, smart materials, phase transformations, 3-D elastic wave propagation. Elasticity, viscoelasticity, plasticity. prereq: 3031 or equiv, [Math 2373 or equiv], [Math 2374 or equiv], [CSE grad student]

AEM 5651. Aeroelasticity. (; 3 cr. ; A-F or Audit; Every Fall)
Static aeroelastic phenomena, torsional divergence of a lifting surface, control surface reversal. Aeroelastic flutter, unsteady aerodynamics. Problems of gust response, buffeting. Design project. prereq: 4202, 4301, [grad student or CSE upper div]

Aerospace Studies (AIR)

AIR 1000. Leadership Laboratory. (1 cr. [max 10 cr.] ; S-N or Audit; Every Fall & Spring)
LLAB events allow cadets to practice the knowledge and skills learned in AS classes and other Practical Military Training (PMT) events. LLAB-accomplished training occurs at three different levels. First, the General Military Course (GMC) cadets gain knowledge and have an opportunity to carry out activities using practical applications. Second, LLAB gives Professional Officer Course (POC) cadets an opportunity to practice their leadership skills to plan, set up, execute, and provide GMCs feedback while executing LLAB. Finally, cadre provide feedback to the POCs on their

leadership skills in relation to their plan, set up, execution, and feedback provided to GMCs. As a POC, LLAB is your chance to practice your leadership skills that will help you learn and grow into a Second Lieutenant in today's Air or Space Force.

AIR 1104. United States Air Force Heritage and Values I. (; 1 cr. ; A-F or Audit; Every Fall) This course provides an introduction to the Air and Space Forces, encouraging students to pursue an AF career or seek additional information to be better informed about the role of the USAF. The course allows students to examine general aspects of the Department of the Air Force, communication basics, leadership fundamentals, service benefits, and opportunities for officers. The course lays the foundation for becoming an Air or Space professional by outlining our heritage and values through the study of topics ranging from dress and appearance to customs and courtesies. As a foundational course, AIR 1104 focuses on the principles of Airmanship. This course provides students with a knowledge-level understanding of air and space power, from a practical and institutional perspective. The students will be introduced to the military way of life and gain knowledge on what it means to be an Air or Space professional.

AIR 1105. Air Force Heritage & Values II. (; 1 cr. ; A-F or Audit; Every Spring) This course builds on Air Force Heritage and Values I and continues the introduction of the Air and Space Forces. AIR 1105 provides a more historical perspective such as lessons on war, the US military, AF operations, principles of war, and tenets of airpower. As a whole, this course provides students with a knowledge-level understanding for the employment of air and space power, from a historical and doctrinal perspective. The students will be introduced to the military way of life and gain knowledge on what it means to be an Air or Space professional.

AIR 1201. Def. (1 cr. ; A-F only;)

AIR 1202. Def. Derm.. (1 cr. ; A-F only;)

AIR 1204. Team and Leadership Fundamentals I. (; 1 cr. ; A-F or Audit; Every Fall & Spring) This course is designed to provide the foundation for both leadership and team building. You will build on this course every year of your Air Force ROTC career, so it is crucial that you do the readings and homework. Likewise, all of these lessons will be directly applicable to your field training experience. We will learn about things that don't pop into your mind when you think of leadership, but they are essential to understanding how good leaders operate. These topics include listening, followership, and problem solving efficiently. All of these concepts will be applied in team-building activities and when discussing topics like conflict management with the class. Though the theme of this course is "Team and Leadership Fundamentals," you are also expected to demonstrate basic verbal and written communication skills at the end of this course--these are skills that can help you in

every aspect of your academic, professional, and personal lives.

AIR 1205. Team and Leadership Fundamentals II. (; 1 cr. ; A-F or Audit; Every Spring)

This course builds on Team and Leadership Fundamentals I and provides a fundamental understanding of both leadership and team building. It is imperative that cadets are taught from the beginning that there are many layers to leadership. In this class we will dive deeply into team building and ethical decision making, as these are critical skills to have in the Air Force and beyond. We will use a blend of instruction, class discussion, and activities to fully understand these topics. Cadets in this class this will attend field training in the summer following instruction. The students will apply these leadership perspectives when completing team building activities and discussing things like conflict management. Students should demonstrate basic verbal and written communication skills. Cadets will apply these lessons at Field Training, in the summer after AS 200 school year.

AIR 3301. Leading People and Effective Communication I. (; 3 cr. ; A-F or Audit; Every Fall)

This course is designed to build on the leadership fundamentals taught in AS200. The theme of this year is "Leading People and Effective Communication." You will have the opportunity to utilize your skills as they begin more of a leadership role in the detachment. The goal is for each of you to have a more in-depth understanding of how to effectively lead people, and this semester will emphasize building core Air Force communication skills and how to navigate change and diversity as a leader.

AIR 3302. Leading People and Effective Communication II. (; 3 cr. ; A-F or Audit; Every Spring)

This course is designed to build on the leadership fundamentals taught in AS200. The theme of this year is "Leading People and Effective Communication." You will have the opportunity to utilize your skills as you transition to more of a leadership role in the detachment. The goal is for each of you to have a more in-depth understanding of how to effectively lead people, and this semester will emphasize leadership theories, personal leadership skills and ethics, and fostering innovation. prereq: 3301 recommended

AIR 3401. National Security Policy and Leadership Responsibilities I. (; 3 cr. ; A-F or Audit; Every Fall)

The AS400 cadet should comprehend the basic elements of national security policy and process. The student should know basic Department of the Air and Space Force operations as well as understand selected roles of the military in society and current domestic and international issues affecting the military profession. Cadets should understand the responsibility, authority, and functions of a Department of the Air and Space Force commanders and selected provisions of the military justice system.

AIR 3402. National Security Policy and Leadership Responsibilities II. (; 3 cr. ; A-F or Audit; Every Spring)

The AS400 cadet should comprehend the variety of base agencies and programs that support Air and Space Force members. The student should know basic information on officer/enlisted evaluations, financial benefits, the military justice system, and leadership authorities. Cadets should understand what life as a second lieutenant entails and what their initial months in the Air and or Space Force will look like. prereq: 3401 recommended

African Amer & African Studies (AFRO)

AFRO 1009. History of Women in Africa: 1500 to the Present. (GP; 3 cr. ; Student Option; Every Fall)

This course examines the histories of women on African frontiers. The course will highlight the role of women in their relation with family, with other African/nonAfrican peoples, as well as the role of women of the border regions of Sahel-Savanna, SavannaForest, within the country of Morocco, and along the Indian Ocean-Swahili Coast and Atlantic Coast frontiers. AFRO 1009 will compare the roles of African women from specific regions to others in different times and places in Africa, as well as with their contemporaries in Asia, Europe, and the Americas. We will consider the ways in which the women under scrutiny played a critical role in the dynamic changes that transformed their worlds and the worlds around them. Indeed, the historical lens that informs and underpins this course is premised on the understanding that people make change and that change does not just happen in and of itself. In recognizing the process of change over time, AFRO 1009 emphasizes the significance of social and cultural context in shaping the extent and nature of women's participation in these processes. Therefore, the course will seek to understand the cultural beliefs and the rich ethnic, economic, religious networks, which buttressed the women's roles and examine their associated factors. In addition to stressing the importance of change over time, AFRO 1009 engages students in a reflection of the past in an attempt to understand those reflections within the continuum of past, present, and future. Accordingly, AFRO 1009 impels us to think about the long term effects of any change, however slight or insignificant it may seem.

AFRO 1011. Introduction to African American Studies. (; 3 cr. ; Student Option; Every Spring)

The study of peoples of African descent including the evolution of African American culture, comparative race relations, feminism and social policy change.

AFRO 1021. Introduction to Africa. (GP; 3 cr. ; Student Option; Every Fall & Spring)

A comparative regional examination of contemporary African challenges and varied struggles using case studies, and a range of analytical parameters. Of particular focus will

be issues of political destabilization, social fragmentation, economic disruption; internal displacement and international migration within regional and global contexts.

AFRO 1023W. Introduction to African World Literature. (GP,WI,LITR; 3 cr. ; A-F only; Every Fall & Spring)

Childhood is a time of intense growth and dramatic change; of rapid physical, mental and emotional development. It is a time of discovering, experiencing, exploring; of exuberant curiosity and creativity. It is a state characterized by play and activity, innocence and wonder, surprise and delight. But childhood can also be a time of great confusion and uncertainty; of doubt, turmoil and anxiety. Through select pieces of short fiction, prose, essays and cinematic works, we will analyze the popularity of the coming-of-age genre (or bildungsroman) as a primary mode of formative response within the African world literary tradition. We will consider how the autobiographical or semi-autobiographical story, told by a narrator who is growing up and becoming conscious of their body, their familial and wider social surroundings, their emotions, their very identity, dramatizes the cultural, political, and historical contexts in which it is set. Through our exploration of socialization as a thematic component of the bildungsroman, we will examine how coming-of-age comes to represent something very different for boys and for girls.

AFRO 1131. Contemporary Issues in Africa. (; 3 cr. ; A-F only; Every Fall & Spring)

Course Description: Welcome to AFRO 1131! This course aims to provide an overview of contemporary African concerns from an interdisciplinary perspective. Locating present-day realities within an historical continuum, the course covers a wide array of political, social, and economic themes, including their interrogation in core fields of study. Emphasis on threats to human rights and challenges to democratic governance; political engagement and civil society activism. The rise of the middle class in sub-Saharan Africa; population growth and urbanization. Dislocation and displacement as observed in rural-urban, intra-African and international migrations; religious, ethnic, and civil conflicts; climate and environmental change in terms of a sustainable livelihood framework; gender, equity, and women's rights as crucial to sustainable development; postcolonial ethics of nature and nurture; technological advances, disparities, and compelling factors for future growth.

AFRO 3002. West African History: 1800 to Present. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

West African history from late 18th century to present. Past/profound changes including new 19th century state formation, European colonialism, post-colonial issues.

AFRO 3006. Impact of African Migrations in the Atlantic World. (; 3 cr. ; A-F or Audit; Periodic Fall)

People of African descent through history. Archeology, geography, literature. Migrations/activities in the Atlantic world. African history in

the New World. Transfer of African rice growing technology and other skills. Development of African American society in the United States.

AFRO 3013. Cities and States in Ancient Africa. (ENV; 3 cr. ; A-F only; Periodic Fall, Spring & Summer)

In this course, students will learn about the nexus between society and the environment, the underlining environmental issues that transformed ancient cities, and the implications they have on the contemporary ecological problems Africa is facing. The continent is endowed with a hugely diverse environment, ranging from desert to equatorial rainforest, as well as diverse cultures. Africa's various natural and cultural environments have played a part in shaping human activities, including agriculture, trade, and technology which in turn have shaped the nature of the cities and states that have emerged across the continent. Technological innovations such as irrigation have allowed complex societies to develop and grow in an otherwise inhospitable desert climate with limited natural resources. Although the prevalence of animal diseases and all-year-round rainfall restricted surplus agricultural production by affecting the use of animals as a source of draft power and cultivation of cereal crops, advances in technology, including ironwork and adoption of the tropical rainforest crops, facilitated the transformation of the physical environment and emergence of cities and states in the rainforest. The course examines how the nature of early agriculture, the environment, and technology shaped the history of African societies to equip learners with a better understanding of the contemporary social and environmental challenges. It assesses the dynamism in the relation between African societies and the environment over time.

AFRO 3015. Food Sovereignty in Africa.

(ENV,SOCS; 3 cr. ; A-F only; Every Spring)
Course Description: Food Sovereignty in Africa? critically evaluates how the physical environment and historical processes shaped agricultural productivity in Africa, as well as exploring the subsequent relationship the continent has had with the rest of the world. The course uses multi-disciplinary resources to examine historical factors that have contributed to contemporary food security issues, and discusses grassroots food movements that embrace the ethics and values of African societies in their efforts to achieve both food security and environmental sustainability. It also examines the interplay between food security, indigenous knowledge, and environmental sustainability by comparing various standpoints on African food production, scrutinizing the challenges the continent is facing and the unique perspectives it offers in terms of agricultural development in the globalized world. Finally, the course examines how agricultural systems in Africa are affected by the new global land rush. After taking the course, students will have better knowledge of emerging research directions on Africa and will be equipped with sufficient research and practical skills to pursue independent studies beyond the classroom.

AFRO 3016. Africa and African Diaspora Archaeology. (GP,HIS; 3 cr. ; Student Option; Every Fall)

Africa and African Diaspora Archaeology (AFRO/ ANTH 3016/5016) examines the evolution of human behavior in Africa and looks at subsequent social, cultural, and technological developments as shown in archaeological records including artifacts, ecofacts, rock art, and structures at archaeological sites. It also discusses methods used to identify archaeological records and how these records can be used to reconstruct past ways of life. Students will obtain hands-on experience in identifying, classifying, and interpreting archaeological objects. The course covers Africa from around 2.6 million years ago to the recent past, focusing primarily on the last 10,000 years. It examines the development and spread of food production, pottery, metallurgy, trade, and African connections with the Atlantic world dating back to the fifteenth century.

AFRO 3103. World History and Africa.

(GP,HIS; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

This course is an interdisciplinary survey of the history of the African continent. It examines the social, cultural, economic and political transformations that shaped varied African communities from prehistory to the present. Focusing primarily on the intricate intersection of culture, society, economics, and politics, the course examines the concept of world history and Africa's location in the production of this history as theoretical and analytical lenses. It puts particular emphasis on the social, cultural and political developments that informed individual and collective experiences of various African peoples and societies, including the historical narratives and scholarly discourses associated with them.

AFRO 3108. Black Music: A History of Jazz.

(; 3 cr. ; Student Option; Every Spring)
The development of jazz in America and in the world, with special emphasis given to the roots or jazz in the African American experience.

AFRO 3112. In the Heart of the Beat: the Poetry of Rap. (; 3 cr. ; A-F or Audit;)

Contemporary African American poetry as expressed by popular culture contributors. Students analyze/evaluate poems used in rap, in context of African American literature, American culture, and aesthetics.

AFRO 3120. Social and Intellectual Movements in the African Diaspora.

(GP,HIS; 3 cr. ; A-F or Audit; Every Fall)
Political, cultural, historical linkages between Africans, African-Americans, African-Caribbean. Black socio-political movements/radical intellectual trends in late 19th/20th centuries. Colonialism/racism. Protest organizations, radical movements in United States/Europe.

AFRO 3125W. Black Visions of Liberation: Ella, Martin, Malcolm, and the Radical Transformation of U.S. Democracy. (CIV,WI; 3 cr. ; A-F only; Every Spring)

Course on the critical thought of Black intellectual-activists and others enmeshed in

the struggles for the radical transformation of U.S. democracy. Introduces the following three leaders and activists--Ella Baker, Martin Luther King, Jr., and Malcolm X--whose work in the building of the Black freedom movement spanned the period from the 1930s to the late 1960s. Course proposition is that their life and times in the struggle for liberation offer important insights into the transformation of the U.S. political economy from the welfare/warfare state to the neoliberal state. These intellectual-activists, as well as others who translate their radical traditions through Black-Brown and Afro-Asian solidarity projects (e.g. Grace Lee Boggs of Detroit) have responded to racial formation in the U.S. and presented not just visions of liberation but concrete alternatives at the grassroots to usher in a more just, egalitarian, and ethical society.

AFRO 3135. Political Dynamics in the Horn of Africa. (GP,SOCS; 3 cr. ; Student Option; Every Spring)

Who wields political power? Who challenges those in power? And how do they legitimize their claims and go about enforcing them? These are the core questions that will guide our exploration of the political dynamics in the Horn of Africa. Just like most regions in Africa, the Horn is home to diverse cultures and languages. What distinguishes it, however, is the contested nature of state borders, which have been redrawn in ways not observed anywhere else in Africa since the end of European colonialism. The purpose of this class is to delve deeper into these conflicts, to examine the interactions between incumbent governments, armed rebel groups and international actors in shaping war and peace in the Horn. Throughout this journey, we will pay special attention to ideas of sovereignty, identity and violence and draw on literature outside of the Horn to help us better dissect what is going on within it.

AFRO 3205. History of South Africa from 1910. (; 3 cr. ; Student Option; Periodic Fall)

The history of South Africa from the Union to the present. Focus on such issues as African and Afrikaner nationalism, structures of apartheid, forced population removals, divestment and sanctions, and the post-apartheid era.

AFRO 3251W. Sociological Perspectives on Race, Class, and Gender. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

Analytical overview of three major forms of inequalities in the United States today: race, class, gender. Focus on these inequalities as relatively autonomous from one another and as deeply connected/intertwined with one another. Intersectionality key to critical understanding of these social forces. Social change possibilities.

AFRO 3301. The Music of Black Americans. (AH,DSJ; 3 cr. ; A-F only; Every Fall, Spring & Summer)

This course examines the variety of ways African and African Americans express social history through music. It will consider the union of African elements and European elements that combined to present a new syncretized African-American product. To

do this it is imperative that we explore the diversity of musical "voices" found within the African American culture. This diversity can be seen in the struggles to retain African cultural effects and the desire to be eclectic, creative, and contemporary. Such an approach to the study of the place of Black music in American music corresponds with the criteria of Diversity and Social Justice in the United States Liberal Education. The "multi-layered operation of power, prestige, and privilege" can be understood through an examination of the music of African Americans, which represents both a Free African voice and an enslaved African voice; the western-trained Black performer/composer and the self-taught performer/composer. It also represents the habits of well-to-do African Americans and the poor African Americans. Students will examine the complexities of the history of African Americans and how this is played out in the development of musical styles and genres. From this, students will then begin to understand how this unique diversity within a community affects those outside of those communities. Such an approach to the study of the place of Black music in American music corresponds with the criteria of Diversity and Social Justice in the United States Liberal Education. We will follow elements found in West African culture and music such as "call and response" and the "2nd Line" as they travel to the "New World" and expressed through Spirituals, Symphonies, Gospel Music, Jazz, Rock and Roll, Step Bands and more. Through lectures, readings, discussion, audiovisual examples, and homework assignments student can expect to gain a deeper understanding of the ways music both reflects and influences the social history of all Americans.

AFRO 3341. Black Geographies. (3 cr. ; Student Option; Every Fall)

This course will engage the sub-discipline of Black Geographies by looking at Geographical literature on the question of Blackness as well as case studies on the ways in which Afro-descendant populations make place. Course readings and films will attend to Blackness as it manifests across the African Diaspora, with specific focus on the Americas. We will discuss the experiences and struggles of enslaved Africans in the Americas, struggles against slavery, the ways in which we can understand histories of Blackness, and different forms of struggle employed by Afro-descendant populations today. At the end of the semester students will have a solid grounding in the literature around Black Geographies, as well as a nuanced understanding of the different ways in which Black populations analyze and create space.

AFRO 3402. Pleasure, Intimacy and Violence. (3 cr. ; Student Option; Spring Odd Year)

Gender/sexual violence to poststructural, anti-racist theories and debates about social construction of sexuality. How intimacy and violence are co-constituted within normative frameworks of U.S. governmentality. Writings by black feminist criminologists who have linked incarceration, welfare reform, and other

forms of state regulation to deeply systemic forms of violence against people of color.

AFRO 3426. African Americans, Social Policy, and the Welfare State. (; 3 cr. ; Student Option; Every Spring)

Period between New Deal (1930s) and present. History/impact of federal policy (presidential, congressional, judicial) and race on African Americans. Politics of allocation of insurance versus relief in Social Security Act of 1935. Race and expansion of social benefits after World War II. School desegregation. Kennedy's civil rights policy, LBJ's War on Poverty. Affirmative Action. Warren court. Busing. Conservative retreat from welfare state under Ronald Reagan and George Bush.

AFRO 3431. Early Africa and Its Global Connections. (GP,HIS; 3 cr. [max 4 cr.] ; Student Option; Every Fall & Spring)

Survey of African history from earliest times to 1800. Focuses on socioeconomic, political, and cultural development in pre-colonial Africa from ancient Egypt through the era of the trans-Atlantic slave trade.

AFRO 3432. Modern Africa in a Changing World. (GP,HIS; 3-4 cr. ; Student Option; Every Fall, Spring & Summer)

Socioeconomic, political, and cultural development in Africa, from abolition of trans-Atlantic slave trade through postcolonial era.

AFRO 3433. Economic Development in Contemporary Africa. (GP,SOCS; 3 cr. ; A-F only; Every Spring)

Major socio-economic challenges that confront post-independence sub-Saharan African countries in quest for sustainable economic development/growth. Causes of persistent poverty/inequality, role of institutions/multinational agencies. Growth in 21st century. prereq: APEC 1101 or ECON 1101

AFRO 3436. Fighting for History: Historical Roots of Contemporary Crises in Africa. (3 cr. ; Student Option; Periodic Fall)

Open any newspaper and there is almost certain to be one or more articles about crises or chaos in Africa. Journalistic accounts highlight famines, tribalism, failed states, ethnic cleansing, the plight of refugees, and the AIDS pandemic. There rarely, if ever, is a serious discussion of the underlying causes of this instability. Instead, it is implicitly assumed that this is the natural order of events in the Dark Continent. This course challenges the racially inspired cultural arrogance which underlies assumptions about Africa and explores it with the long-term structural and historical roots of the crises which confront many parts of Africa. It is a course about Africans and how they responded to the challenges and legacies that date back to the colonial period and before. Throughout this course we will be concerned with African initiatives in a rapidly changing political, economic, social, and ideological context and the changing ways that the Global North has represented Africa. In doing so we will be fighting for a more accurate history of Africa.

AFRO 3578. Contemporary Sub-Saharan African Popular Art Forms. (AH,TS; 3 cr. ; A-F only; Periodic Fall & Spring)

This course explores popular art practices and representations ? mediated through the lens of television, radio, popular cinema, sequential art, and the internet ? as the everyday expressions of modern African identities. As sites where the tensions, frictions, collisions and notably, the productive creativities of the local and the global are circulated, negotiated and contested, African popular cultures provide insights into a unique and increasingly crucial facet of contemporary African artistic practice as critical intervention. The course is designed on the premise that Africans of all social strata and lifestyles are strategic and deliberate consumers of popular cultural forms, generated within local cultures as signifiers of larger social, political, and economic processes. In light of prevailing studies which sometimes end up naively celebrating agency and resistance, AFRO 3578 underscores the role of popular cultures as public/private sites of power's ideological and material (re-) production, contestation, or transformation. It considers creative practices as sites of both resistance and accommodation; of creative adaptation, innovation, and resilience. Through our discussion of communication technologies and their role in transmitting artistic and political ideas beyond the confines of dominant discourses and established institutions, we will evaluate the interface of technology and sociocultural shifts.

AFRO 3592W. Introduction to Black Women Writers in the United States. (DSJ,WI,LITR; 3 cr. ; A-F only; Periodic Fall & Spring)

The literature of African American women writers explored in novels, short stories, essays, poetry, autobiographies, and drama from the 18th to the late-20th century.

AFRO 3593. The African American Novel. (3 cr. ; Student Option; Every Spring)

Explore African American novelistic traditions. Plot patterns, character types, settings, symbols, themes, mythologies. Creative perspectives of authors themselves. Analytical frameworks from contemporary literary scholarship.

AFRO 3597W. Introduction to African American Literature and Culture I.

(DSJ,WI,LITR; 4 cr. ; Student Option; Every Fall)

African American oral tradition, slave narrative, autobiography, poetry, essay, fiction, oratory, and drama, from colonial era through Harlem Renaissance.

AFRO 3598W. Introduction to African American Literature and Culture II.

(DSJ,WI,LITR; 4 cr. ; Student Option; Every Spring)

African American oral tradition, autobiography, poetry, essay, fiction, oratory, drama. From after Harlem Renaissance to end of 20th century.

AFRO 3601W. African Literature.

(GP,WI,LITR; 3 cr. ; A-F only; Every Fall, Spring & Summer)

The globalized present has witnessed increased mobility as economic, political, and social unrest intensify, forcing mass migration of populations across scorching deserts,

treacherous mountains and perilous seas. In the United States and in Western Europe specifically, the consequence of this mobility? immigration?remains the single most cross-cutting issue and the most vexed political challenge of the day. Defined as threatening and intrusive, frequently criminalized in discourse and in action, immigrants have become scapegoats for a wide range of problems that bedevil every aspect of life in every country. Blamed for everything from taking jobs from locals to rising crime and the spread of communicable diseases, immigrants have become victims of xenophobic violence and repositories for the routine fear-mongering prevalent in post-9/11 global terror and counter-terror climate. This course addresses the keys issues that arise in contemporary immigration and global security debates. Throughout the course of the semester, we will interrogate the literary and audio-visual arts as a mirror of the times, reflecting socio-political conditions. In a bid to place the current ?crisis? in a historical perspective, we will examine select works by African writers, filmmakers and artists, which provide examples that enable us to move beyond stereotypes and common assumptions.

AFRO 3625W. Women Writers of Africa and the African Diaspora. (GP,WI,LITR; 3 cr. ; A-F only; Spring Even Year)

Works of black women writers from Europe, Africa, South America, and the Caribbean. Novels, drama, films, and essays.

AFRO 3654. African Cinema. (AH,GP; 3 cr. ; A-F only; Periodic Fall & Summer)

This course introduces you to films written and directed by African filmmakers beginning the 2nd part of the 20th Century. Through an exploration of the stylistic and thematic issues raised by each film, it is expected that students will gain a broad understanding of how African filmmakers portray African social and cultural life, including the artistic and political contexts within which they work. In this way, students will gain an historical perspective on the origins of African filmmaking, confront the basic social, cultural and aesthetic questions raised by African filmmakers and critics, and consider how questions raised by African filmmakers and their films fit into the larger context of world cinema. We will contrast postcolonial African films with Hollywood jungle epics, settler/adventure romances in safari paradise, and colonial movies about Africa. Moving beyond strict categories and standards we will also examine the role of documentary films in shaping our understanding of African people's lives and the social construction of reality. We will review the place of documentary film in the current media-scape and discuss its functions and limitations. Most films will be screened in original languages with English subtitles.

AFRO 3655. African-American Cinema.

(AH,DSJ; 3 cr. ; Student Option; Spring Even Year)

African American cinematic achievements from silent films of Oscar Micheaux through contemporary Hollywood and independent films. Class screenings, critical readings.

AFRO 3745. Black Cultural Studies.

(AH,DSJ; 3 cr. ; Student Option; Every Spring) What is black life? And what does it mean to talk about black life in the context of the push toward the liberation of black lives? In recent years we have become accustomed to hearing about and debating the efficacy of the term and movement "Black Lives Matter," but what, other than precarity, constitutes these lives that matter? How have black people collectively thrived even under conditions that would assume otherwise? In this course we will consider the myriad ways black people have gone about creating, dreaming, struggling, building, educating, loving, and living, even in the midst of all that works to bring death near. We will explore a range of cultural forms, including stand-up comedy, hip hop and R&B music, reality television, social media, and film, in order to contemplate the urgency and necessity of black social life, or, what it means to be with and for black people.

AFRO 3864. African American History: 1619 to 1865. (CIV,HIS; 3 cr. ; Student Option; Periodic Spring)

Importance of dynamics of class, gender, region, and political ideology. Changing nature of race/racism.

AFRO 3865. African American History: 1865 to the Present. (3 cr. ; Student Option; Every Fall, Spring & Summer)

History of African American men and women from the beginning of the 20th century to the present. Discussion of internal migrations, industrialization and unionization, The Great Depression, world wars, and large scale movements for social and political change.

AFRO 3866. The Civil Rights and Black Power Movement, 1954-1984. (3 cr. ; Student Option; Every Fall)

Modern black civil rights struggle in the U.S., i.e., the second reconstruction. Failure of reconstruction, abdication of black civil rights in 19th century. Assault on white supremacy via courts, state, and grass roots southern movement in 1950s and 1960s. Black struggle in north and west. New emphasis on Black Power, by new organizations. Ascendancy of Ronald Reagan, conservative assault on the movement.

AFRO 3867. Black Men: Representations and Reality. (3 cr. ; Student Option; Every Spring)

This course will explore the lived reality of black men in the United States. Ranging historically-far and thematically-wide, this course will introduce students to the experience of black male labor force participation and employment outcomes; deconstruct representations of black masculinity in popular culture; explore academic dilemmas associated with primary and secondary educational pursuits; and uncover issues connected with law, incarceration, and criminal justice. In addition, this course will examine relationship complexities involving black men and black women, black men and white women, and black men and black men, looking closely at the African-American role in traditional and non-traditional family structures. The

course will also address the most central of questions: What is the black male experience, given the growing diversity of black maleness in Minnesota, the United States, and the Diaspora. At the center of the course is not only what other people have said about the black male historical and contemporary experience, but also how black men have imagined and constructed their own experience over time.

AFRO 3868W. Race, War, and Race Wars in American History. (CIV,WI; 3 cr. ; A-F or Audit; Fall Odd Year)

Role that race has played in American war history. Impact that wars have had on race and race relations in the United States and the world. Literature and film.

AFRO 3896. Internship for Academic Credit. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

An applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals, which may be related to a student's major field or area of interest. The work can be full or part time, paid or unpaid, primarily in off-campus environments. Internships integrate classroom knowledge and theory with practical application and skill development in professional or community settings. The skills and knowledge learned should be transferable to other employment settings and not simply to advance the operations of the employer. Typically the student's work is supervised and evaluated by a site coordinator or instructor. A student may only earn credit for a given internship through one course at a time.

AFRO 3910. Topics in African American and African Studies. (; 1-3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)
Topics specified in Class Schedule.

AFRO 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual research and study. Prereq- instr consent, dept consent, college consent.

AFRO 4105. Ways of Knowing in Africa and the African Diaspora. (; 3 cr. ; A-F only; Every Fall)

Impact of European knowledge systems on African world. How peoples on African continent and across African diaspora have produced/defined knowledge. Continuity/change in the way African peoples have thought about and left their epistemological imprints upon the world.

AFRO 4231. Color of Public Policy: African Americans, American Indians, Asian Americans & Chicanos in the U.S.. (3 cr. ; Student Option; Periodic Fall)

Examination of structural or institutional conditions through which people of color have been marginalized in public policy. Critical evaluation of social theory in addressing the problem of contemporary communities of color in the United States.

AFRO 4335. African American Politics. (3 cr. ; Student Option; Periodic Fall & Spring)
This course examines the historical and contemporary efforts by African Americans

to gain full inclusion as citizens in the U.S. political system. Specifically, the course explores advocacy efforts by civil rights organizations and political parties to obtain and enforce civil and political rights for blacks. An examination of these efforts begins in the Reconstruction Era and concludes with the historic election of the nation's first African American president. The course will cover topics such as the politics of the civil rights movement, black presidential bids and racialized voting in federal and state elections. Finally, the course examines how political parties and organized interests used the Voting Rights Act to increase the number of minorities in Congress. The course focuses on whether the growing number of minorities in Congress increases citizens' trust in government and their involvement in voting and participation in political organizations.

AFRO 4406. Black Feminist Thought. (; 3 cr. ; Student Option; Periodic Spring)
Critically examine spatiality of African descendant women in Americas/larger black diaspora. Writings from black feminist/queer geographies, history, contemporary cultural criticism. Recent black feminist theorizing.

AFRO 4478W. Contemporary Politics in Africa and the Colonial Legacy. (GP,WI; 3 cr. ; Student Option; Every Spring)

At the core, this class is about the interaction between the assertion of and challenge to political authority in Africa. Who should have the right to make decisions that structure people's lives? To what extent is "might" an important source of political authority? How, in turn, do people respond to these different means of establishing political authority? Using these questions as a springboard, this class will examine some broader themes relating to colonialism, state building, conflict and development in Africa. Politics in Africa, just as in any other place in the world, is complex and for that reason, the objective of the class is not to give you answers, but to have you think critically about the issues we cover. Towards this end, this class will draw on different sources ranging from novels to manifestos so as to illustrate both the mundane and extraordinary events that have helped shape the political landscape of the continent.

AFRO 4991W. Thesis Research and Writing. (WI; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Preparing a research paper that satisfies major project requirement. Defining a research problem. Collecting/analyzing data. Writing the research paper. prereq: dept consent

AFRO 5015. Food Sovereignty in Africa. (ENV,SOC; 3 cr. ; A-F only; Every Spring)
Food Sovereignty in Africa critically evaluates how the physical environment and historical processes shaped agricultural productivity in Africa, as well as exploring the subsequent relationship the continent has had with the rest of the world. The course uses multi-disciplinary resources to examine historical factors that have contributed to contemporary food security issues, and discusses grassroots food movements that embrace the ethics and

values of African societies in their efforts to achieve both food security and environmental sustainability. It also examines the interplay between food security, indigenous knowledge, and environmental sustainability by comparing various standpoints on African food production, scrutinizing the challenges the continent is facing and the unique perspectives it offers in terms of agricultural development in the globalized world. Finally, the course examines how agricultural systems in Africa are affected by the new global land rush. After taking the course, students will have better knowledge of emerging research directions on Africa and will be equipped with sufficient research and practical skills to pursue independent studies beyond the classroom.

AFRO 5016. Africa and African Diaspora Archaeology. (GP,HIS; 3 cr. ; Student Option; Every Fall)

Africa and African Diaspora Archaeology (AFRO/ ANTH 3016/5016) examines the evolution of human behavior in Africa and looks at subsequent social, cultural, and technological developments as shown in archaeological records including artifacts, ecofacts, rock art, and structures at archaeological sites. It also discusses methods used to identify archaeological records and how these records can be used to reconstruct past ways of life. Students will obtain hand-on-experience in identifying, classifying, and interpreting archaeological objects. The course covers Africa from around 2.6 million years ago to the recent past, focusing primarily on the last 10,000 years. It examines the development and spread of food production, pottery, metallurgy, trade, and African connections with the Atlantic world dating back to the fifteenth century.

AFRO 5101. Seminar: Introduction to Africa and the African Diaspora. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Comparative frameworks, related theories, and pivotal texts in study of Africa and African Diaspora.

AFRO 5103. World History and Africa. (3 cr. ; A-F or Audit; Fall Even Year)
Contributions of African American thinkers to making of African history/strategies to rework theoretical/analytical foundations of world history. Writings/intellectual networks of major thinkers whose historical/ethnographic works on Africa spanning nineteenth to twentieth century. prereq: Grad student or instr consent

AFRO 5120. Social and Intellectual Movements in the African Diaspora. (3 cr. ; A-F or Audit; Every Fall)
Political, cultural, historical linkages between Africans, African-Americans, African-Caribbean. Black socio-political movements/radical intellectual trends in late 19th/20th centuries. Colonialism/racism. Protest organizations, radical movements in United States/Europe. prereq: Grad student or instr consent

AFRO 5181W. Blacks in American Theatre. (WI; 3 cr. ; Student Option; Periodic Spring)
Historical survey of significant events in the development of American Black theatrical

tradition; essays, plays, playwrights, and theatres from early colonial references to Black Arts Movement.

AFRO 5182W. Contemporary Black Drama and Dramaturgies. (WI; 3 cr. ; Student Option; Every Spring)

This course is an exploration of the impact and evolution of Black Theatre in America, covering the period rising from the Black Arts Movement to the present. The exploration will entail an understanding of cultural and socio-political issues as they are reflected in key and significant plays written and produced from the late 1950's to the present. The plays and essays will be read against the background of significant cultural, social and literary movements - the Civil Rights Movement, Cold War politics, the Women's Movement, Gay Liberation, the Culture Wars, post-modernism, deconstruction, multiculturalism, afro-futurism, etc. as well as the evolution of identity nomenclature and racial classification from Colored to Negro to Black to African American. In addition to play analysis and criticism, students will garner a knowledge of significant Black cultural institutions and their impact on the ever-changing American theatre landscape.

AFRO 5191. Seminar: The African American Experience in South Africa. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Ideological, political, religious, and cultural ties that have informed African American and black South African relations from late 18th century to present.

AFRO 5406. Black Feminist Thought. (; 3 cr. ; Student Option; Periodic Spring)

Critically examine spatiality of African descendant women in Americas/larger black diaspora. Writings from black feminist/queer geographies, history, contemporary cultural criticism. Recent black feminist theorizing.

AFRO 5593. The African American Novel. (3 cr. ; Student Option; Every Spring)

Explore African American novelistic traditions. Plot patterns, character types, settings, symbols, themes, mythologies. Creative perspectives of authors themselves. Analytical frameworks from contemporary literary scholarship.

AFRO 5625. Women Writers of Africa and the African Diaspora. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

In *Coming to America*, a 1988 film which blends humor and romance with some fairly pertinent observations, an African prince travels to Queens, NY, in search of a bride who will be both an equal and valued partner in life's great adventure. In the thirty years since, the African immigrant story has become an intrinsic component of the booming canon of contemporary American immigrant literature, which includes such names as Edwidge Danticat, Jhumpa Lahiri, Junot Diaz, Chang-rae Lee, Gary Shteyngart, and others. This literary phenomenon mirrors trends identified in surveys and other similar data gathering activities. According to a 2009 study of the Migration Policy Institute, for instance,

more than 75% of the foreign born African population in the United States has arrived since 1990. For these newcomers, Africa is not an imagined ancestral ?motherland? impressed in collective memory. Nor is it a faraway continent of parental origin whose negative media portrayal at times foments a problematic identification. Africa is a lived space, a home left behind, the anchor of childhood memories and?all too frequently? a horizon that perpetually beckons. As for America, it is the idealized land of freedom, prosperity, and opportunity that sometimes gives more than it promised, but oftentimes disenchant. This course situates gender squarely within the interlocking contexts of dynamic, complex and ever-changing African and American landscapes. Over the course of the semester, we will read short stories, novellas, personal narratives and essays, interspersed with visual excerpts from selected films and other representations of immigration, migration and border crossing in contemporary African and American cultural landscapes.

AFRO 5627. Seminar: Harlem Renaissance. (3 cr. ; Student Option; Every Fall)

Review Harlem Renaissance from variety of perspectives. Literary, historical, cultural, political, international. Complex patterns of permeation/interdependency between worlds inside/outside of what W.E.B. Du Bois called "the Veil of Color." prereq: Grad student or instr consent

AFRO 5866. The Civil Rights and Black Power Movement, 1954-1984. (3 cr. ; A-F or Audit; Every Fall)

The "second reconstruction." Failure of Reconstruction, abdication of black civil rights in 19th century. Post-1945 assault on white supremacy via courts/state, grass-roots southern movement in 1950s/1960s. Black struggle in north and west, emphasis on Black Power by new organizations/ideologies/leaders. Ascendancy of Reagan, conservative assault on movement.

AFRO 5910. Topics in African American and African Studies. (; 3 cr. [max 9 cr.] ; A-F only; Every Fall, Spring & Summer)

Topics vary by instructor.

AFRO 5932. The Production of Knowledge, Negotiating the Past, and the Writing of African Histories. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Recent scholarship on social history of Africa. Focuses on new literature on daily lives of ordinary people in their workplaces, communities, households. prereq: Grad student or instr consent

AFRO 5993. Directed Study. (; 1-3 cr. ; Student Option; Every Fall, Spring & Summer)

Guided individual reading/study for qualified seniors and graduate students. prereq: instr consent

Ag Educ, Comm & Mktg (AECM)

AECM 1001. Introduction to Agricultural Education, Communication & Marketing. (; 1 cr. ; Student Option; Every Fall)

Historical development of the discipline of agricultural education; orientation to career opportunities; areas and expectations of specialization; issues in the field.

AECM 2051. Current Technical Competencies. (; 4 cr. ; Student Option; Fall Odd Year)

Prepares agricultural education teachers and other agricultural professionals to use technology in the areas of welding and small gas engines. Develop basic skills and knowledge to plan, implement, operate, and maintain agricultural structural and mechanical systems. Experiential learning principles and applied problem solving.

AECM 2096. Career Exploration & Early Field Experience in Agricultural Education, Communication, and Marketing. (; 2 cr. ; A-F only; Every Fall)

Analyses of occupations, employment potential, expectations for work, and readiness for careers in agricultural education, communication, and marketing. Field placement experiences examine career options and professionals in the field. Observe schools, extension offices, and agricultural businesses to learn about the work/workplaces in agricultural education, communication, and marketing.

AECM 2221W. Foundations of Leadership Practice. (WI; 3 cr. ; A-F or Audit; Every Fall)

How to be an effective leader in profit/non-profit agricultural settings. Roles, responsibilities, knowledge, attitudes, and skills to hire staff, set goals, coach, mentor/manage teams, and improve communication.

AECM 2421W. Professional Communication for Agriculture, Food, and the Environment. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

Speaking/writing about scientific/technical issues. Student-centered, relies on interaction/participation. Public communication. Lectures for this course will be online, while discussion sections will be held in-person.

AECM 3000. Seminar on Current Issues in Agricultural Education. (; 1 cr. [max 4 cr.] ; A-F or Audit; Periodic Fall)

This seminar is designed to introduce students to current issues and trends in agricultural education. Small group discussion, in-depth/focused intellectual debate. Topics depend on faculty selection or student interest.

AECM 3051. Building Construction/ Woodworking Technology. (; 4 cr. ; A-F or Audit; Fall Even Year)

Instructional/lab exercises in light frame building construction. Foundations, concrete/masonry, framing, plumbing, electrical, insulating, roofing. Safe work procedures in a wood shop through small wood project construction will be utilized. Emphasizes safety and use of modern tools and materials.

AECM 3096. Experiential Learning: Production and Business. (; 1-3 cr. [max 9 cr.] ; Student Option; Every Fall)

Experiential learning in agricultural production and business. Planned, organized, monitored, and evaluated based on a per-experience

diagnosis of learning prerequisite to higher level courses in technical agriculture and agricultural business. prereq: AgEd major, instr consent

AECM 3106. Agricultural Policy and Issues in Minnesota. (3 cr. ; A-F only; Spring Odd Year)

This course will introduce students to advocacy and policy-making that affects Minnesota's agricultural industry, specifically at the farm level. They will experience the policy-making process from an initial idea to building support, lobbying, legislative work, implementation, and the effect policies have on Minnesota farmers. Students will get a behind-the-scenes look at the policy process in action by meeting lawmakers, lobbyists, and staff while on field trips to the Minnesota State Capitol and Minnesota Department of Agriculture. Students will also shadow a current legislator, participate in a mock senate, hear from multiple guest speakers, and research the decision-making process by following an agricultural bill through the legislative session. prereq: 30 credits or instructor approval

AECM 3431. Communicating Food, Agriculture & Environmental Science to the Public. (3 cr. ; A-F or Audit; Every Spring)

Planning/strategy for communication campaigns related to food/agriculture. Student-centered, relies on interaction/participation.

AECM 3434. Utilizing Social Media for Food, Agricultural and Natural Resource Sciences. (3 cr. ; A-F only; Spring Odd Year)

The convergence of multiple forms of media, newspaper, video, radio, and photojournalism on the internet is impacting how we communicate complicated scientific issues related to topics such as food safety, agricultural production, and good stewardship of natural resources, and social media have been found to play a critical role in shaping science literacy. Because of the increasing presence of social media in our everyday lives, agriculturists are challenged with how to best package these complex scientific topics to increase science literacy through social media networks. This course aims to provide agriculturists who possess a strong background and understanding of food, agriculture and natural resource sciences with the skills needed to communicate these complex topics to audiences across social media platforms.

AECM 3444. Layout and Design for Food, Agricultural and Natural Resource Sciences. (3 cr. ; A-F only; Spring Even Year)

This course provides students with in-depth, integrated use of leading industry-adopted software (Adobe Illustrator and Adobe InDesign) to develop print communication pieces. The class addresses layout aspects and file preparation critical to printing a project successfully and cost-effectively. Students will learn to create graphic art designs and develop effective print layouts. Serves as a foundational course that covers a range of topics related to layout and design from principles of design, typography, color, and technical software use. Class assignments focus on developing tools for use in food,

agricultural and natural resources strategic and data-driven communications programs.

AECM 3452. Digital Media Essentials for Agriculture, Food and the Environment. (3 cr. ; A-F only; Every Fall)

This course introduces basic digital and video communication skills necessary to be successful in today's workplace specific to professions in agriculture, food, and the environment. Students will infuse learning strategies into basic audio/visual productions and basic website construction focused on informing and communicating complex science topics.

AECM 3462. Podcasting for Science Literacy. (3 cr. ; A-F only; Every Spring)

This course will introduce students to the art of audio storytelling and develop the professional skills used to communicate complex science topics to an intended audience. The course explores a variety of concepts used in audio storytelling and educational programming. Science topics will be researched and scripted in order to maximize acquired production skills with the intention of offering informative content to a target market.

AECM 3480. Special Topics in Agricultural Education, Communication & Marketing. (1-4 cr. [max 24 cr.] ; Student Option; Periodic Fall & Spring)

Lectures by visiting scholar or regular faculty member. Topics specified in Class Schedule.

AECM 3993. Directed Study in Agricultural Education, Communication & Marketing. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

AECM 4011. Applied Agribusiness Marketing Strategies. (2 cr. [max 3 cr.] ; Student Option; Every Spring)

Application of marketing knowledge that involves building a complete marketing plan for an agricultural product or device. Team projects are used.

AECM 4115. Culturally Responsive Engagement in Agriculture, Food & Natural Resources. (3 cr. [max 6 cr.] ; A-F only; Every Spring)

The course is broken up into five thematic and progressive modules. Module 1 will provide the opportunity for students to investigate contemporary and historical manifestations oppression and inequities within Agricultural, Food and Natural Resource Sciences (AFNR) with a special focus on community and educational spaces. Module 2 will support students to explore oppression, power,

privilege, and white supremacy. Students will explore how these show in society at large, as well as how they personally embody and enact these very things. Module 3 will prompt students to consider the nature of knowledge that is legitimized and knowledge that is suppressed. We will then learn about diverse knowledge systems and decolonizing work. Module 4 will support students to explore culture, identity, intersectionality, and positionality ? their own and those of other cultural groups. We will consider how some cultures are lifted while others are marginalized in different spaces. Module 5 brings us to learning about methods of bring culturally responsive and anti-racist in AFNR work in educational and community spaces. We will employ the use of equity audits to assess various organizations and to design plans moving forward.

AECM 4432. Advanced Video Production for Agriculture, Food and the Environment. (3 cr. ; A-F only; Every Spring)

This course focuses on advanced digital media production skills necessary to be successful in today's workplace specific to professions in agriculture, food and the environment. Students will infuse learning strategies into advanced documentary-style audio/visual productions. Content will be used to produce educational websites focused on informing and communicating complex science topics. prereq: AECM 3452 or Instructor Consent

AECM 4444. Food and Agricultural Marketing Campaigns. (3 cr. ; A-F only; Every Fall)

This course discusses the strategy and tactical tools and techniques required to create and execute an integrated marketing communications program in the food and agricultural industries. We will cover the issues and elements of audience analysis and segmentation, advertising, brand management, product development/naming, product placement, package design and labeling, advertising and marketing avenues, and evaluation of advertising effectiveness.

AECM 4451W. Advanced Persuasive Writing for Agricultural and Environmental Sciences. (WI; 3 cr. ; A-F or Audit; Every Fall)

In this course, students research, write, and edit stories for agricultural, food and environmental organizations and media. Students produce a final portfolio that demonstrates their ability to create professional-level work, such as magazine articles, news stories, biographies, marketing materials, blog posts, news releases and scripts.

AECM 4452. Virtual Field Trip Production for Agriculture, Food & Natural Resource Science Education & Comm. (3 cr. ; A-F only; Every Fall)

This course explores the process of using digital media production skills to develop educational virtual field trips. Produced content will focus on reaching students in the K-12 classroom. Topics range from basic to complex agriscience concepts and often times will rely on the virtual setting due to limitations of

biosecurity hazards, OSHA guidelines and industry regulations. Students will script and produce curriculum driven video content as well as develop supplemental media assets to be used as classroom activities for field trip participants. prereq: AECM 3452 or Instructor Consent

AECM 5111W. Agricultural Education: Methods of Teaching. (WI; 4 cr. ; Student Option; Every Fall)

Use of teaching resources; principles of teaching and learning; problem-solving techniques, lesson plan construction for large group, small group and individual investigations; student management; and assessment.

AECM 5115. Foundations of Agricultural Education. (3 cr. ; A-F only; Every Fall)

This course explores historical and philosophical foundations and current structures of school-based agricultural education programs. Students will understand, value, and apply strategies to implement and manage the integrated program model of agricultural education.

AECM 5125W. Designing Curriculum & Instruction for Agricultural Education. (WI; 3 cr. ; Student Option; Every Spring)

This course provides students an opportunity to understand, observe, and experience the process of developing curriculum and instruction for school-based agricultural education. Through coursework and a part-time clinical field experience (minimum of 25 hours at an assigned placement) in a school setting (grades 5-12), students will engage in the development of middle and secondary school agricultural education curricula. Special consideration in planning will be given to identifying regional, state, and community needs as well as student interest and prior knowledge. Students will have the opportunity to determine a programmatic framework, outline a scope and sequence of courses within a school-based agricultural education program, develop course outlines and materials, and create units, sub-units, and daily lessons for a variety of content areas. Additionally, using the integrated program model, curricular and instructional opportunities related to experiential learning (Supervised Agricultural Experience ? SAE) and leadership development (FFA) will be addressed. prereq: Jr or Sr Ag Ed student, or Ag Ed MS IL student.

AECM 5135. Instructional Methodology for Agricultural Education. (3 cr. ; A-F only; Every Fall)

This course focuses on instructional methodology for use in school-based agricultural education. Students will understand and apply psychological principles of teaching and learning, practice a variety of instructional strategies, develop pedagogical content knowledge, and apply the integrated program model of agricultural education to classroom teaching. Prerequisites: Junior or senior Ag Ed student or Ag Ed MS IL student

AECM 5145. Agricultural Education Classroom & Program Leadership. (3 cr. ; A-F only; Every Fall)

This course examines models of classroom and program leadership within school-based agricultural education. Through coursework and a part-time clinical field experience (minimum of 25 hours) in a school setting (grades 5-12), students will learn, observe, and experience the ways in which school-based agricultural education teachers create and maintain an effective classroom/lab environment, manage student behavior, communicate and engage with school district leaders, program stakeholders, and community members to ensure student success. (3 credits) Prereqs: Jr or Sr Ag Ed student or Ag Ed MS IL student

AECM 5155. Agricultural Education Teaching Seminar. (3 cr. ; A-F only; Every Spring)

This course emphasizes professionalism and the code of ethics for school-based agricultural educators. Students are prepared for the job search and teacher licensure application process. Students take this course concurrent with AECM 5698-Teaching Internship and apply professionalism and the integrated program model in their classroom, school, and community. Prereqs: Jr or Sr Ag Ed Student or Ag Ed MS IL student

AECM 5220. Special Topics in Agriculture Education and Extension. (; 1-3 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Content varies by offering.

AECM 5231. Agricultural Education Curriculum K-12. (; 2 cr. ; A-F or Audit; Periodic Fall)

Philosophy, organization, and administration of instruction in agricultural education programs at the elementary, middle, and high school levels.

AECM 5233. Advanced Procedures in Teaching Agricultural Education. (; 2 cr. ; A-F or Audit; Periodic Fall)

New developments in methodology; assessment of innovations and procedures; consideration of various levels of instruction.

AECM 5235. Experiential Learning in Agricultural Education. (; 3 cr. ; Student Option; Periodic Fall & Spring)

The organization and administration of agricultural experience programs for middle and secondary level students: career exploration, improvement projects, experiments, placement in production/business/community settings, entrepreneurship. Current state and national programs and resource material.

AECM 5280. Current Issues for the Beginning Agricultural Education Teacher. (; 1-3 cr. [max 6 cr.] ; Student Option; Every Fall & Spring)

Reflection, analysis on current problems and issues confronting beginning teachers of agricultural education. Issues in teaching methods, classroom and program management, discipline, curriculum, FFA and SAE development, school-to-work relationships.

AECM 5696. Teaching Internship. (; 2-10 cr. [max 20 cr.] ; A-F only; Every Spring)

Agricultural Education teaching experience in a school system that provides instruction to grades 5-12. prereq: Admission to initial licensure program

AECM 5993. Directed Study in Agricultural Education and Extension. (; 1-4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Topics may be chosen to permit study of areas within education or to supplement areas of inquiry not provided in the regular course structure.

AECM 5995. Integrating Paper--Master of Education: Agricultural and Extension Education. (; 1-5 cr. [max 10 cr.] ; A-F or Audit; Every Fall, Spring & Summer) Students prepare paper dealing with issues in agricultural education applied to professional responsibilities. AFEE 5995 can be taken for 1-5 credits, and students can enroll for two semesters for a combined max total of 5 credits.

Agronomy and Plant Genetics (AGRO)

AGRO 1101. Biology of Plant Food Systems.

(BIOL; 4 cr. ; Student Option; Every Spring) Designed for students who are not majors in a life science program, but who wish to acquire a better understanding of biological concepts especially as they relate to their lives. We examine current issues related to food, food production and the environment which provide the context to investigate fundamental concepts of biology including productivity, energy, genetic change in populations, and environmental responses to human activity. We use a problem-based learning approach to explore three contemporary issues of great importance: risks and benefits of GMOs, farming and food, and the dead zone in the Gulf of Mexico. Lab, greenhouse, field, and classroom discussions.

AGRO 1103. Crops, Environment, and Society. (ENV; 4 cr. ; Student Option; Every Fall)

Plants that supply food, fiber, beverages, and medicine to humans. Plant identification, plant physiology, plant breeding/biotechnology, plant ecology, crop culture/management.

AGRO 1661W. Engaging Plant Science. (WI; 2 cr. ; A-F only; Every Fall)

This course engages students in educational experiences to develop skills to navigate the plant sciences. As an orientation course, it will introduce you to some of the important resources available to you as a student at the University of Minnesota in the College of Food Agricultural, and Natural Resources Sciences. A major learning objective is to increase your ability to access and utilize the primary literature in the plant sciences. This course will also introduce you to fundamental skills and best practices in managing and analyzing data that you will use in subsequent plant science courses. As a writing intensive course, you will get instruction and practice in scientific writing. This course is delivered in a hybrid

(in person/online) format. This will require careful planning, self-discipline, and good time management to view pre-recorded lectures and successfully complete the various online learning activities, quizzes and assignments. The specific plant science content that you will learn will come from your research to complete a literature review assignment, reading and analyzing papers, and working with data sets from published research. The ultimate goal is to enhance your competency as a self-learner to serve you in your academic pursuit of a degree at the University of Minnesota and beyond.

AGRO 2022. Growth and Development of Minnesota Field Crops. (1 cr. [max 2 cr.]; S-N only; Every Fall)

Students learn how field crop species grow and develop, how unique traits of crop species contribute to ecosystem services, and how to identify important growth stages of crops. In addition to traditional agronomic crops (small grains, alfalfa, soybean and corn), students will work with annual and perennial species that represent emerging crops grown for grain, oil seed, novel products, cover crops and biomass. Course work includes lectures, labs (greenhouse and field), and online assignments and quizzes. prereqs: AGRO 1101 or HORT 1001 or BIOL 1009 or BIOL 1001 and AGRO 1103

AGRO 2402. The Science of Cannabis. (2 cr. ; Student Option; Every Fall)

Botany, growth and development of cannabis, industrial and medical uses, cultivation of industrial and medical cannabis, human health and social impacts, federal and state regulations.

AGRO 2501. Plant Identification for Urban and Rural Landscapes. (; 1 cr. ; Student Option; Periodic Fall)

Identification of weed species and native herbaceous plants that are important in crop production, turf management, horticulture production, and landscapes systems. This course will emphasize the identification of weed species and other plants found in Minnesota and the upper Midwest area of the United States. Plant families, life cycles, habitats and relationships to humans. prereq: Biol 1009 or equiv

AGRO 2502. Introduction to Integrated Weed Management. (1 cr. [max 2 cr.]; A-F or Audit; Every Fall)

Weeds reduce crop yield and quality, affect human health, and result in significant economic loss. This course is for undergraduate students interested in learning more about weed management techniques in an applied context. The goal is to develop a basic understanding of how weed biology and ecology are used to select and integrate weed control tools for effective long-term management of weeds in annual and perennial cropping systems. The topics to be covered in this course will include basic understanding of weed biology/ecology, knowledge of different mechanical, cultural, and chemical weed control tools, and process for integration to meet specific goals. The course involves active, hands-on learning

around new technologies as well as guest lecturers from industry. Agro 1103 or Biol 1009 is recommended. Agro 2501 is highly encouraged.

AGRO 3093. Directed Study. (; 1-4 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)

Directed Study: A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

AGRO 3203W. Environment, Global Food Production, and the Citizen. (GP,WI; 3 cr. ; Student Option; Every Spring)

Ecological/ethical concerns of food production systems in global agriculture: past, present, and future. Underlying ethical positions about how agroecosystems should be configured. Decision cases, discussions, videos, other media.

AGRO 3305. Agroecosystems of the world. (GP; 3 cr. ; Student Option; Every Fall)

Explore four different areas of world (Minnesota, Morocco, Nepal, Costa Rica) by networking with locals on ground in each region through online interactions. Food, agriculture, environment. Biophysical/socio-cultural aspects of agroecosystems through unique multi-disciplinary lens.

AGRO 3660. Plant Genetic Resources: Identification, Conservation, and Utilization.

(; 3 cr. ; A-F only; Spring Even Year) Importance of plant genetic diversity. Morphological, molecular, and computational methods of identifying/conserving genetic resources. Biological basis of genetic diversity. Case studies in crop improvement. prereq: Introductory biology

AGRO 4093. Directed Studies for Advanced Students. (; 1-4 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer)

Allows study of agronomy in greater depth or in areas not currently offered in formal courses. Tutorial instruction under staff guidance. prereq: 15 cr in agronomy, instr consent

AGRO 4094W. Undergraduate Directed Thesis Research. (WI; 2 cr. ; S-N only; Every Fall, Spring & Summer)

Research and thesis writing experience conducted under supervision of a CFANS faculty advisor and course instructor. The student is responsible for identifying the faculty advisor and conducting research prior to registering for this course. A course permission number is given after providing a student-faculty learning contract. The goal of this course is to produce a written thesis in the format of a peer-reviewed scientific article. Students will meet weekly with the course instructor to discuss writing about

research. Students will complete a series of staged writing assignments for each section of the thesis (Introduction, Methods, Results, Discussion etc.). After review by the faculty advisor, the student will revise and submit their final draft. Final drafts will be published in the University of Minnesota Library Digital Conservancy (<https://conservancy.umn.edu/handle/11299/203510>).

AGRO 4096W. Professional Experience Program: Internships. (WI; 2 cr. [max 6 cr.]; A-F only; Every Fall, Spring & Summer)

Supervised professional experience with a private company, public agency, or non-profit organization involved in plant production or food systems. Reflective analysis of professional experience and technical communication on a topic related to the internship. This course meets on campus once in late spring and twice in early fall with several online activities during the summer.

AGRO 4105. Crop Management Field School: A Hands-on Immersion. (1 cr. [max 2 cr.]; A-F only; Every Summer)

In this course, you will apply and integrate principles and concepts of agronomy, plant pathology, entomology, and soil and weed science in a hands-on field setting with real-life scenarios and problems common in production agriculture. prereqs: BIOL 1001, 1009 or HORT 1001; AGRO 1103, and SOIL 2125

AGRO 4505. Biology, Ecology, and Management of Invasive Plants. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Ecology/biology of invasive plant species (weeds). Principles of invasive plant management in agricultural/horticultural, urban, wetland, aquatic, and other non-cropland landscape systems, utilizing biological, cultural, and chemical means. Management strategies to design systems that optimize invasive plant management in terms of economic, environmental, and social impacts. prereq: 4005, [Bio 3002 or equiv], Soil 2125, [Agro 2501 or Hort 1011]

AGRO 4605. Strategies for Agricultural Production and Management. (3 cr. ; Student Option; Every Fall)

Information/tools necessary to make informed land management decisions in ever-evolving economic, policy, climate environments. Evaluate hows, whats, whys of crop management by solving real-world problems that agricultural professionals face. State-of-the-art production/management practices for major agricultural crops in Minnesota. Lectures feature agricultural professionals/experts. Lab component provides hands-on experience with modern equipment/data interpretation. prereq: 1101 or equivalent, [CHEM1015/17 or equivalent], SOIL1125 or equivalent], [jr or sr or grad student or instr consent]

AGRO 4888. Issues in Sustainable Agriculture. (; 2 cr. ; Student Option; Every Fall)

Agroecology, sustainable practices, production economics, environmental quality, holistic resource management, healthy food/water, rural communities. Meet sustainable-agriculture

advocates, including farmers, faculty, and representatives of non-profit sustainable-agriculture organizations. prereq: 1103, Soil 1125 or 2125 or equiv

AGRO 5021. Plant Breeding Principles. (; 3 cr. ; Student Option; Every Fall)

This course is intended for advanced undergraduate students and graduate students that are either: 1) not plant breeding majors who will benefit from a basic understanding of how genetics is applied to plant improvement; or 2) plant breeding majors lacking prior coursework in plant breeding. The objective of this course is to develop an understanding of the underlying principles, ideas, and concepts important to applying genetic principles to plant breeding, evaluating breeding methods, and enhancing genetic progress and efficiency.

AGRO 5121. Applied Experimental Design. (; 4 cr. ; Student Option; Every Spring)

Principles of sampling methodologies, experimental design, and statistical analyses. Methods/procedures in generating scientific hypotheses. Organizing, initiating, conducting, and analyzing scientific experiments using experimental designs and statistical procedures. prereq: Stat 5021 or equiv or instr consent

AGRO 5311. Research Methods in Crop Improvement and Production. (; 1 cr. ; S-N or Audit; Every Fall & Summer)

Demonstrations and discussions of techniques in crop improvement and/or production research. Presentations integrate biotechnology with traditional breeding methods; production sessions emphasize ecologically sound cropping systems. prereq: applied plant sciences grad

AGRO 5321. Ecology of Agricultural Systems. (; 3 cr. ; A-F or Audit; Every Spring)

Ecological approach to problems in agricultural systems. Formal methodologies of systems inquiry are developed/applied. prereq: [3xxx or above] course in [Agro or AnSc or Ent or Hort or PIPa or Soil] or instr consent

AGRO 5431. Applied Plant Genomics and Bioinformatics. (3 cr. ; Student Option; Every Spring)

Analysis, interpretation, visualization of large plant genomic datasets. Basic computer programming, applying large-scale genomics to answer basic/applied biological questions, understanding limitations of each application, presenting concise visual findings from large-scale datasets. prereq: Grad student or [undergrad with genetics course]

AGRO 5999. Special Topics: Workshop in Agronomy. (; 1-6 cr. ; Student Option; Every Fall, Spring & Summer)

Workshops on various topics in agronomy and plant genetics. Presenters/faculty may include guest lecturers/experts. Topics specified in class schedule.

Akkadian (AKKA)

AKKA 5011. Elementary Akkadian I. (; 3 cr. ; Student Option; Periodic Fall)

Introduction to cuneiform script. Basics of Old Babylonian morphology and syntax. Written drills, readings from Hammurabi laws, foundation inscriptions, annals, religious and epic literature. prereq: Adv undergrads with instr consent or grads

AKKA 5012. Elementary Akkadian II. (; 3 cr. ; Student Option; Periodic Fall)

Continuation of 5011. Readings include The Gilgamesh Epic, The Descent of Ishtar, Mari Letters, Annals of Sennacherib and Essarhaddon, Sargon II. prereq: 5011

American Indian Studies (AMIN)

AMIN 1001. Introduction to American Indian & Indigenous Peoples. (DSJ; 3 cr. ; Student Option; Every Fall & Spring)

Introduction to how voices/visions of indigenous peoples have contributed to history of cultural expression in North America. Historic contexts/varieties of this expression by region, tribal cultures. Emphasizes contributions in literature, philosophy, politics, fine arts.

AMIN 1002. Indigenous Peoples in Global Perspective. (GP; 3 cr. ; A-F or Audit; Every Fall & Spring)

Colonial experiences of selected indigenous peoples in Americas, Euroasia, Pacific Rim.

AMIN 1003. American Indians in Minnesota. (DSJ,HIS; 3 cr. ; A-F or Audit; Every Fall & Spring)

History, culture, and lived experience of American Indian people in Minnesota. Self-representation and histories of Anishinaabe (Ojibwe) and Dakota peoples through film, music, oral traditions, and written texts. Work by non-Indian scholars focuses on cultural, philosophical, and linguistic perspectives of Anishinaabe and Dakota peoples.

AMIN 3001. Public History. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Interpretations of collective past as produced in public venues, including museum exhibitions, films, theme parks, and websites. Intellectual and political issues in history produced for public audiences. Career opportunities.

AMIN 3107. The Structure of Anishinaabemowin: The Ojibwe Language. (; 3 cr. ; A-F or Audit; Periodic Spring)

Analysis of Anishinaabemowin (Ojibwe language) structure in the context of an endangered Algonquian language. Examine writing systems, phonological (sound) features, morphology (word parts), and grammatical structures as documented historically and presently. The aim of the course is to provide students with an overview of the structure of Anishinaabemowin and introduce them to primary sources readings. Unlike language courses students may be familiar with from other departments, this course will not require memorization of extensive amounts of vocabulary ? our focus will be on understanding the structure of the language and acquiring an appreciation of the relevant linguistic issues and language revitalization issues.

AMIN 3141. American Indian Language Planning. (; 3 cr. ; A-F or Audit; Periodic Fall)

Planning for maintenance/revitalization of North American indigenous languages. Condition/status of languages. Documentation, cultivation, literacy, education.

AMIN 3201W. American Indian Literature. (DSJ,WI,LITR; 3 cr. ; A-F only; Every Fall & Spring)

Comparative studies of oral traditions, modern literature from various tribal cultures.

AMIN 3301. American Indian Philosophies. (AH,DSJ; 3 cr. ; Student Option; Every Fall, Spring & Summer)

World views of indigenous people of Americas. Topics include native medicines/healing practices, ceremonies/ritual, governance, ecology, humor, tribal histories, status of contemporary native people.

AMIN 3303. American Indians and Photography. (AH,DSJ; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Historical/comparative overview of photos in which American Indian people are central subjects. Primary features of images in American Indian photos. Relationships among those involved in making/viewing photos. Ways in which photos are interpreted. Relation of photos to social contexts in which they are produced and to agencies of those who stand behind their making.

AMIN 3304. Indigenous Filmmakers. (AH; 3 cr. ; Student Option; Every Spring)

Analysis of film/video made by American Indian writers, directors, producers within contexts of tribally specific cultures/histories, as well as within context of US culture/film history.

AMIN 3312. American Indian Environmental Issues and Ecological Perspectives. (ENV; 3 cr. ; Student Option; Every Spring)

American Indian environmental issues in U.S./Canada. Analysis of social, political, economic, legal forces/institutions. Colonial histories/tribal sovereignty.

AMIN 3402. American Indians and the Cinema. (AH,DSJ; 3 cr. ; A-F or Audit; Every Spring & Summer)

Representations of American Indians in film, historically/contemporarily. What such representations assert about Native experience and cultural viability. What they reflect about particular relationships of power.

AMIN 3409. American Indian Women: Ethnographic and Ethnohistorical Perspectives. (DSJ,HIS; 3 cr. ; Student Option; Fall Even Year)

Comparative survey of ethnographic/ethnohistorical writings by/about American Indian women.

AMIN 3501. Indigenous Tribal Governments and Politics. (DSJ,HIS; 3 cr. ; A-F or Audit; Fall Even Year)

History, development, structure, politics of American Indian Governments. North American indigenous societies from pre-colonial times to present. Evolution of aboriginal governments confronted/affected by colonizing forces of

European/Euro-American states. Bearing of dual citizenship on nature/powers of tribal governments in relation to states, federal government.

AMIN 3602. Archaeology and Native Americans. (DSJ; 3 cr. ; Student Option; Fall Even Year)

Historical, political, legal, and ethical dimensions of the relationship of American archaeology to American Indian people. Case studies of how representational narratives about Native people are created through archaeology; responses by Native communities; and the frameworks for collaborative and equitable archaeological practice. Professional ethics in archaeology/ heritage studies in American contexts.

AMIN 3604. Indigenous Immersion Methods for the Home, Classroom, and Community.

(3 cr. ; A-F only; Every Spring)
Prepares students as advanced language students to participate in and facilitate immersion environments within both formal and informal settings including the home, second language classrooms, immersion classrooms, language tables, immersion camps, and other community settings. prereq: OJIB 3104, DAKO 3124 or four semesters of another target language, or with instructor approval.

AMIN 3711. Dakota Culture and History.

(DSJ,HIS; 3 cr. ; Student Option; Every Fall & Spring)
Dakota culture, language, history, literature. Contemporary issues, the arts.

AMIN 3871. American Indian History: Pre-Contact to 1830.

(DSJ,HIS; 3 cr. ; Student Option; Every Fall & Spring)
American Indian history from the era of ancient Native America to the removal era. Social, cultural, political, and economic diversity of Native American peoples and Native American experiences with European colonialism.

AMIN 3872. American Indian History: 1830 to the Present.

(DSJ,HIS; 3 cr. ; Student Option; Every Fall & Spring)
Focus on the impact of federal Indian policy on American Indian cultures and societies, and on American Indian culture change.

AMIN 3896. Internship for Academic Credit.

(; 1-4 cr. ; A-F only; Every Fall, Spring & Summer)
Allows students to examine, reflect on, and construct meaning from their internship experience through self assessment of personal and career needs and goals, examination of what it means to be a "professional" and operate within professional environments, evaluation of performance and accomplishments, articulation of knowledge and skills via effective resume writing. A student may only earn credit for a given internship through one course at a time.

AMIN 3920. American Indian Studies Topics.

(; 3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Various topics in American Indian Studies.

AMIN 4231. Color of Public Policy: African Americans, American Indians, Asian

Americans, & Chicanos in the U.S.. (3 cr. ; Student Option; Periodic Fall)

Structural or institutional conditions through which people of color have been marginalized in public policy. Critical evaluation of social theory in addressing the problem of contemporary communities of color in the United States.

AMIN 4501. Law, Sovereignty, and Treaty Rights.

(; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)
History of American Indian law and the post-contact effects of colonial and U.S. law on American Indians through the 20th century. prereq: 1001

AMIN 4511. Indigenous Political Economies.

(; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)
Sources, nature, consequences of social/ economic development/change in Indian communities. Precontact Indian communities. Effect of European contact. Social movements into 20th century, including phenomenon of urban Indian communities. prereq: 1001

AMIN 4525W. Federal Indian Policy.

(WI; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)
Formulation, implementation, evolution, comparison of Indian policy from pre-colonial times to self-governance new millennium. Theoretical approaches to federal Indian policy. Major federal Indian policies. Views/attitudes of policy-makers, reactions of indigenous nations to policies. Effect of bodies of literature related to policies.

AMIN 4532. Vine Deloria, Jr.: A Renaissance Indigenous Figure.

(3 cr. ; Student Option; Periodic Fall & Spring)
In-depth consideration of indigenous scholar and activist Vine Deloria Jr.'s intellectual works, and impacts on fields such as law, religion and theology, history, natural and social science, literary criticism, education, anthropology, paleontology, and political science. Students read, discuss, produce research on an aspect of Deloria's work.

AMIN 4821W. Capstone Seminar.

(WI; 3 cr. ; A-F only; Every Fall)
Seminar for preparation/completion of American Indian Studies Senior Project requirement.

AMIN 4990. Topics in American Indian Studies.

(; 1-4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)
Topics specified in Class Schedule.

AMIN 4994. Directed Research.

(1-12 cr. [max 18 cr.] ; Student Option; Every Fall, Spring & Summer)
Individually arranged research with faculty to meet student needs and interests. Prereq-instr consent, dept consent, college consent.

AMIN 4996. Field Study. (1-12 cr. [max 18 cr.] ; Student Option; Every Fall & Spring)
Opportunities for experiential learning in a variety of American Indian community settings. Consult department faculty at least one term before enrolling. Prereq-instr consent, dept consent, college consent.

AMIN 5107. The Structure of Anishinaabemowin: The Ojibwe Language.

(; 3 cr. ; A-F or Audit; Periodic Fall)
Analysis of Anishinaabemowin (Ojibwe language) structure in the context of an endangered Algonquian language. Examine writing systems, phonological (sound) features, morphology (word parts), and grammatical structures as documented historically and presently. The aim of the course is to provide students with an overview of the structure of Anishinaabemowin and introduce them to primary sources readings. Unlike language courses students may be familiar with from other departments, this course will not require memorization of extensive amounts of vocabulary ? our focus will be on understanding the structure of the language and acquiring an appreciation of the relevant linguistic issues and language revitalization issues.

AMIN 5141. American Indian Language Planning.

(; 3 cr. ; A-F or Audit; Periodic Fall)
Planning for maintenance/revitalization of North American indigenous languages. Condition/status of languages. Documentation, cultivation, literacy, education. prereq: 3103 or 3123 or instr consent

AMIN 5202. Indigenous Peoples and Issues Before the United States Supreme Court.

(3 cr. ; Student Option; Periodic Fall & Spring)
Seminar explores the role and the practice of the US Supreme Court as a policy-making institution when dealing with indigenous nations and their citizens. Analysis of theoretical, behavioral, political, and institutional perspectives. Student work includes reading and textual analysis, leading discussions, analytical research paper.

AMIN 5402. American Indians and the Cinema.

(AH,DSJ; 3 cr. ; A-F or Audit; Every Spring & Summer)
Representations of American Indians in film, historically/contemporarily. What such representations assert about Native experience and cultural viability. What they reflect about particular relationships of power.

AMIN 5409. American Indian Women: Ethnographic and Ethnohistorical Perspectives.

(DSJ,HIS; 3 cr. ; Student Option; Fall Even Year)
Comparative survey of ethnographic/ ethnohistorical writings by/about American Indian women.

AMIN 5412. Comparative Indigenous Feminisms.

(GP; 3 cr. ; Student Option No Audit; Periodic Fall & Spring)
The course will examine the relationship between Western feminism and indigenous feminism as well as the interconnections between women of color feminism and indigenous feminism. In addition to exploring how indigenous feminists have theorized from 'the flesh' of their embodied experience of colonialism, the course will also consider how indigenous women are articulating decolonization and the embodiment of autonomy through scholarship, cultural revitalization, and activism.

AMIN 5602. Archaeology and Native Americans. (DSJ; 3 cr. ; Student Option; Fall Even Year)

Historical, political, legal, and ethical dimensions of the relationship of American archaeology to American Indian people. Case studies of how representational narratives about Native people are created through archaeology; responses by Native communities; and the frameworks for collaborative and equitable archaeological practice. Professional ethics in archaeology/heritage studies in American contexts.

AMIN 5890. Readings in American Indian and Indigenous History. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Students in this course will read recently published scholarship in American Indian and Indigenous history that takes up pressing research questions, promises to push inquiry in new directions, and that theorizes important interventions in our thinking to understand where the field is situated and moving. Reflecting the instinctively interdisciplinary nature of American Indian and Indigenous history, readings will be drawn not just from the discipline of history but across other disciplines such as Anthropology, American Studies, Geography, Literature, Political Science, and Legal Studies. As well, readings will include scholarship that reaches out to embrace the Global Indigenous studies turn. prereq: Advanced undergrad with instr consent or grad student

AMIN 5920. Topics in American Indian Studies. (; 3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)

Various topics in American Indian studies, depending upon instructor/semester.

AMIN 5991. Graduate Level Directed Studies. (; 1-6 cr. [max 9 cr.] ; A-F or Audit; Every Spring)

Contact department for further information. prereq: dept consent

American Sign Language (ASL)**ASL 1701. American Sign Language I.** (; 5 cr. ; Student Option; Every Fall, Spring & Summer)

The first dynamic course of a four-course sequence is designed to prepare the students for the visual modality of American Sign Language. This course introduces basic grammatical structure and basic vocabulary to develop communicative proficiency and cultural knowledge. The course utilizes a practical approach to learning vocabulary, grammar, fingerspelling, and cultural aspects through conversational activities. Students will study units 1, 2, 3, and 4 in the Signing Naturally textbook. Community involvement in the ASL/Deaf community is required outside of class for Fall/Spring (not required for May/Summer Term).

ASL 1702. American Sign Language II. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)

The second dynamic course of a four-course sequence further acclimates the students

to the visual modality of American Sign Language and draws upon previously acquired knowledge in ASL 1701. The course utilizes a practical approach to learning vocabulary, grammar, fingerspelling, and cultural aspects through conversational activities. In ASL 1702, students' production and comprehension skills continue to develop qualitatively and quantitatively as they are exposed to a greater variety of interaction activities. Students will study units 5, 7, and 8 in the Signing Naturally Level 1 textbook. Community involvement in the ASL/Deaf community is required outside of class for Fall/Spring (not required for May/Summer Term). prereq: 1701 with grade of at least [S or C-] or dept consent

ASL 3001. Cultural and Sociolinguistic Views within the Deaf Community. (; 3 cr. ; Student Option; Every Fall & Spring)

This course investigates the Deaf community using an ethnocentric view of culture. Students will explore cultural readings and various sources in class discussion using multi-disciplinary approaches: sociological, educational, and linguistic views. Can be taken concurrently with ASL 1701-3704. Class instruction conducted entirely in ASL with an English interpreter.

ASL 3703. American Sign Language III. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)

The third dynamic course of a four-course sequence draws upon previously acquired knowledge in ASL 1702. The course includes comprehension and production activities, vocabulary, grammatical structure, fingerspelling, and cultural aspects to further develop communicative proficiency and cultural knowledge. In ASL 3703, students are provided with various conversational opportunities to expand their production and comprehension skills in ASL. Students will study units 9, 10, and 11 in the Signing Naturally textbook. Community involvement in the ASL/Deaf community is required outside of class for Fall/Spring (not required for May/Summer Term). prereq: 1702 with grade of at least [S or C-] or dept consent

ASL 3704. American Sign Language IV. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)

The final dynamic course of a four-course sequence draws upon previously acquired knowledge in ASL 3703. The course includes comprehension and production activities, vocabulary, grammatical structure, fingerspelling, and cultural aspects to further develop communicative proficiency and cultural knowledge. In ASL 3704, students are provided with various conversational opportunities to expand their production and comprehension skills in ASL. Students will study units 15, 17-18, and 22-23 in the Signing Naturally textbook. Community involvement in the ASL/Deaf community is required outside of class for Fall/Spring (not required for May/Summer Term). prereq: 3703 with grade of at least [S or C-] or dept consent

American Studies (AMST)**AMST 1012. Migrants, Refugees, Citizens, and Exiles: The U.S. on an Immigrant Planet.** (CIV; 3 cr. ; Student Option; Every Spring)

Immigration to the United States at various historical periods and across geographical/political terrains. How immigration, as a national/racial project, is shaped by legal categories and discursive practices based on race, class, gender, and sexuality. Diverse ways marginalized groups produce national/transnational political practices.

AMST 1401. Comparative Genders and Sexualities. (DSJ; 3 cr. ; Student Option; Every Spring)

Gender/sexual practices/identities within international framework. How such practices/identities reflect/refract national ideals and express national/international division.

AMST 1511. Americans Abroad: Rethinking Travel, Culture, & Empire. (GP,HIS; 3 cr. ; Student Option; Every Spring)

In this course, we will look at Americans (including ourselves) who travel abroad and what their experiences, both in the present and historically, tell us about how we imagine others and our/their place in the world. What do these experiences tell us about who we are as a people, a culture, and a nation? This course will examine how these experiences have transformed (and continue to transform) Americans and the countries and cultures with which they interact. Indeed, this course challenges students to consider the overall effects that these processes have had on America's relationship with the rest of the world.

AMST 1912. Baseball and American Culture. (; 3 cr. ; A-F only; Periodic Fall & Spring)

To an extent not seen in any other sport, America's National Pastime is intertwined with the very fabric of life in America, and this is reflected in the prominent place of baseball in American cultural production such as film and literature. On the one hand, baseball provides a means through which the American dream has often been viewed and has itself been viewed as an idyllic representation of that dream and all that is good about American culture. But on the other hand, throughout history baseball has also reflected many of the struggles seen in the broader society. Whether it be racism, the realities of war, the place of women, the labor movement and unionization, or any of a number of other issues, baseball has provided a view into societal issues? sometimes leading the way and shining a spotlight on the issues and sometimes lagging behind other parts of society in dealing with the issues. Throughout this course we will look at these different sides of the connection between baseball and American culture.

AMST 2011. The United States since September 11. (CIV,HIS; 3 cr. ; Student Option; Every Fall)

How American citizenship and nationhood have changed since 9/11. The event and its aftermath in historical perspective. Political, economic, and military antecedents. How 9/11 has changed relations between the U.S.

government, U.S. citizens, immigrants, and international community. How 9/11 has been remembered.

AMST 2031. Chasing the American Dream: Economic Opportunity & Inequality in the U.S.. (DSJ,HIS; 3 cr. ; Student Option; Every Spring)

This course begins by focusing on the historical origins and meanings of the American dream. How did this dream of unlimited opportunity come about? What has it meant in different historical moments and to divergent social groups? And, why does it continue to be such a powerful and compelling idea in the United States and around the world?

AMST 2041. The Politics of Pandemics. (3 cr. ; A-F only; Every Fall & Spring)

This course examines public health in the United States, its institutions, practices, and policies and how they have been applied to infectious and chronic disease, as well as related to health and wellness more broadly. American public health is contextualized historically and pandemic problems, such as AIDS, tuberculosis, heart disease, obesity, and infectious disease, are examined critically relation to American culture and politics, including the most recent corona-virus pandemic. Students will gain an in-depth perspective on public health in the United States and how the history of American public health is deeply influenced by politics and culture, particular the dimensions of race, class, gender, and sexuality.

AMST 3001. Contemporary Perspectives on Asian America. (DSJ; 3 cr. ; Student Option; Every Spring)

Interdisciplinary overview of Asian American identities. Post-1965 migration/community. History, cultural productions, and concerns of Americans of Chinese, Japanese, Korean, South Asian, Filipino, and Southeast Asian ancestry.

AMST 3003. Public History. (3 cr. [max 4 cr.] ; A-F or Audit; Periodic Fall & Spring)

Interpretations of collective past as produced in public venues, including museum exhibitions, films, theme parks, websites. Intellectual and political issues in history produced for public audiences. Career opportunities.

AMST 3112. Prince, Porn, and Public Space: The Cultural Politics of the Twin Cities in the 1980s. (DSJ,HIS; 3 cr. ; Student Option; Every Fall)

This course uses music (especially Prince and the Replacements), debates around pornography/sex, and shifts around access to public space in order to explore the local culture and national importance of the Twin Cities during the 1980s.

AMST 3113W. Global Minnesota: Diversity in the 21st Century. (DSJ,WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Diverse cultural (racial, ethnic, class) groups in America. Institutions/processes that shape their relations and create domination, resistance, hybridity, nationalism, racism, alliance. Specific content may vary.

AMST 3114. America in International Perspective. (DSJ; 3 cr. ; Student Option; Every Fall & Spring)

The nature of international cultural exchange. The impact of U.S. cultures and society on other countries of the world as well as the impact of other cultures and societies on the United States.

AMST 3212. Dissident Sexualities in U.S. History. (3 cr. ; A-F or Audit; Every Fall)

History of sexuality in United States. Emphasizes sexualities that have challenged dominant social/cultural norms. Development of transgender, bisexual, lesbian, gay identities/communities. Politics of sex across lines of race/ethnicity. Historical debates over controversial practices, including sex work.

AMST 3214. Queer Kinship: Undoing the American Family. (AH,DSJ; 3 cr. ; Student Option; Periodic Fall & Summer)

What is the American family? Is it a part of the "American Dream"? Is it a claim to national belonging? The American family only exists within US mythology built on imperialism and settler colonialism. This course will explore how the heteronormative nuclear family structure symbolizes modern capitalist society that emphasizes the core American values of individualism, democracy, and the ability to reproduce. Thus, the individual family members are not only transformed into productive citizens but are also tasked with the responsibility to reproduce the nation(alism). For example, the recent advancement for gay marriage is scripted as a new phenomenon that poses as both a threat to the American values and a sign of progress. This paradox exposes the limits of gay identity politics and nationalist ideology within neoliberalism, which later used to justify and rationalize racist and xenophobic ideologies. This course asks: how is the American family always already queer?

AMST 3252W. American Popular Culture and Politics: 1900 to 1940. (CIV,WI,HIS; 3 cr. ; Student Option; Every Fall & Summer)

Historical analysis of how popular arts represent issues of gender, race, consumerism, and citizenship. How popular artists define boundaries of citizenship and public life: inclusions/exclusions in polity and national identity. How popular arts reinforce/alter political ideologies.

AMST 3253W. American Popular Culture and Politics: 1940 to the Present. (CIV,WI,HIS; 4 cr. ; Student Option; Every Spring & Summer)

Historical analysis of how popular arts represent issues of gender, race, consumerism, and citizenship. How popular artists define boundaries of citizenship and public life: inclusions/exclusions in polity and national identity. How popular arts reinforce/alter political ideologies.

AMST 3361. Asian Americans and Food. (3 cr. ; Student Option; Periodic Fall)

Asian Americans have always been intimately connected to food practices and institutions in the American imagination. Food is the medium through which Asian American cultural

difference, their status as "perpetual foreigners" and the "model minority character" are typically expressed and disseminated. Historically, Asian migration to the United States was fueled by labor needs particularly in the agricultural sector. In addition, Asian labor has been stereotypically linked to food service and preparation such as the ubiquitous Chinese take-out place and more recently, the sushi and Korean fusion joints. This course is an introduction to the interdisciplinary study of food to better understand the historical, social, and cultural aspects of Asian American food preparation, distribution and consumption. Students will investigate the politics and poetics of Asian American foodways by examining social habits, and rituals around food in restaurants, homes and other public venues. The course texts include ethnographic essays, fictional works, memoirs, magazines, and television shows.

AMST 3814. Women, Rage, and Politics. (3 cr. ; Student Option; Periodic Fall & Spring)

This course explores the relationship between women, rage, and politics. Following bell hooks, we ask where is the rage? Doing so, invites us to interrogate how rage is gendered, how politics are gendered, and how do rage and gender intersect to mobilize for justice. Drawing on political organizing by women of color during the recent Black Lives Matter uprising, we consider what it means to make and claim space as women of color in politics. We also look at how rage - BIPOC women's rage, white rage, rage against women - gets mobilized to cement and/or combat racism, xenophobia, and misogyny. Finally, the course reframes women's rage as intrepid and redemptive, capable of sparking change during this political movement.

AMST 3896. Internship for Academic Credit. (1-4 cr. ; Student Option; Every Fall, Spring & Summer)

An applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals, which may be related to a student's major field or area of interest. The work can be full or part time, paid or unpaid, primarily in off-campus environments. Internships integrate classroom knowledge and theory with practical application and skill development in professional or community settings. The skills and knowledge learned should be transferable to other employment settings and not simply to advance the operations of the employer. Typically the student's work is supervised and evaluated by a site coordinator or instructor.

AMST 3920. Topics in American Studies. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Topics specified in Class Schedule.

AMST 3993. Directed Studies. (; 1-9 cr. ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. prereq: instr consent

AMST 4101. Gender, Sexuality, and Politics in America. (DSJ,HIS; 3 cr. ; Student Option; Every Fall)

Ways public and private life intersect through the issues of gender, sexuality, family, politics, and public life; ways in which racial, ethnic, and class divisions have been manifest in the political ideologies affecting private life.

AMST 4301. Workers and Consumers in the Global Economy. (DSJ; 3 cr. ; Student Option; Every Spring)

Impact of global economy on workplaces/workers in the United States, Mexico, and Caribbean countries. Influence on consumption. Consequences for American culture/character. Effects on U.S./Mexican factory work, service sector, temporary working arrangements, offshore production jobs in Dominican Republic, and professional/managerial positions.

AMST 4962W. Proseminar in American Studies. (WI; 3 cr. ; Student Option No Audit; Every Spring)

This course serves as the capstone course for majors of the American Studies BA program. prereq: AmSt sr or instr consent

AMST 5412. Comparative Indigenous Feminisms. (GP; 3 cr. ; Student Option; Periodic Fall & Spring)

The course will examine the relationship between Western feminism and indigenous feminism as well as the interconnections between women of color feminism and indigenous feminism. In addition to exploring how indigenous feminists have theorized from 'the flesh' of their embodied experience of colonialism, the course will also consider how indigenous women are articulating decolonization and the embodiment of autonomy through scholarship, cultural revitalization, and activism.

AMST 5920. Topics in American Studies. (; 1-4 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Topics specified in Class Schedule.

Anatomy (ANAT)

ANAT 3001. Human Anatomy. (; 3 cr. ; Student Option; Every Fall)

Anatomical relationships. Function based upon form. Clinical applications. Gross (macroscopic) anatomy, histology (microscopic anatomy). Neuroanatomy (nervous system), embryology (developmental anatomy). prereq: [BIOL 1002W or BIOL 1009 or BIOL 2002 or equiv], at least soph

ANAT 3601. Principles of Human Anatomy. (; 3 cr. ; Student Option; Every Spring)

Anatomical relationships. Function based upon form. Clinical applications. Gross (macroscopic) anatomy, histology (microscopic anatomy). Neuroanatomy (nervous system), embryology (developmental anatomy). prereq: [BIOL 1002 or BIOL 1009 or BIOL 2002 or equiv], [concurrent registration is required (or allowed) in 3602 or concurrent registration is required (or allowed) in 3612], at least soph

ANAT 3602. Principles of Human Anatomy Laboratory. (; 2 cr. ; Student Option; Every Spring)

Complements 3601 or 3611. prereq: 3001 or 3301 or INMD 3001 or 3301 or concurrent registration is required (or allowed) in 3601 or concurrent registration is required (or allowed) in 3611

ANAT 3608H. Principles of Human Anatomy Laboratory for Honors Students. (; 3 cr. ; A-F only; Every Spring)

Lab work required for 3602 or 3612. Additional dissection of human cadavers/related projects. Supplements 3001 or 3601 or 3611. prereq: [concurrent registration is required (or allowed) in 3601 or concurrent registration is required (or allowed) in 3611] or 3001], sophomore, junior or senior, honors

ANAT 3611. Principles of Human Anatomy. (; 3 cr. ; Student Option; Every Spring)

Anatomical relationships. Function based upon form. Clinical applications. Gross (macroscopic) anatomy, histology (microscopic anatomy). Neuroanatomy (nervous system), embryology (developmental anatomy). prereq: [BIOL 1002 or BIOL 1009 or BIOL 2002 or equiv], at least soph; [concurrent registration is required (or allowed) in 3602 or concurrent registration is required (or allowed) in 3612] recommended

ANAT 3612. Principles of Human Anatomy Laboratory. (; 2 cr. ; Student Option; Every Spring)

Complements 3601 or 3611. prereq: 3001 or 3301 or INMD 3001 or 3301 or concurrent registration is required (or allowed) in 3601 or concurrent registration is required (or allowed) in 3611

ANAT 4900. Directed Studies in Anatomy. (; 1-6 cr. [max 18 cr.] ; S-N only; Every Spring)

x prereq: instr consent

ANAT 5095. Advanced Problems in Anatomy. (; 1-6 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)

Exceptional projects that do not easily fit within confines of other ANAT offerings. Examples include but not limited to individual teaching or research projects. prereq: one or more ANAT classes, instr consent

ANAT 5150. Human Gross Anatomy. (5 cr. ; A-F only; Every Fall)

Human cadaveric dissection based on traditional preparation, lab dissection, review sections, radiographic analysis, clinical correlations. Taught by regions. Extremities, torso, head/neck. Assessment by mid-semester/final written/practical examinations. prereq: instr consent, For Medical Students, or Graduate students enrolled in an appropriate graduate program as determined by instructor.

ANAT 5525. Anatomy and Physiology of the Pelvis and Urinary System. (; 1-2 cr. ; A-F only; Every Spring)

Two-day intensive course. Pelvis, perineum, and urinary system with cadaveric dissection. Structure/function of pelvic and urinary organs, including common dysfunction and pathophysiology. Laboratory dissections, including kidneys, ureters, urinary bladder, pelvic viscera and perineum (male or female), pelvic floor, vascular and nervous structures.

Grand rounds section. prereq: One undergrad anatomy course, one undergrad physiology course, instr consent

ANAT 5999. Head and Neck Anatomy. (; 3 cr. ; A-F or Audit; Every Summer)

N/A prereq: instr consent

Anesthesiology (ANES)

ANES 5587. Adv Clinical Physiology I for Nurse Anesthetists. (; 3 cr. ; A-F or Audit; Every Fall)

Cellular mechanisms underlying systems physiology. Cellular physiology, physiology of excitable tissues, renal physiology, cardiovascular physiology, hemostasis.

ANES 5588. Advanced Clinical Physiology II for Nurse Anesthetists. (; 3 cr. ; A-F or Audit; Every Spring)

Respiratory physiology, acid-base physiology, gastrointestinal physiology, metabolism, endocrinology, reproductive physiology, physiology of pregnancy/labor. prereq: Advanced Clinical Physiology I for Nurse Anesthetists

ANES 5686. Chemistry and Physics for Nurse Anesthetists. (; 3 cr. ; A-F or Audit; Every Summer)

Chemical equilibrium, organic chemistry, physics of fluids/gases, anesthetic applications. prereq: General chemistry or instr consent

Animal Science (ANSC)

ANSC 1001. Orientation to Animal Science. (1 cr. ; A-F or Audit; Every Fall)

Current issues, career planning, professional development. Interviews with faculty and other resource persons.

ANSC 1011. Animals and Society. (CIV; 3 cr. ; Student Option; Every Spring)

This online course is designed for anyone interested in the ways in which we as a human society interact with, affect and are affected by non-human animals. Students will gain a broad understanding of the major ways in which humans use animals in contemporary society, including as food, as companions, as research subjects, and as entertainment. Other topics will include: social and ethical issues concerning animal use, the human-animal bond, animals in culture, and animals and the law.

ANSC 1101. Introductory Animal Science. (4 cr. ; Student Option; Every Fall & Spring)

Fundamental concepts of animal breeding, physiology, nutrition, and management as they apply to the production of beef, dairy, horses, poultry, sheep, swine, and other livestock. Fall term class open only to ANSC majors. Spring term class open to all majors.

ANSC 1201. Backyard Chickens - Science and Practice. (; 3 cr. ; Student Option; Every Spring)

Backyard Chickens - Science and Practice is an online course designed to meet the needs of students interested in understanding chickens

in general, and for those who engage or are planning to engage in small scale farming of chickens. This course, expanded over 6 modules; (1) Basic biology and behavior (2) Selection (3) Housing (4) Nutrition (5) Management and (6) Diseases as it relates to chickens, will help the students understand the basic science of rearing chickens. Each of the six modules encompasses pertinent short video or PowerPoint lectures that provide fundamental and applied information on backyard chicken rearing.

ANSC 1205. Animal Handling - Livestock. (1 cr. ; A-F only; Every Fall & Spring)

Students will learn how to handle and restrain animals safely. Cattle, sheep, and pigs in the Animal Science Department's St. Paul animal units are the animals primarily worked with. Students will perform common animal husbandry techniques on these animals. Proper techniques that promote animal welfare will be emphasized. This course is meant for Animal Science freshmen students that have minimal experience working with livestock.

ANSC 1403. Companion Animal Nutrition and Care. (; 3 cr. ; Student Option; Every Fall & Spring)

This course is designed for individuals having no prior training with animals or nutrition but have interest in caring for and understanding the contemporary importance of companion animals. Emphasis will be on nutrition of healthy animals and the various factors that play a role in feeding an animal adequately. These factors include animal behavior, environmental conditions, food type, and availability. The course will emphasize basic principles of nutrition. The target audience of this course is all undergraduate students interested in nutrition and care of companion animals. The course will focus on companion animals, but not exclusively dogs and cats.

ANSC 1480. Topics in Animal Science. (; 1-3 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Various topics

ANSC 1511. Food Animal Products for Consumers. (; 3 cr. ; Student Option; Every Fall)

Introduction to the compositional variation, processing, selection, storage, cookery, palatability, nutritional value, and safety of red meat, poultry, fish, and dairy products. Meets CFANS interdisciplinary requirement.

ANSC 1701. Historical Influence of the Horse on Society. (HIS; 3 cr. ; Student Option; Every Fall)

Concepts of historical inquiry using the powerful/changing relationship between Man and horse. Students function as historians: framing questions, searching for appropriate sources, developing explanation model with reasoned arguments, and finally, write/defend interpretation.

ANSC 2011. Dairy Cattle Judging. (; 2 cr. ; Student Option; Every Fall)

Evaluation of dairy animals on the basis of physical appearance, including classes of

heifers and cows from the six major dairy breeds. Held in conjunction with the Minnesota State Fair. Training in oral reasons. prereq: instr consent

ANSC 2012. Livestock and Carcass Evaluation. (; 3 cr. ; Student Option; Every Spring)

Evaluation of cattle, swine, and sheep. Breeding stock evaluated on live appraisal, performance records, and breeding values. Market animals evaluated, graded, and priced on physical appearance followed by evaluation and grading of their carcasses.

ANSC 2013. Beginning Livestock Judging.

(; 2 cr. ; Student Option; Fall Odd Year) Visual evaluation of beef cattle, swine, and sheep for type, muscling, degree of finish, structure, and soundness. Short oral presentations. Preparation for collegiate livestock judging competition.

ANSC 2015. Animal Welfare Science and Ethics. (3 cr. ; A-F only; Every Fall)

This multidisciplinary course helps students develop an intellectual framework for understanding and interpreting issues involving animal welfare and ethics of animal use in agriculture, science and society.

ANSC 2016. Introduction to Applied Animal Behavior. (3 cr. ; A-F only; Every Fall)

Basic concepts and applications of animal behavior within the contexts of human use. Emphasis on domesticated species, but other species within captive environments also examined.

ANSC 2055. Horse Management. (; 2 cr. ; Student Option; Every Fall)

This course is offered online (semi-self paced) and provides an introduction to equine-related careers, the equine industry, and horse breeds and behavior. Current events will be discussed including topics such as horse slaughter and unwanted horses. Students will learn about the importance of bodyweight estimation, body condition scoring, hay analysis, plants poisonous to horses, liability, insurance options, as well as feeding, pasture, manure, and facility management. Equine health care will be discussed including colic, hoof care, vaccinations, deworming, and the role of genetics. Each week, students will participate in a course discussion, quiz, or exam.

ANSC 2401. Animal Nutrition. (; 3 cr. ; Student Option; Every Fall)

Classification/function of nutrients. Use of nutrients for body maintenance, growth, egg production, gestation, and lactation. Comparative study of digestive systems of farm animal species.

ANSC 3007. Equine Nutrition. (; 3 cr. ; Student Option; Every Spring)

Principles of nutrition. Emphasizes unique aspects of equine nutrition. Nutritional needs of healthy animals. Factors in feeding. Animal behavior, growth/development, physiological status, environmental conditions, food type, availability. How physiology of horse's gastrointestinal tract, utilization of feedstuffs, and horse's nutritional requirements interrelate.

Balanced rations, nutritional related ailments. Pasture management, forage selection, use of dietary feed additives/enhancers. prereq: 2401

ANSC 3011. Statistics for Animal Science. (; 4 cr. ; Student Option; Every Fall)

Basic statistical concepts. Develop statistical reasoning/critical thinking skills. Descriptive statistics, probability, sampling and sampling distributions, hypothesis testing, experimental design, linear correlation, linear regression and multiple regression. How to make sound arguments/decisions based on statistics when reviewing news articles or scientific publications with statistical content. Explore/draw conclusions from data using a basic statistical software package.

ANSC 3015. Animal Welfare Judging and Assessment. (3 cr. ; Student Option; Every Fall)

Advanced application of animal welfare science toward the assessment of real-life scenarios in agriculture, companion, and exotic animals. Top students will compete on the UMN team at the Intercollegiate Animal Welfare Judging and Assessment Competition held in November each year.

ANSC 3092. Undergraduate Research in Animal Science. (; 1-3 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)

Students conduct research project under supervision of faculty member.

ANSC 3093. Directed Study. (1-4 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)

Directed Study: A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

ANSC 3094. Directed Research. (1-4 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

ANSC 3141. Advanced Dairy Judging. (; 1 cr. ; Student Option; Every Spring)

Training in presentation of oral reasons in dairy cattle judging. Selected students from this course participate in fall intercollegiate dairy judging contest. prereq: 2011 or instr consent

ANSC 3142. Advanced Livestock Judging. (; 2 cr. ; Student Option; Fall Even Year)

Visual evaluation of beef cattle, swine, and sheep for muscling, finish, structure, and soundness. Use of production (growth and reproduction) records in evaluation. Oral presentations. Preparation for national collegiate livestock judging contest. prereq: instructor consent

ANSC 3203W. Environment, Global Food Production, and the Citizen. (GP,WI; 3 cr. ; Student Option; Every Spring)

Ecological/ethical concerns of food production systems in global agriculture: past, present, and future. Underlying ethical positions about how agroecosystems should be configured. Interactive learning using decision cases, discussions, videos, other media.

ANSC 3221. Animal Breeding. (; 4 cr. ; Student Option; Every Fall)

Application of qualitative and quantitative genetics to animal breeding. Concepts of livestock improvement through selection and mating programs.

ANSC 3301. Human and Animal Physiology.

(3 cr. ; Student Option; Every Fall & Spring)
Functions of major systems in mammals. Nervous system, muscles, cardiovascular system, respiration, renal system. Endocrinology/metabolism. Blood, immunology, reproduction. prereq: Must have taken a Biology and Chemistry course. Biol 1009 or equivalent is strongly recommended.

ANSC 3302. Human and Animal Physiology Laboratory. (; 1 cr. ; Student Option; Every Fall & Spring)

Companion course to 3301. Physiological principles are demonstrated using active learning approaches. Nervous system, muscles, cardiovascular, respiration, renal, endocrinology/metabolism, blood, immunology, reproduction. prereq: 3301 or concurrent registration is required (or allowed) in 3301

ANSC 3303W. Human and Animal Physiology with lab. (WI; 4 cr. ; A-F only; Every Fall & Spring)

Companion course to 3301. Physiological principles are demonstrated using active learning approaches. Nervous system, muscles, cardiovascular, respiration, renal, endocrinology/metabolism, blood, immunology, reproduction. prereq: Biol 1009 or equivalent is strongly recommended.

ANSC 3305. Reproductive Biology in Health and Disease. (; 4 cr. ; Student Option; Every Fall)

Reproductive organ functions, fertilization, estrous cycle and endocrine control, reproductive efficiency, problems/principles of artificial insemination. Anatomy, physiology, biochemistry of mammary gland. Mammary growth, initiation/maintenance of lactation, milk synthesis, factors influencing lactation curve. prereq: Biol 1009 or equiv

ANSC 3307. Artificial Insemination Techniques. (; 1 cr. ; S-N or Audit; Every Spring)

Hands-on training/techniques of artificial insemination at an off-campus laboratory setting. Techniques of AI and semen handling.

Criteria for selection of bulls. prereq: instr consent

ANSC 3403. Companion Animal Hot Button Issues. (; 3 cr. ; Student Option; Every Fall)

Various issues that affect companion animals in our society. Students debate pros/cons of each issue and formalize their own opinions based on information presented by debate teams.

ANSC 3480. Topics in Animal Science. (; 1-3 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Various topics

ANSC 3509. Animal Biotechnology.

(BIOL,TS; 4 cr. ; Student Option; Every Fall)
ANSC 3509 is a course for undergraduates seeking a broad understanding of animal biotechnology in a single semester. The course covers the major concepts and principles of modern animal biotechnology. Topics include: genes and genomes, recombinant DNA technology, genetically modified foods and medicines, proteins as products, DNA fingerprinting and forensic analysis, bioremediation, aquatic biotechnology, medical biotechnology, and bioethics as it pertains to biotechnology. The course does not require any prerequisites and is targeted at students from all backgrounds and majors. We will discuss this history of biotechnology through current events. The laboratory component will focus on basic skills required in a molecular lab including aseptic technique, DNA extraction, pipetting, PCR, casting and running gels, data analysis, and guided bioinformatics lessons. The laboratory component will also teach molecular techniques necessary in forensic DNA fingerprinting, and how to gather DNA profiling data of individual animals to study population genetics. The course focuses primarily on the science biotechnology, but has strong components on ethics, policy, and society. For each topic, career paths are discussed, including how to prepare for careers in biotechnology fields.

ANSC 3511. Animal Growth and Development. (; 3 cr. ; Student Option; Every Spring)

Principles of animal growth. Interaction of nutrition, hormones, exercise, heredity, and disease in regulating growth. prereq: College-level biology course

ANSC 3555. Applied Livestock and Poultry Microbiology. (2 cr. ; A-F only; Spring Even Year)

This applied microbiology course is intended to provide theoretical basis and hands-on experience to students on major pathogenic bacteria colonizing livestock and domestic poultry. This course will provide skills to the students who seriously consider farm animal and poultry microbiology research and/or teaching in their careers. Pathogenic bacteria in livestock and poultry such as *Listeria monocytogenes*, *Escherichia coli* O157:H7, and *Salmonella*, fungal microorganisms (*Aspergillus*), and beneficial microorganisms such as *Lactobacillus*, will be discussed. In addition, the course will introduce feed testing

methods (Bacteriological Analytical Manual (BAM) methodology), common antibacterials/antibiotics used for decontamination and disinfection, and the emerging alternatives to antibiotics with a perspective on bacterial antibiotic resistance. In a flipped class room format, the students will gather necessary information provided by the instructor, listen to short lectures on the methods and mechanisms, participate in demonstrations, and apply it in a typical BSL2 laboratory set up under supervision. All students should undergo BSL2 training prior to enrollment. Online training counts to approximately 5-6 hours. Not more than 4 students will be allowed for each session due to BSL2 pathogenic microbiology space restriction, access to RAR facilities, and some non-conventional microbiological methods. Special health conditions, pregnancy, and immunocompromised situations must be consulted with the instructor prior to enrollment. The students must obtain clearance from ROHC for their tetanus vaccination status. prereq: Instructor Permission

ANSC 3609. Business Planning for Animal Enterprises. (; 2 cr. ; Student Option; Every Fall)

Systems approach to decision making and problem solving in production enterprises. Planning, long range goal setting, production analysis, risk analysis, and cost-benefit analysis. Quality-of-life issues.

ANSC 3701. Poultry Products Technology.

(3 cr. ; A-F only; Every Summer)
Explores procurement, processing, and distribution of poultry meat, eggs, and further processed products. Composition, quality measurements, preservation, and economics are related to the biochemistry, microbiology, and technology involved in current processing methods.

ANSC 3702. Applied Avian Physiology. (3 cr. ; A-F only; Every Summer)

Applied Avian Physiology is an intensive 3-credit lecture and laboratory course designed to introduce industry relevant aspects of avian physiology with emphasis on behavior, neurology, muscle, cardiovascular, immunology, digestive, endocrinology, and reproductive systems for egg and meat producing birds.

ANSC 3703. Avian Health. (3 cr. ; A-F only; Every Summer)

Trains students to identify diseases that commonly plague poultry. Instruction on animal well-being, transport regulations, disease surveillance, and methods of disinfection and sanitation are included.

ANSC 3704. Poultry Nutrition. (3 cr. ; A-F only; Every Summer)

Develop a conceptual understanding of nutrient requirements and feed production for optimal growth and production of commercial poultry species. The use of computer programming for feed formulation is emphasized.

ANSC 3801. Livestock Merchandising. (; 3 cr. ; Student Option; Spring Odd Year)

Promotion/merchandising of purebred livestock. Hands-on training in advertising,

livestock photography, showing/fitting, sale organization. Field trips to seed stock operations/auctions. Presentations by industry and breed association leaders. Students conduct annual sale. prereq: Jr or sr or instr consent

ANSC 4009W. Undergraduate Research Thesis. (WI; 1-6 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)
Usually one full year. Research/thesis experience under supervision of CFANS faculty member. Written bound thesis, oral presentation of research results. prereq: Jr or sr major in AnSc, instr consent

ANSC 4011. Dairy Cattle Genetics. (3 cr. ; Student Option; Every Spring)
Quantitative genetic principles of breeding dairy cattle. Evaluation of males, females. Systems of mating. Rates of genetic improvement with/without AI. prereq: (prereq 3221, previous or current registration in 4604, at least junior status)

ANSC 4092. Special Problems in Animal Science. (1-4 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer)
Independent study in an area of animal science, under supervision of faculty member. prereq: instr consent

ANSC 4093. Tutorial in Animal Science. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)
Informally structured to encourage in-depth study of specific disciplines in animal science. Pertinent readings; preparation of written essays of high quality required. prereq: instr consent

ANSC 4096. Professional Experience Program: Internship. (1-3 cr. [max 6 cr.]; S-N only; Every Fall, Spring & Summer)
Supervised professional experience in animal industries and farm enterprise systems. Various aspects of the industry and related fields. Evaluative reports. Consultations with faculty advisers and employers. prereq: CFANS undergrad, instr consent, agreement form

ANSC 4099. Special Workshop in Animal Science. (; 1-4 cr. [max 8 cr.]; Student Option; Every Fall & Spring)
Independent study in an area of animal science, under supervision of faculty member. prereq: instr consent

ANSC 4401. Swine Nutrition. (; 3 cr. ; Student Option; Every Fall)
A comprehensive review of major considerations in providing optimum, cost-effective nutrition to swine in all stages of production. prereq: 2401, 3511 recommended

ANSC 4403. Ruminant Nutrition of Production & Exotic Animals. (; 3 cr. ; Student Option; Every Spring)
This is a hybrid course with approximately 75% of material delivered via on-line lectures. Students will meet once per week for a in-class hands-on activity or a guest lecture. Species focus will include dairy, beef, small ruminants, deer, buffalo and zoo ruminants. Topics include digestive tract physiology, microbiology of

the rumen, nutrient requirements, nutrient utilization, nutrient content of feedstuffs, diet formulation and feeding challenges.

ANSC 4404. Applied Dairy Nutrition. (; 2 cr. ; Student Option; Periodic Fall)
Application of nutrition principles to dairy cow nutrition. Nutrient requirements of dairy cows, feed ingredient selection/usage, formulation/evaluation of dairy cow rations using computer programs. Case study analysis of feeding programs used on dairy farms. prereq: AnSc 4403 recommended

ANSC 4601. Pork Production Systems Management. (4 cr. ; Student Option; Fall Odd Year)
Interrelationships of business, marketing, and biological performance of pigs in various types of production systems.

ANSC 4602. Sheep Production Systems Management. (; 4 cr. ; Student Option; Every Spring)
Nutrition, management, genetics, reproduction, health. Application of production records, selection, and marketing technology. Current research. Social concerns, consumer affairs, industry practices. Field trips to sheep farms and related industries.

ANSC 4603. Beef Production Systems Management. (; 4 cr. ; Student Option; Every Fall)
How to resolve problems and manage cow-calf, stocker, or feedlot operations. Segments of beef industry, challenges. Nutrition, reproduction, genetics, and health in beef cattle production. Students evaluate a beef cattle enterprise and contribute in marketing, selection, reproduction, nutrition, or health management. prereq: concurrent registration is required (or allowed) in 4613

ANSC 4604. Dairy Production Systems Management. (4 cr. ; Student Option; Spring Even Year)
Practical applications of principles of dairy cattle health and welfare, nutrition, reproduction, housing, genetics, and economics in a problem solving context. Lectures, farm evaluations and case studies. prereq: AnSc 1101, AnSc 2401

ANSC 4613. Advanced Beef Production Systems Management. (; 2 cr. ; Student Option; Every Fall)
Half semester course. Student enterprise-analysis teams evaluate a beef cattle enterprise and solve problems in marketing, selection, reproduction, nutrition, or health management. prereq: 4603

ANSC 4711. Breeder Flock & Hatchery Management. (3 cr. ; A-F only; Every Summer)
History of artificial incubation relevant to the U.S. hatching industry. Practices involved in successful incubation of hatching eggs and embryonic development in birds. Management factors involved in breeder hen production and operating a hatchery.

ANSC 4712. Poultry Enterprise Management. (3 cr. ; A-F only; Every Summer)

Poultry Enterprise Management is designed to compile various aspects of previous poultry classes and is designed to expose students to the business and management aspects of the poultry industry. It is also designed to teach students how to interact and communicate effectively within the poultry industry and train them to make business decisions that impact the economic welfare of various poultry industry sectors. Students will learn how to develop a poultry operation business plan that includes everything from building design to an overall economic analysis of their operation.

ANSC 5015. Animal Welfare Science and Ethics. (3 cr. ; A-F only; Every Fall)
This multidisciplinary course helps students develop an intellectual framework for understanding and interpreting issues involving animal welfare and ethics of animal use in agriculture, science and society.

ANSC 5025. Gut Microbiome Systems. (3 cr. ; A-F or Audit; Every Fall)
This course is primarily focused on providing conceptual and methodological tools to understand how diet and the gut microbiome converge to impact the physiological landscape of animals and humans, considering diet, host and microbiome as one highly integrated system. To that end, the course relies on concepts of data analysis, gastrointestinal microbiology, the breadth of scientific literature produced up to date and hands on experiences to immerse attendants in the ever-growing microbiome field and open them to consider a microbiome lens to address different research questions in their respective fields. The course emphasizes three main conceptual areas: 1. Compositional and functional organization of microbial communities in the mammalian gut: From cells to functional communities. 2. Dietary drivers of the mammalian gut microbiome: Nutritional Ecology in the mammalian gut 3. Host-microbiome interactions: Physiological impact of the mammalian gut microbiome Rather than memorizing these concepts, the course emphasizes the need to apply them to real life issues in animal and human nutrition and health. As such, recognizing these conceptual areas in context, and using them for problem solving in their respective research areas is the ultimate goal of the course. Undergraduate level course in microbiology and physiology are suggested to enroll in this course. Also, previous completion of statistics courses and familiarity with the R statistical interface and command line are recommended.

ANSC 5035. Animal Welfare Judging and Assessment. (3 cr. ; A-F only; Every Fall)
Advanced application of animal welfare science toward the assessment of real-life scenarios in agriculture, companion, and exotic animals. Top students will compete on the UMN team at the Intercollegiate Animal Welfare Judging and Assessment Competition held in November each year.

ANSC 5091. Research Proposals: From Ideas to Strategic Plans. (3 cr. ; Student Option; Every Spring)
You have a great research idea, now what? How do you turn your idea into a proposal?

It has been said paraphrasing Edison, that innovation is one percent inspiration, ninety-nine percent perspiration. In this course, we will start with an inspiring idea and sweat our way to develop a research proposal. The students will go through a step-by-step process that starts choosing and defining a research idea, then proceeding to do literature reviews and to the development of hypothesis, aims, objectives and a research strategy. The aim of this course is to provide students with tools to understand the structure of scientific reports and proposals, literature searches and basic data interpretation. The student will learn about different research approaches and how to achieve consistency in their research projects. We will guide students in how to begin and develop a written research proposal that will satisfy the requirements of their advisers, institution and funding organizations. prereq: There are no prerequisites, however, having taken ANSC 3011 Statistics for Animal Science is desirable.

ANSC 5099. Special Workshop in Animal Science. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Spring)

Topics vary. See Class Schedule or department. Topics may use guest lectures/experts. prereq: instr consent

ANSC 5200. Statistical Genetics and Genomics. (4 cr. ; Student Option; Fall Even Year)

Gene discovery. Genomic selection. Data analysis. Phenotypes/DNA markers. Parametric/non parametric linkage analysis. Mapping quantitative trait loci (QTL). Parentage testing. prereq: [Stat 3021 or equiv], [Biol 4003 or equiv]

ANSC 5555. Applied Livestock and Poultry Microbiology. (2 cr. ; A-F only; Spring Even Year)

This applied microbiology course is intended to provide theoretical basis and hands-on experience to students on major pathogenic bacteria colonizing livestock and domestic poultry. This course will provide skills to the students who seriously consider farm animal and poultry microbiology research and/or teaching in their careers. Pathogenic bacteria in livestock and poultry such as *Listeria monocytogenes*, *Escherichia coli* O157:H7, and *Salmonella*, fungal microorganisms (*Aspergillus*), and beneficial microorganisms such as *Lactobacillus*, will be discussed. In addition, the course will introduce feed testing methods (Bacteriological Analytical Manual (BAM) methodology), common antibacterials/antibiotics used for decontamination and disinfection, and the emerging alternatives to antibiotics with a perspective on bacterial antibiotic resistance. In a flipped class room format, the students will gather necessary information provided by the instructor, listen to short lectures on the methods and mechanisms, participate in demonstrations, and apply it in a typical BSL2 laboratory set up under supervision. All students should undergo BSL2 training prior to enrollment. Online training counts to approximately 5-6 hours. Not more than 4 students will be allowed for each

session due to BSL2 pathogenic microbiology space restriction, access to RAR facilities, and some non-conventional microbiological methods. Special health conditions, pregnancy, and immunocompromised situations must be consulted with the instructor prior to enrollment. The students must obtain clearance from ROHC for their tetanus vaccination status.

ANSC 5625. Nutritional Biochemistry. (; 3 cr. ; Student Option; Every Fall)

Overview of biochemical molecules and pathways important in nutritional events. prereq: BIOC 3021 or instr consent

ANSC 5626. Nutritional Physiology. (; 3 cr. ; A-F only; Every Spring)

Whole body macronutrient metabolism as it relates to etiology of metabolic diseases. Signaling between tissues to control homeostasis. How dysregulation of crosstalk can lead to metabolic diseases. How diet, exercise, or starvation impact metabolism. Regulation of food intake and energy expenditure. Designing/analyzing/interpreting research data.

ANSC 5702. Cell Physiology. (; 4 cr. ; A-F only; Every Fall)

Cell Physiology involves the study of control mechanisms involved in maintaining homeostasis with respect to a variety of parameters including regulation of pH, volume, nutrient content, intracellular electrolyte composition, membrane potential, receptor signaling and aspects of intercellular communication. The first half of this team-taught course is organized in a partially on-line format where students learn from on-line materials and then take an on-line quiz each week before meeting with the instructor to review key concepts in class. The second half of the course is presented in lecture format. Student evaluation is based on quiz scores, in-class exams and graded problem sets.

Anthropology (ANTH)

ANTH 1001. Human Evolution. (BIOL; 4 cr. ; Student Option; Every Fall, Spring & Summer)

What does it mean to be human? This question, central to the discipline of anthropology, has provided inspiration to scientists, philosophers, and artists for many centuries. In this course, we will begin to answer this question using the scientific study of the biological and cultural evolution of the human lineage. The first half of the term will introduce you to basic concepts in evolutionary theory: natural selection, genetics, behavioral ecology, and comparative anatomy. Using these tools, we will then spend the rest of the semester reconstructing the ecology, diet, anatomy, and behavior of our early ancestors, from the first apes to walk on two legs to the modern humans that conquered the globe. Weekly readings and lectures will provide the theoretical framework for understanding the evolutionary biology of *Homo sapiens*; laboratory sections will give you an opportunity to apply these theories and evaluate the fossil evidence for yourself. Through this combined approach, we will tackle such important

questions as: What features define the human lineage? In what ecological setting did our ancestors become bipedal? What role did global climate change play in our evolution? How did tool use and cultural evolution feedback into our biological evolution? When and where did modern humans originate and what behaviors characterized this emergence? Why were there many species of humans in the past but only one today? Why is it important for the future of humanity for the average citizen to understand the principles of evolution as applied to the human animal? Upon completion of this course, you will have a broad knowledge of the role biological anthropology plays within the discipline of anthropology. More importantly, however, you will acquire a better understanding of the biological heritage of our species and our place among other forms of life on our planet.

ANTH 1003V. Understanding Cultures: Honors. (GP,WI,SOCS; 4 cr. ; A-F only; Every Fall & Spring)

Introduction to social/cultural anthropology. Comparative study of societies/cultures around world. Adaptive strategies. Economic processes. Kinship, marriage, gender. Social stratification. Politics/conflicts. Religion/ritual. Personality/Culture. prereq: Honors

ANTH 1003W. Understanding Cultures. (GP,WI,SOCS; 4 cr. ; Student Option; Every Fall & Spring)

Introduction to social and cultural anthropology. Comparative study of societies and cultures around the world. Topics include adaptive strategies; economic processes; kinship, marriage, and gender; social stratification; politics and conflicts; religion and ritual; personality and culture.

ANTH 1911W. Changing Human Adaptations. (ENV,WI; 3 cr. ; A-F only; Periodic Fall & Spring)

Humans, like other species, are integral to the ecology of the earth. We display a series of adaptations that allow us to eat, grow, find mates, and raise offspring. Do humans have a fundamental ecological niche? How have humans adapted to climate change over time and space, for example, as we spread out of Africa, into Eurasia and then into the Americas? We consider how climate, environmental, and habitat reconstructions are made by scientists; and how diets, food acquisition strategies, geographic distribution, and social structure are known to paleoanthropologists. We consider changes in the human gut, tooth size, body size, and social behaviors. We also explore how long humans have made a significant impact on the environment, via hunting and overhunting, planting food, population growth and greenhouse gas emissions. When did the "Anthropocene" begin?

ANTH 1918. Justice?. (GP; 3 cr. ; Student Option; Periodic Fall)

What is justice, and how do we know it? Where does it begin and end? And, who gets to decide? Is justice a stable concept that can be applied universally, or a socially constructed (and therefore unstable) category that should

only be approached in contextually specific ways? This course takes an interdisciplinary approach to the concept of justice. Students will be exposed to a variety of texts - in philosophy, political science and economy, religion, anthropology, literature and law ? and contexts from which conceptions of justice have emerged and/or been challenged. As the title of this course, suggests, students will not merely be tracing the history and development of "justice," but also identifying and interrogating its conceptual limits.

ANTH 2001V. Being Human - A Comprehensive Introduction to the Four Fields of Anthropology. (WI; 3 cr. ; A-F only; Periodic Fall & Spring)

Whenever you take a trip, do you people-watch and wonder about these interesting humans that surround you? Why they look the way they do? How they know how to behave in different situations? Why they eat really weird foods? Anthropology answers these questions using a holistic, bio-cultural framework. In this course we will explore the relationship between human bodies and human culture, using the five fields of anthropological inquiry: biological anthropology, archaeology, cultural anthropology, linguistics and applied anthropology. We will answer questions such as: How and why did our physiques evolve into the form we see today? What cultural and environmental influences affect human variation throughout the world? What effects do religion, law, and society have on the way people think about, discuss, and use their bodies today? How do we learn about our past from examining human remains? How and why do differences in language use define us as persons? How can anthropological insight lead to great careers in law, medicine, business and public service?

ANTH 2006. Humans and Aliens: Learning Anthropology through Science Fiction. (GP; 3 cr. ; Student Option; Periodic Fall & Spring)

Science Fiction has been one of the most popular genres of literature over the last century and a half. Despite its great popularity, however, many fans of the genre do not realize how much it has in common with the discipline of Anthropology. Anthropology is the study of what it means to be human in all times and places. Science fiction, for its part, explores human existence in equally diverse contexts, except that those imagined contexts frequently have not yet happened. Despite this similarity, anthropology is extremely poorly known compared to science fiction. This course uses the stimulating and entertaining literature of science fiction to expose students to anthropology who, having never been exposed to it in high school, are likely to leave university without learning the power of the discipline's perspective on humanity. Through individual pairings of anthropology texts and science fiction stories, the course explores the relevance of biological anthropology, social anthropology, linguistic anthropology, and archaeology to humanity's future. The course's juxtaposition of anthropological literature to science fiction stories is designed to provide

students with the ability to see how our future is more dependent on how humanity works (as anthropology understands it), than merely what the next technological invention has to offer us. This course introduces students to the breadth of anthropological topics using the literature of such award-winning science fiction (SF) authors as Isaac Asimov, Elisabeth Bear, Jerome Bixby, Octavia Butler, Ted Chiang, Arthur C. Clarke, Philip K. Dick, Robert Heinlein, Frank Herbert, Ursula K. Le Guin, Catherine Moore, Mike Resnik, Kim Stanley Robinson, Neil Stephenson, James Tiptree, Jr., and Kurt Vonnegut. While the course is not designed to cover the literary criticism of SF literature nor the social analysis of the SF community of readers and authors, the choice of which SF authors to oppose to select anthropological topics was shaped by my understanding of the historical development of SF literature. Students will thus read stories written from the Golden Age of magazine SF to the most recent post-cyberpunk novelists. The selection of SF stories is of course idiosyncratic but it is designed to reflect the goal of learning something of anthropology while having a blast reading SF.

ANTH 3001. Introduction to Archaeology.

(SOCS; 4 cr. ; Student Option; Every Fall) Archaeology is the study of humans in the past, primarily through the material remains they left behind. It seeks to answer fundamental questions, such as ?When did humans first become dependent on fire??. ?What factors led to the development of agriculture??. or ? How can we explain the rise and fall of early civilizations?? The study of each of these big questions relies on answering many small questions that are asked in the context of archaeological excavations and laboratory analyses. A common theme underlies them: archaeology aims to reconstruct and understand why past human cultures changed. The goal of this class is to provide an understanding of the methods and techniques used by archaeologists in their investigations. It includes not only hands-on learning of specific analytical techniques, such as faunal and lithic analysis as well as site survey and excavation strategies, but also focuses on the theoretical approaches that guide the questions we ask and the methods we apply to answer them. This class, therefore, prepares students for more upper-level classes in archaeology. It also leads to a new way of thinking. This way of thinking is primarily critical and analytical. It leads one to think about how data are interpreted, and how theoretical frameworks as well as innate biases color these interpretations. Seeking solutions to interpretive problems requires the creative application of multidisciplinary approaches. Therefore, the study of archaeology leads to a new way of thinking about and doing science.

ANTH 3002. Sex, Evolution, and Behavior: Examining Human Evolutionary Biology. (; 4 cr. ; A-F or Audit; Every Spring)

Methods/theories used to understand humans in an evolutionary framework. What can be known only, or primarily, form an evolutionary perspective. How evolutionary biology of

humans might lead to better evolutionary theory. How physiology, development, behavior, and ecology coordinate/co-evolve in humans.

ANTH 3003. Cultural Anthropology. (; 3 cr. ; Student Option; Every Fall, Spring & Summer) Topics vary. Field research. Politics of ethnographic knowledge. Marxist/feminist theories of culture. Culture, language, and discourse. Psychological anthropology. Culture/transnational processes.

ANTH 3004. Great Controversies in Anthropology. (GP,SOCS; 3 cr. ; A-F or Audit; Every Spring)

Notable controversies in anthropology: Is human "reason" the same in all cultures? What makes up evidence/truth when we study people? Whose "voices" should be heard? Should anthropologists support contemporary attempts at economic "development"? Is it possible to agree on a set of universal individual or cultural rights? Can we make qualitative judgments about cultures? What civic/political responsibilities does the anthropologist have at home and with the people whom she or he studies? In-class debates.

ANTH 3005W. Language, Culture, and Power. (DSJ,WI,SOCS; 4 cr. ; Student Option; Every Spring)

Studying language as a social practice, students transcribe and analyze conversation they record themselves, and consider issues of identity and social power in daily talk.

ANTH 3006. Humans and Aliens: Learning Anthropology through Science Fiction. (GP; 3 cr. ; Student Option; Periodic Fall & Spring)

Science Fiction has been one of the most popular genres of literature over the last century and a half. Despite its great popularity, however, many fans of the genre do not realize how much it has in common with the discipline of Anthropology. Anthropology is the study of what it means to be human in all times and places. Science fiction, for its part, explores human existence in equally diverse contexts, except that those imagined contexts frequently have not yet happened. Despite this similarity, anthropology is extremely poorly known compared to science fiction. This course uses the stimulating and entertaining literature of science fiction to expose students to anthropology who, having never been exposed to it in high school, are likely to leave university without learning the power of the discipline's perspective on humanity. Through individual pairings of anthropology texts and science fiction stories, the course explores the relevance of biological anthropology, social anthropology, linguistic anthropology, and archaeology to humanity's future. The course's juxtaposition of anthropological literature to science fiction stories is designed to provide students with the ability to see how our future is more dependent on how humanity works (as anthropology understands it), than merely what the next technological invention has to offer us. This course introduces students to the breadth of anthropological topics using

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ANTH 3008. Introduction to Flintknapping.

(; 3 cr. ; A-F or Audit;)

Hands-on experience in replication of prehistoric stone tools, as basis for archaeological analysis and as art form in itself.

ANTH 3009. Prehistoric Pathways to World Civilizations. (HIS; 3 cr. ; Student Option; Every Spring)

How did complex urban societies first develop? This course addresses this question in ten regions of the world including Maya Mesoamerica, Inca South America, Sumerian Near East, Shang Civilization in East Asia, and early Greece and Rome.

ANTH 3015W. Biology, Evolution, and Cultural Development of Language & Music. (SOCS,WI; 3 cr. ; Student Option; Every Spring)

Language is the most human form of behavior, and the investigation of the ways language and culture interact is one of the most important aspects of the study of human beings. The most fascinating problem in this study is how language itself may have evolved as the result of the interaction between biological and cultural development of the human species. In this course we will consider the development of the brain, the relationship between early hominins, including Neanderthals and Modern Humans, and such questions as the role of gossip and music in the development of language.

ANTH 3016. Africa and African Diaspora Archaeology. (GP,HIS; 3 cr. ; Student Option; Every Fall)

Africa and African Diaspora Archaeology (AFRO/ ANTH 3016/5016) examines the evolution of human behavior in Africa and looks at subsequent social, cultural, and technological developments as shown in archaeological records including artifacts, ecofacts, rock art, and structures at archaeological sites. It also discusses methods used to identify archaeological records and how these records can be used to reconstruct past ways of life. Students will obtain hand-on-experience in identifying, classifying, and interpreting archaeological objects. The course covers Africa from around 2.6 million years ago

to the recent past, focusing primarily on the last 10,000 years. It examines the development and spread of food production, pottery, metallurgy, trade, and African connections with the Atlantic world dating back to the fifteenth century.

ANTH 3021W. Anthropology of the Middle East. (GP,WI,SOCS; 3 cr. ; A-F or Audit; Fall Even Year)

Anthropological methods of analyzing/ interpreting Middle Eastern cultures/societies.

ANTH 3023. Culture and Society of India.

(GP,SOCS; 3 cr. ; Student Option; Spring Even Year)

Contemporary society and culture in South Asia from an anthropological perspective with reference to nationalism; postcolonial identities; media and public culture; gender, kinship and politics; religion; ethnicity; and the Indian diaspora.

ANTH 3027W. Archaeology of Prehistoric Europe. (HIS,WI; 3 cr. ; Student Option; Every Fall)

How archaeologists analyze/interpret artifacts to develop knowledge about formation of European society, from earliest evidence of human occupation to Roman period.

ANTH 3028. Historical Archaeology. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

In this course, we will explore the theories and methods of historical archaeology ? such as material culture studies, landscape perspectives, archival, and oral historical interpretation - as a means of intervening in contemporary discussions of diversity in the United States. Historical archaeology can be a very effective means to challenge some of the standard American narratives about our diverse past. Our aim is to move beyond either a simplistic ethnic pluralism or the superficial ?melting pot? progressive history and instead grapple with the materiality of settler colonialism, white supremacy, and capitalism. In learning about this field, we will consider what has distinguished historical archaeology from American archaeology more broadly, and how those differences are parlayed into specific research strengths. This includes several themes: colonialism; the modern world and globalizing economies; intersectional identities (race and ethnicity, class, sex and gender, religion, age, ability/ disability) and social movements; public memory and commemoration; landscapes and social space; citizenship and subjectivity. Although historical archaeology until recently has been restrictively defined as addressing the European-colonized New World, the discipline in the past twenty years has significantly broadened its scope and impact on the practice of archaeology as a whole. Throughout the course we will discuss these developments, and what directions archaeology may take in the future as a result. Course work includes both reading/discussion and learning methods through practical exercises, and handling of archaeological material.

ANTH 3034W. Roots Music in American Culture and Society. (DSJ,WI; 3 cr. ; Student Option; Periodic Fall)

This course focuses on aspects of southern American vernacular music that came to public attention in the 1920s and 1930s as commercial recordings and field recordings of rural music became available. Although the music had deep roots in the American past, it also underwent dramatic transformations as a result of the coming of industrial capitalism to the south and as a result of the commercial recording process itself. This music continues to profoundly shape popular music today. We will try to consider as many questions as possible during the semester, but we will focus especially on three sets of issues. First, we will consider the music in terms of the historical contexts that shaped it. Second, we will consider the cultural politics surrounding the music as we focus on question of how historical narratives, popular media and popular perceptions, and scholarly works represent and interpret (in often problematic ways) certain genres of popular music and what the politics of those representations might be; and we will consider also how we listen to ?roots music,? how our listening is shaped by contemporary social and political circumstances. Third, we will attempt to understand musical genres in relation to the production of race and class and the experience of racial and class inequalities in the United States, and this may in turn prompt us to think critically about the idea of musical genre itself.

ANTH 3035. Anthropologies of Death.

(GP,SOCS; 3 cr. ; A-F or Audit; Every Spring) Anthropological perspectives on death. Diverse understandings of afterlife, cultural variations in death ritual, secularization of death in modern era, management of death in medicine, cultural shifts/conflicts in what constitutes good or natural death.

ANTH 3036. The Body in Society. (; 3 cr. ; Student Option; Spring Odd Year)

Body-related practices throughout the world. Readings, documentaries, mass media.

ANTH 3037. Food Sovereignty in Africa.

(ENV,SOCS; 3 cr. ; A-F only; Every Spring) "Food Sovereignty in Africa" critically evaluates how the physical environment and historical processes shaped agricultural productivity in Africa, as well as exploring the subsequent relationship the continent has had with the rest of the world. The course uses multi-disciplinary resources to examine historical factors that have contributed to contemporary food security issues, and discusses grassroots food movements that embrace the ethics and values of African societies in their efforts to achieve both food security and environmental sustainability. It also examines the interplay between food security, indigenous knowledge, and environmental sustainability by comparing various standpoints on African food production, scrutinizing the challenges the continent is facing and the unique perspectives it offers in terms of agricultural development in the globalized world. Finally, the course examines how agricultural systems in Africa are affected by the new global land rush. After taking the course, students will have better knowledge of emerging research directions on Africa and will be equipped with sufficient research and

practical skills to pursue independent studies beyond the classroom.

ANTH 3043. Art, Aesthetics and Anthropology. (; 3 cr. ; Student Option; Summer Odd Year)

The relationship of art to culture from multiple perspectives including art as a cultural system; the cultural context of art production; the role of the artist in different cultures; methodological considerations in the interpretation of art across cultural boundaries.

ANTH 3046W. Romance and Culture.

(GP,WI; 3 cr. ; A-F only; Every Spring)
Romance, aspects of this kind of love relationships from different perspectives in social/biological sciences. Draws on cross-cultural materials.

ANTH 3047W. Anthropology of Sex, Gender and Sexuality. (WI; 3 cr. ; Student Option; Periodic Spring)

This course explores the concepts of "sex," "gender," and "sexuality" through the scholarship of feminist anthropology, queer anthropology, and their antecedents. Students will read ethnographies that grapple with the contingent and shifting formations of these social constructions - when they emerge, disentangle, re-entangle, submerge, etc. The course will highlight the roles of imperialism, (settler) colonialism, capitalism, racism, heteropatriarchy, ableism, and other forms of social power in shaping these formations as well as the social categories - "sex," "gender," and "sexuality" - themselves.

ANTH 3145W. Urban Anthropology. (WI; 3 cr. ; Student Option; Periodic Spring)

This class explores anthropological approaches to urban life. On one hand, the course examines the ontological nature of the city by looking into the relation between cities and their environment, and asking whether and how people differentiated "urban" and "non-urban" spaces. It uncovers the social practices and behaviors that define urban life; urban-rural distinctions; the material and ecological processes that constitute cities; and popular representations of city and/or countryside. On the other hand, the course investigates the spatial and social divisions of the city, seeking to understand the historical struggles and ongoing processes that both draw together and differentiate the people of an urban environment. It studies how cities influence decision-making, contributing to the uneven distribution of power and resources. It considers: industrialization; urban class conflict; gendered and racialized spaces; and suburbanization. Both of these approaches will also critically consider the city as a social object that we encounter and learn about through our engagement with kinds of media, such as novels and film. Hence, reading for the class will include literature from the social sciences and humanities, as well as critical works of fiction. Students will engage with these broader anthropological issues through an investigation of several global cities, especially Minneapolis-St. Paul, Chicago, Paris, Mexico City, Brasilia, and New Delhi. The class mixes lecture, discussion, and

guided research. Lectures will introduce the history of urbanism and urban anthropology. Discussions will critically examine the readings, and offer insights and examples to better understand them. By participating in a guided research project, students will uncover hidden aspects of their own city, using ethnography or archaeology to shed light on the urban environment, social struggles over space, or other themes.

ANTH 3206. Sex, Murder, and Bodily Discharges: Purity and Pollution in the Ancient World. (3 cr. ; Student Option No Audit; Every Spring)

"Dirt is dangerous" wrote Mary Douglas more than 50 years ago in her groundbreaking study, *Purity and Danger: An Analysis of the Concept of Pollution and Taboo*. Her work has been influential in ancient Near Eastern and Mediterranean studies when dealing with issues of sacred/profane, purity/pollution, and ritual sacrifice and purification. Douglas' work provides a framework within which to understand ancients' thinking about these concepts that range from the sacredness of space and bodies to perceived pollutions cause by bodily leakage or liminal stages of life and death. In this course, we will examine Douglas' theory in light of ancient evidence, with special attention to ancient Israelite literature (the Tanakh or Old Testament) and ancient Jewish literature (the Dead Sea Scrolls), but we will also analyze other ancient Near Eastern and Mediterranean examples of purity and pollution (from epigraphical and documentary evidence).

ANTH 3221. Field School. (; 6 cr. [max 18 cr.] ; Student Option; Every Summer)

Field excavation, survey, and research. Intensive training in excavation techniques, recordation, analysis, and interpretation of archaeological materials or prehistoric remains. prereq: instr consent

ANTH 3242W. Hero, Savage, or Equal? Representations of NonWestern Peoples in the Movies. (WI; 3 cr. ; A-F only; Every Fall)

This course will explore images of nonWestern peoples and cultures as they have appeared in the movies and in other popular media. It has four aims: 1) to introduce the problem of nonWestern peoples in the West from historical points of view, 2) to discuss the relationship between mass media and issue of representation to the marketplace, 3) to introduce the concept of morality in and through collective representations as developed by Durkheim, and 4) to analyze the problem of moral agency in a series of Hollywood and Independent movies which portray nonwestern peoples and cultures. We will watch movies portraying three different groups of cultures, Pacific Islanders, Native Americans, and the Japanese. In each unit, we will first read important commentary on Western representations of each of these peoples, such as Bernard Smith on Pacific Islanders and Vine Deloria on images of Native Americans and Gina Marchetti on Hollywood's Japanese.

ANTH 3255. Archaeology of Ritual and Religion. (3 cr. ; Student Option; Fall Even Year)

The course discusses evidence for the origins of religion and its diverse roles in human societies over millennia. It focuses on how artifacts and architecture are essential to religious experience. It asks: What constitutes religion for different cultures? Why is religion at the heart of politics, social life, and cultural imagination?

ANTH 3306W. Medical Anthropology.

(GP,WI; 3 cr. ; A-F or Audit; Every Fall)
Relations among human affliction, health, healing, social institutions, and cultural representations cross-culturally. Human health/affliction. Medical knowledge/power. Healing. Body, international health, colonialism, and emerging diseases. Reproduction. Aging in a range of geographical settings. prereq: 1003 or 1005 or entry level soc sci course recommended

ANTH 3327W. Inca, Aztec & Maya Civilizations. (HIS,WI; 3 cr. ; A-F only; Periodic Fall)

This course is an intensive examination of the emergence, growth, and conquest of native civilizations in ancient America, focusing on the Maya, Aztec, and Inca states. Lectures and discussions examine the culture and history of these Native American civilizations, while also introducing students to anthropological theories of the state, religion, aesthetics, and history.

ANTH 3401. The Human Fossil Record. (; 3 cr. ; A-F only; Fall Even Year)

Fossil evidence paleoanthropologists use to reconstruct human evolutionary history. Taxonomy, phylogeny, behavior, ecology, tool use, land use, biogeography. Hands-on examination of fossil casts, readings from primary/secondary professional sources. prereq: 1001 or instr consent

ANTH 3402. Zooarchaeology Laboratory. (; 3 cr. ; A-F only; Every Fall)

How archaeologists reconstruct past societies, diets, and environments. Bones and bone fragments to skeletal element (e.g., femur, humerus, tibia), side, age, and taxon (e.g., horse, bison, antelope, hyena). Adaptations and functional morphology of animals? anatomy. Tool marks, tooth marks, burning, and types of bone breakage. Past societies' hunting, sharing, cooking practices as well as environmental reconstruction using vertebrates.

ANTH 3405. Human Skeletal Analysis. (; 4 cr. ; Student Option; Every Spring)

Structure, design, and variability of modern human skeleton. Anatomy, functional morphology, development, evolutionary history. Bone histology/biology, excavation/preservation, taphonomy, pathology, forensic analyses. Differentiating between males/females, adults/sub-adults, and humans/non-humans.

ANTH 3501. Managing Museum Collections. (3 cr. ; A-F or Audit; Fall Even Year)

This course provides a hands-on and research experience in collections management utilizing artifact, archival, and digital collections. Museum collections, the objects or specimens they contain, the information associated with

them, and their care and maintenance are a crucial part of both the sciences and the humanities. While seemingly disparate, many of the issues faced by those responsible for collections are quite similar: how to preserve and care for those collections, legal issues surrounding the materials they contain, how to organize and classify the items, how to facilitate discovery and access, and how to make the information contained in them available to the broadest audience possible. The course includes lectures by museum professionals, hands-on activities and selected readings. Credit will not be granted if credit has been received for ANTH 5501.

ANTH 3601. Archaeology and Native Americans. (DSJ; 3 cr. ; Student Option; Fall Even Year)

Historical, political, legal, and ethical dimensions of the relationship of American archaeology to American Indian people. Case studies of how representational narratives about Native people are created through archaeology; responses by Native communities; and the frameworks for collaborative and equitable archaeological practice. Professional ethics in archaeology/ heritage studies in American contexts.

ANTH 3631. Islam in America: A History of the Present. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

From the "Age of Discovery" and the African slave trade, to Malcolm X and the War on Terror, Islam has long been an integral part of the American landscape. In this course, students will examine the history of Islam and social formation of Muslim communities in the United States. We will approach this history in the plural: as histories of Islam in America, paying particular attention to the different local and global dynamics that led to the migration of this racially, ethnically, and class variegated community. This course will explore how racial, national, cultural, and sectarian differences within and between Muslim communities shape and challenge the notion of a singular Islam or Muslim community. We will ask how and why Islam and Muslims have been characterized - both historically and today - as a "problem" in/for America. What does the emergence of terminology like "American Muslim" and "American Islam" tell us about these historical tensions, conceptions of good/bad citizenship, and identity politics more broadly, in the United States today?

ANTH 3896. Internship for Academic Credit. (1-4 cr. ; Student Option; Every Fall, Spring & Summer)

An applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals, which may be related to a student's major field or area of interest. The work can be full or part time, paid or unpaid, primarily in off-campus environments. Internships integrate classroom knowledge and theory with practical application and skill development in professional or community settings. The skills and knowledge learned should be transferable to other employment settings and not simply to advance

the operations of the employer. Typically the student's work is supervised and evaluated by a site coordinator or instructor.

ANTH 3913. Directed Study: Independent Capstone Project Planning. (1 cr. ; A-F only; Every Fall & Spring)

The Anthropology Independent Capstone Project Planning course is the first semester in a two-semester project sequence. In this first semester course, ANTH 3993, students plan their project and carry out preliminary research in consultation with their faculty mentor. Students and faculty mentors meet throughout the semester. The resulting project typically consists of an annotated bibliography, project proposal, Interdisciplinary Review Board application if appropriate, and/or pilot study. A directed study contract between the student and faculty mentor is required for registration. prereq: [Jr or sr] anth major, instr consent

ANTH 3980. Topics in Anthropology. (; 3 cr. [max 6 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Topics specified in Class Schedule.

ANTH 4003W. Contemporary Perspectives in Cultural Anthropology. (WI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course considers issues of race, class, gender, "culture," and globality across multiple genres of writing (ethnography, history, fiction, poetry, memoir). We do this by reading the work of writers who, with an ethnographic sensibility, focus on a particular person whose life is lived in obscurity, at the margins. We ask how such an approach that aims to evoke a world through a life might allow the reader to understand how people move across space and time and through their social worlds, in ways that other kinds of ethnographic or historical writing might not. prereq: [1003 or 1005], or instr consent

ANTH 4007. Laboratory Techniques in Archaeology. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Plant remains, material culture, faunal remains, human osteology. Emphasizes lab experience. Instructor consent required. prereq: instr consent

ANTH 4009W. Warfare and Human Evolution. (WI; 3 cr. ; A-F or Audit; Spring Odd Year)

Armed, violent conflict among groups? warfare? is a distinctive and devastating trait of many human societies. The practice of warfare brings together a number of unusual characteristics of our species, including the ability to cooperate, to discuss plans, and to make and use weapons, which together combine to create immense human suffering. War has long been a central topic of anthropologists, who have raised many questions. Is warfare a human universal? Are there truly peaceful societies? Why does war occur more often at some times and places than others? How, when and why did warfare evolve? What, if anything, does warfare have to do with intergroup aggression in other animals? What role has warfare, or

its more primitive antecedents, played in the evolution of our species? Efforts to explain war have themselves been contentious, with some scholars arguing that war is a recent phenomenon resulting from factors such as the development of agriculture, and other scholars arguing that war is an evolutionarily ancient phenomenon with roots in the common ancestor of humans and chimpanzees. In this seminar, we will read and discuss classic and recent texts on this broad and often divisive subject. To better assess the arguments presented in survey and theoretical papers, we will read original ethnographic materials, with each student choosing one subsistence society as the focus of their research efforts.

ANTH 4013. Capstone Project Writing Seminar. (; 3 cr. ; A-F only; Every Fall & Spring)

This seminar is designed for students participating in the Anthropology Senior Capstone Project. The purpose of this seminar is to provide students with instructional support and a structured environment in which to develop their research and writing skills within the practical context of writing a senior thesis for the Capstone. The thesis is based on original research for the Senior Capstone Project conducted by students in consultation with their advisors, and it is advised that students finish conducting research before enrolling in this course. In some cases it is possible research may continue from the planning course into this seminar. The seminar meets once a week, during which time students engage in active learning exercises, in-class discussions, and peer review as they write their thesis. The goal of this course is to align the writing abilities of students with the writing criteria developed by departmental faculty as part of the Center for Writing's Writing Enriched Curriculum. This course compliments student's advisor-advisee relationship for the Senior Capstone Project, and it is required that students set up regular meetings with their advisors to discuss their progress in the course in addition to consulting about the content of their projects. prereq: sr major, instr consent

ANTH 4013H. Capstone Project Writing Seminar. (; 3 cr. ; A-F only; Every Fall & Spring)

The purpose of this seminar is to provide Honors students with instructional support and a structured environment in which to develop their research and writing skills within the practical context of writing the Honors Thesis for the Capstone. The thesis is based on original research for the Senior Capstone Project conducted by students in consultation with their advisors, and it is advised that students finish conducting research before enrolling in this course. In some cases it is possible research may continue from the planning course into this seminar. The seminar meets once a week, during which time students engage in active learning exercises, in-class discussions, and peer review as they write their thesis. The goal of this course is to align the writing abilities of students with the writing criteria developed by departmental faculty as part of the Center for Writing's Writing

Enriched Curriculum. This course compliments student's advisor-advisee relationship for the Senior Capstone Project, and it is required that students set up regular meetings with their advisors to discuss their progress in the course in addition to consulting about the content of their projects. prereq: Sr major, honors student, instr consent

ANTH 4019. Symbolic Anthropology. (; 3 cr. ; Student Option; Periodic Fall)

Pragmatic/structural aspects of social symbolism cross-culturally. Focuses on power, exchange, social boundaries, gender, and rituals of transition/reversal. prereq: 1003 or 1005 or grad student or instr consent

ANTH 4025. Studies in Ethnographic Classics. (; 3 cr. ; A-F or Audit; Periodic Fall)

Five types of explanations employed in ethnographic research: diffusionism and theory of survivals; functionalist response; British structuralists; French structuralism; interpretive turn. Problems in ethnographic practice, analysis, and writing. Focuses on several classic monographic examples and associated theoretical writing. prereq: 1003 or 1005

ANTH 4029W. Anthropology of Social Class.

(WI; 3 cr. ; A-F only; Periodic Fall & Spring)
This course is divided into three parts, each of which has different, but related, purposes. The initial part has general and theoretical goals. First, differences between cultural anthropology and sociology with respect to the study of class difference will be introduced. Secondly, the major theories about hierarchy in pre-state society will be examined. Third, central theories and concepts in the study of stratification in complex societies will be surveyed. In particular, attention will be paid to the relationship between class and individual taste in the work of Pierre Bourdieu. The second part will focus on attitudes about class difference in N. American society. Topics will center on class in everyday life, with special reference to the domains of education, consumption and romantic love. The third part of the course will concern class in nonWestern and/or developing countries, specifically in the Pacific and India. Throughout the course, in addition to readings and lectures, use will be made of representations of class in popular culture, such as magazines and the movies.

ANTH 4031W. Anthropology and Social Justice. (WI,CIV; 4 cr. ; Student Option; Spring Odd Year)

Practical application of theories/methods from social/cultural anthropology. Issues of policy, planning, implementation, and ethics as they relate to applied anthropology. prereq: 1003 or 1005 or 4003 or grad student or instr consent

ANTH 4035. Ethnographic Research Methods. (; 3 cr. ; Student Option; Every Spring)

History of and current issues in ethnographic research. Research projects, including participant observation, interviewing, research design, note taking, life history, and other ethnographic methods. prereq: 1003 or 1005 or grad student

ANTH 4043. Romans, Anglo-Saxons and Vikings: Archaeology of Northern Europe. (; 3 cr. [max 4 cr.]; Student Option; Periodic Spring)

Archaeology of the British Isles, Scandinavia, and northern continental Europe, from the Romans through the Viking Period. Themes to be examined include social and political organization, cross-cultural interaction, art and symbolism, and religion and ritual.

ANTH 4047. Anthropology of American Culture. (SOCS; 3 cr. ; Student Option; Every Spring)

Anthropological approaches to contemporary American society/culture. Tensions between market and family. Unity, diversity. Individualism, community.

ANTH 4049. Religion and Culture. (; 3 cr. ; Student Option; Periodic Fall)

Religious beliefs and world views cross-culturally. Religious dimensions of human life through theories of origins, functions, and forms (e.g. myth, ritual, symbolism) of religion in society. prereq: 1003 or 1005 or instr consent

ANTH 4053. Economy, Culture, and Critique.

(GP,SOCS; 3 cr. ; Student Option; Every Fall)
Systems of production/distribution, especially in nonindustrial societies. Comparison, history, critique of major theories. Cross-cultural anthropological approach to material life that subsumes market/nonmarket processes.

ANTH 4069. Historical Ecology & Anthropology of the Environment. (; 3 cr. ; Student Option; Periodic Fall)

This seminar course discusses current approaches to historical ecology, the study of human-environmental relationships over time. The course draws on and combines perspectives from the four subdisciplines of anthropology (archaeological anthropology, bioarchaeological anthropology, linguistic anthropology, and sociocultural anthropology), and similar disciplines, to understand the varying ways that scholars have analyzed and defined ecologies and environmental problems. It places particular emphasis on theories that define human relationships to the environment as recursive and interdependent. These theories stand in contrast to common Western theological suppositions that see the environment as a framework to which human societies adapt or a set of resources for human communities to exploit. Rather, historical ecologists argue that the environment is a true ecology with humans in it. They contend that human communities are fundamentally and inextricably intertwined with the life cycles and needs of other species, and consequently they study how human-environmental interactions emerge through distinct historical processes and cultural circumstances.

ANTH 4075. Cultural Histories of Healing. (GP,SOCS; 3 cr. ; A-F or Audit; Spring Even Year)

Introduction to historically informed anthropology of healing practice. Shift to biologically based medicine in Europe, colonialist dissemination of biomedicine,

political/cultural collisions between biomedicine and "ethnomedicines," traffic of healing practices in a transnationalist world.

ANTH 4077. Neanderthals: Biology and Culture of Humanity's Nearest Relative. (; 3 cr. ; Student Option; Periodic Fall)

Paleontological/archaeological record. Students reconstruct behavioral similarities/differences between Neanderthals and modern humans. Why humans alone survived end of Pleistocene. prereq: 1001 or 3001 or 3002 or instr consent

ANTH 4093. In-Class Capstone Project. (1 cr. ; A-F only; Every Fall & Spring)

Course that fulfills the senior capstone requirement as an add-on directed study in association with an upper-level 4xxx-5xxx-level ANTH course. Instructor or department consent required.

ANTH 4101. Decolonizing Archives. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Archives are not neutral. In order to decolonize them, scholars in anthropology and other disciplines must first understand the ways in which Western settler values have structured them. Who decides acquisition policy? How are items indexed, described, and related to one another? Who has access, and under what conditions? And who is structurally excluded? In this course we decolonize by recontextualizing both the archives as institutions and their contents. In other words, we use methods appropriate for contemporary anthropological archival research. We will consider preservation, curation, organizational bias in archives, analytic scale, voice, and how historical texts are material culture. Students engage in original archival research.

ANTH 4121. Business Anthropology. (; 3 cr. ; Student Option; Every Spring)

Anthropological/ethnographic understandings/research techniques.

ANTH 4329. Primate Ecology and Social Behavior. (; 3 cr. ; A-F or Audit; Periodic Fall)

Primates as model system to explore animal/human behavior. Factors influencing sociality/group composition. Mating systems. Prevalence of altruistic, cooperative, and aggressive behavior. Strength of social bonds in different species. Evolution of intelligence/culture. prereq: BIOL 1009 or BIOL 1951 or BIOL 3411 or ANTH 1001 or instr consent

ANTH 4344. Europe and its Margins. (; 3 cr. ; A-F only; Every Fall)

This course explores some of the forms of human imagining (literary, artistic, political, social scientific) engendered by the notoriously hard to define entity known as "Europe." It does so by focusing on regions and populations that have been thought of at various times as marking Europe's inner and outer cultural and/or geographical limits. Topics addressed include: the relationship between physical geography, cultural memory, and the formation (or subversion) of identity claims; the reconfigured political landscapes of post-socialism and European integration; immigration, refugee flows, and the rise of

far-right ethno-nationalisms; and the effects of pandemics past and present. prereq: One course in [ANTH or GLOS]

ANTH 4991. Independent Study. (; 1-6 cr. ; Student Option; Every Fall, Spring & Summer) Under special circumstances and with the approval of the instructor, qualified students may register for a listed course on a tutorial basis. prereq: instr consent

ANTH 4992. Directed Readings. (; 1-6 cr. ; Student Option; Every Fall, Spring & Summer) Allows students to pursue special interests in anthropology through reading materials under the guidance of a faculty member. prereq: instr consent

ANTH 4993. Directed Study. (; 1-6 cr. ; Student Option; Every Fall, Spring & Summer) Allows students to pursue special interests in anthropology under the guidance of a faculty member. prereq: instr consent

ANTH 4994W. Directed Research. (WI; 1-6 cr. ; Student Option; Every Fall, Spring & Summer) Qualified students may conduct a well-defined research project under the guidance of a faculty member. prereq: instr consent

ANTH 5008. Advanced Flintknapping. (; 3 cr. ; A-F or Audit; Periodic Fall) Hands-on training in techniques of advanced stone tool production, artifact reproduction, and lithic experimental design for academic/artistic purposes. prereq: [3008 or 5269] or instr consent

ANTH 5009. Human Behavioral Biology. (; 3 cr. ; A-F or Audit; Every Spring) In-depth introduction to, and critical review of, human behavioral biology, examining the approaches in anthropology and related fields. Classic texts/recent empirical studies of humans and other species. Theoretical underpinnings of this new discipline/how well theoretical predictions have been supported by subsequent research.

ANTH 5015W. Biology, Evolution, and Cultural Development of Language & Music. (SOCS,WI; 3 cr. ; Student Option; Every Spring) Language is the most human form of behavior, and the investigation of the ways language and culture interact is one of the most important aspects of the study of human beings. The most fascinating problem in this study is how language itself may have evolved as the result of the interaction between biological and cultural development of the human species. In this course we will consider the development of the brain, the relationship between early hominins, including Neanderthals and Modern Humans, and such questions as the role of gossip and music in the development of language.

ANTH 5016. Africa and African Diaspora Archaeology. (GP,HIS; 3 cr. ; Student Option; Every Fall) Africa and African Diaspora Archaeology (AFRO/ ANTH 3016/5016) examines the evolution of human behavior in Africa and

looks at subsequent social, cultural, and technological developments as shown in archaeological records including artifacts, ecofacts, rock art, and structures at archaeological sites. It also discusses methods used to identify archaeological records and how these records can be used to reconstruct past ways of life. Students will obtain hands-on experience in identifying, classifying, and interpreting archaeological objects. The course covers Africa from around 2.6 million years ago to the recent past, focusing primarily on the last 10,000 years. It examines the development and spread of food production, pottery, metallurgy, trade, and African connections with the Atlantic world dating back to the fifteenth century.

ANTH 5021W. Anthropology of the Middle East. (GP,WI,SOCS; 3 cr. ; Student Option; Fall Even Year) Anthropological field methods of analyzing/interpreting Middle Eastern cultures/societies.

ANTH 5027W. Archaeology of Prehistoric Europe. (HIS,WI; 3 cr. ; Student Option; Every Fall) How archaeologists/historians analyze/interpret artifacts to develop knowledge about formation of European society, from earliest evidence of human occupation to Roman Period. Interpreting archaeological evidence from specific sites to understand broad trends in human past.

ANTH 5028. Historical Archaeology. (3 cr. ; A-F or Audit; Periodic Fall & Spring) In this course, we will explore the theories and methods of historical archaeology ? such as material culture studies, landscape perspectives, archival, and oral historical interpretation - as a means of intervening in contemporary discussions of diversity in the United States. Historical archaeology can be a very effective means to challenge some of the standard American narratives about our diverse past. Our aim is to move beyond either a simplistic ethnic pluralism or the superficial ?melting pot? progressive history and instead grapple with the materiality of settler colonialism, white supremacy, and capitalism. In learning about this field, we will consider what has distinguished historical archaeology from American archaeology more broadly, and how those differences are parlayed into specific research strengths. This includes several themes: colonialism; the modern world and globalizing economies; intersectional identities (race and ethnicity, class, sex and gender, religion, age, ability/disability) and social movements; public memory and commemoration; landscapes and social space; citizenship and subjectivity. Although historical archaeology until recently has been restrictively defined as addressing the European-colonized New World, the discipline in the past twenty years has significantly broadened its scope and impact on the practice of archaeology as a whole. Throughout the course we will discuss these developments, and what directions archaeology may take in the future as a result. Course work includes both reading/discussion and learning methods through practical

exercises, and handling of archaeological material.

ANTH 5037. Food Sovereignty in Africa. (ENV,SOCS; 3 cr. ; A-F only; Every Spring) Food Sovereignty in Africa critically evaluates how the physical environment and historical processes shaped agricultural productivity in Africa, as well as exploring the subsequent relationship the continent has had with the rest of the world. The course uses multi-disciplinary resources to examine historical factors that have contributed to contemporary food security issues, and discusses grassroots food movements that embrace the ethics and values of African societies in their efforts to achieve both food security and environmental sustainability. It also examines the interplay between food security, indigenous knowledge, and environmental sustainability by comparing various standpoints on African food production, scrutinizing the challenges the continent is facing and the unique perspectives it offers in terms of agricultural development in the globalized world. Finally, the course examines how agricultural systems in Africa are affected by the new global land rush. After taking the course, students will have better knowledge of emerging research directions on Africa and will be equipped with sufficient research and practical skills to pursue independent studies beyond the classroom.

ANTH 5045W. Urban Anthropology. (WI; 3 cr. ; Student Option; Periodic Spring) This class explores anthropological approaches to urban life. On one hand, the course examines the ontological nature of the city by looking into the relation between cities and their environment, and asking whether and how people differentiate "urban" and "non-urban" spaces. It uncovers the social practices and behaviors that define urban life; urban-rural distinctions; the material and ecological processes that constitute cities; and popular representations of city and/or countryside. On the other hand, the course investigates the spatial and social divisions of the city, seeking to understand the historical struggles and ongoing processes that both draw together and differentiate the people of an urban environment. It studies how cities influence political decision-making, contributing to the uneven distribution of power and resources. It considers: industrialization; urban class conflict; gendered and racialized spaces; and suburbanization. Both of these approaches will also critically consider the city as a social object that we encounter and learn about through our engagement with kinds of media, such as novels and film. Hence, reading for the class will include literature from the social sciences and humanities, as well as critical works of fiction. Students will engage with these broader anthropological issues through an investigation of several global cities, especially Minneapolis-St. Paul, Chicago, Paris, Mexico City, Brasilia, and New Delhi. The class mixes lecture, discussion, and guided research. Lectures will introduce the history of urbanism and urban anthropology. Discussions will critically evaluate the readings, and offer insights and examples to better

understand them. By participating in a guided research project, students will uncover hidden aspects of their own city, using ethnography or archaeology to shed light on the urban environment, social struggles over space, or other themes.

ANTH 5112. Reconstructing Hominin

Behavior. (3 cr. ; A-F or Audit; Spring Even Year)

Major hypotheses regarding evolution of human behavior. Combine evidence from realm of biological anthropology as we consider link between bone biology/behavior. Archaeological record. Hypotheses about biocultural evolution regarding tool-use, hunting, scavenging, food sharing, grandmothers, cooking, long distance running. prereq: Previous coursework in Biological Anthropology or Archaeology

ANTH 5113. Primate Evolution. (3 cr. ; A-F only; Fall Odd Year)

Evolutionary history of primates. Particular focus on origin/diversification of apes/Old World monkeys. prereq: Anthropology major, junior or senior

ANTH 5121. Business Anthropology. (2 cr. ; Student Option; Every Spring)

Anthropological/ethnographic understandings/ research techniques. prereq: MBA student

ANTH 5128. Anthropology of Education. (3 cr. ; Student Option; Spring Odd Year)

Cross-cultural perspectives in examining educational patterns. Implicit/explicit cultural assumptions. Methods/approaches to cross-cultural studies in education.

ANTH 5221. Anthropology of Material Culture. (3 cr. ; A-F or Audit; Periodic Fall)

The course examines material culture as a social creation, studied from multiple theoretical and methodological perspectives (e.g., social anthropology, archaeology, primatology, history of science). The course examines the changing role of material culture from prehistory to the future.

ANTH 5244. Interpreting Ancient Bone. (3 cr. [max 4 cr.]; A-F or Audit; Periodic Fall & Spring)

To Interpret Ancient Bone we must sharpen observational skills, read about observations and analysis by previous workers, and learn to record and analyze complex information. The class combines seminar/discussion formats, in which we read literature about how to best accomplish this type of research, and laboratory time, to give students the opportunity to observe and record modifications to bones that form the basis of archaeological and forensic observations. Students analyze different kinds of tool marks on bone, weathering, carnivore modifications, eco-morphology, ages of death, bone tools, and bones from archaeological sites to infer the "life history" of a bone. We recommend you take the Human Skeleton or Zooarchaeology Laboratory before you take this class, but it is not absolutely required.

ANTH 5255. Archaeology of Ritual and

Religion. (3 cr. ; Student Option; Fall Even Year)

The course discusses evidence for the origins of religion and its diverse roles in human societies over millennia. It focuses on how artifacts and architecture are essential to religious experience. It asks: What constitutes religion for different cultures? Why is religion at the heart of politics, social life, and cultural imagination?

ANTH 5269. Analysis of Stone Tool Technology. (4 cr. ; A-F or Audit; Fall Even Year)

The course offers practical lab experience in analyzing archaeological collections of stone tools to learn about human behavior in the past. Students gain experience needed to get a job in the cultural resource management industry.

ANTH 5327W. Inca, Aztec & Maya Civilizations. (HIS,WI; 3 cr. [max 6 cr.]; A-F only; Periodic Fall)

This course is an intensive examination of the emergence, growth, and conquest of native civilizations in ancient America, focusing on the Maya, Aztec, and Inca states. Lectures and discussions examine the culture and history of these Native American civilizations, while also introducing students to anthropological theories of the state, religion, aesthetics, and history.

ANTH 5401. The Human Fossil Record. (3 cr. ; A-F only; Fall Even Year)

Fossil evidence paleoanthropologists use to reconstruct human evolutionary history. Taxonomy, phylogeny, behavior, ecology, tool use, land use, and biogeography. Examination of fossil casts, readings from primary/secondary professional sources. prereq: 1001 or instr consent

ANTH 5402. Zooarchaeology Laboratory. (3 cr. ; A-F only; Every Fall)

How archaeologists reconstruct the past through the study of animal bones associated with artifacts at archaeological sites. Skeletal element (e.g., humerus, femur, tibia), and taxon (e.g., horse, antelope, sheep, bison, hyena) when confronted with bone. Comparative collection of bones from known taxa.

ANTH 5403. Quantitative Methods in Biological Anthropology. (4 cr. ; Student Option; Periodic Fall)

Quantitative methods used by biological anthropologists. Applying these methods to real anthropometric data. Lectures, complementary sessions in computer lab. prereq: Basic univariate statistics course or instr consent

ANTH 5405. Human Skeletal Analysis. (4 cr. ; Student Option; Every Spring)

Structure, design, and variability of modern human skeleton. Anatomy, functional morphology, development, evolutionary history. Bone histology/biology, excavation, preservation, taphonomy, pathology, forensic analyses. Differentiating between males/females, adults/sub-adults, and humans/non-humans. Quizzes, exams, research paper, project.

ANTH 5412. Comparative Indigenous Feminisms. (GP; 3 cr. ; Student Option No Audit; Periodic Fall & Spring)

The course will examine the relationship between Western feminism and indigenous feminism as well as the inter connections between women of color feminism and indigenous feminism. In addition to exploring how indigenous feminists have theorized from 'the flesh' of their embodied experience of colonialism, the course will also consider how indigenous women are articulating decolonization and the embodiment of autonomy through scholarship, cultural revitalization, and activism.

ANTH 5442. Archaeology of the British Isles. (3 cr. ; A-F only; Every Fall)

Have you ever wondered how archaeologists interpret the vast amount of archaeological evidence from the British Isles, one of the most studied and best documented parts of the world? And how do archaeologists and governmental agencies protect the heritage of Britain, from major monuments such as Stonehenge, Roman forts, and Shakespeare's theaters, to the minor products of craft industries such as personal ornaments and coins? This course teaches you about the archaeology of the British Isles, in all of its aspects. You learn how archaeologists study the changing societies of Britain and Ireland, from the first settlers about a million years ago to modern times. You learn about the strategies that public institutions employ to preserve and protect archaeological sites, and about the place of archaeology in tourism in the British Isles and in the formation of identities among the diverse peoples of modern Britain.

ANTH 5448. Applied Heritage Management. (3 cr. ; A-F only; Every Spring)

Contexts of cultural heritage applicable to federal/state protection. Approaches to planning/management. Issues of heritage/stakeholder conflict.

ANTH 5450. Spatial Analysis in Anthropology: Research Design and Field Applications. (3 cr. ; Student Option No Audit; Spring Even Year)

This advanced undergraduate and graduate course introduces students to spatial analyses essential to anthropological ethnography, archaeology, and historical ecology. It builds on introductory courses at UMN, providing students an opportunity to learn anthropological applications of spatial analysis methods, including: research design, field mapping, database management, digital survey platforms, GIS analyses, and integration of quantitative and qualitative (ethnographic and historical) data. The structure of the course will follow the trajectory of a typical doctoral-level anthropological project, from pre-field data acquisition and preparation, to in-field data collection, post-field analysis, and presentation. Students who take this course will master skills that are crucial for successful anthropological spatial analysis in the field and laboratory.

ANTH 5501. Managing Museum Collections. (3 cr. ; A-F or Audit; Fall Even Year)

This course provides a hands-on and research experience in collections management utilizing artifact, archival, and digital collections. Museum collections, the objects or specimens

they contain, the information associated with them, and their care and maintenance are a crucial part of both the sciences and the humanities. While seemingly disparate, many of the issues faced by those responsible for collections are quite similar: how to preserve and care for those collections, legal issues surrounding the materials they contain, how to organize and classify the items, how to facilitate discovery and access, and how to make the information contained in them available to the broadest audience possible. The course includes lectures by museum professionals, hands-on activities, and selected readings. Credit will not be granted if credit has been received for ANTH 3501.

ANTH 5601. Archaeology and Native Americans. (DSJ; 3 cr. ; Student Option; Fall Even Year)

Historical, political, legal, and ethical dimensions of the relationship of American archaeology to American Indian people. Case studies of how representational narratives about Native people are created through archaeology; responses by Native communities; and the frameworks for collaborative and equitable archaeological practice. Professional ethics in archaeology/heritage studies in American contexts.

ANTH 5980. Topics in Anthropology. (; 3 cr. [max 6 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Topics specified in Class Schedule.

Apparel Design (ADES)

ADES 1221. Apparel Assembly Fundamentals. (; 3 cr. ; A-F or Audit; Every Fall)

Methods/applications of apparel assembly, from micro to macro perspective.

ADES 2196. Work Experience in Apparel Design. (; 1-4 cr. [max 8 cr.] ; S-N only; Every Fall, Spring & Summer)

Supervised work experience in business, industry, or government, related to student's area of study. Integrative paper or project. prereq: Plan submitted/approved by [adviser, internship supervisor], written approval of supervisor, instr consent

ADES 2211. Fashion Illustration and Portfolio Development. (4 cr. ; A-F or Audit; Every Spring)

Illustration skills specific to garments/textiles. Traditional media/CAD applications. Critique/analysis of visual communication of apparel design concepts.

ADES 2213. Textile Analysis. (; 4 cr. ; A-F or Audit; Every Fall)

Physical, chemical, and biological characteristics of fibers, yarns, textile structures, and finishes. Their effect on performance/appearance of textile products, including apparel, interior, and industrial textiles. prereq: DHA major or pre-major or instr consent

ADES 2214. Softlines Analysis. (; 3 cr. ; A-F or Audit; Every Spring)

Physical characteristics of softline products related to function for target market.

Class experiences based on methods of analysis, including visual inspection, quality, construction, costing, and fit/sizing. prereq: DHA major or minor or instr consent

ADES 2221. Apparel Design Studio I. (; 4 cr. ; A-F or Audit; Every Spring)

Theories/methods in designing apparel for various user groups. Relation of two-dimensional pattern shape to three-dimensional body. Introduction to flat-pattern draping. prereq: [DHA 1201 or RM 1201], [1221 or DHA 1221],

ADES 2222. Apparel Design Studio II. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Design process in developing apparel for specific user group. Advanced principles/methods of developing patterns for body, including flat pattern, draping, fitting. Computer-aided design tools for illustration, pattern making. prereq: [2221 or DHA 2221] with a grade of at least C-, Apparel Design major, pass portfolio review

ADES 3196. Field Study: National or International. (; 1-10 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Faculty-directed field study in a national or international setting. prereq: instr consent

ADES 3217. Fashion: Trends and Communication. (; 3 cr. ; A-F or Audit; Every Fall)

Relation of fashion trends to visual analysis of apparel. Application to design/retail. Study of techniques and processes of identifying socio-cultural indicators, past and present trends, and methods for determining future trends in fashion and related industries. Communication skills are developed through assignments, in-class activities, lecture/discussion, guest-speaker presentations, and a trend forecasting project.

ADES 3223. Apparel Design Studio III. (4 cr. ; A-F or Audit; Every Spring)

Study tailored/non-tailored apparel structures. Experiment with various materials/structures using traditional/innovative methods. Principles of manipulating materials/structures applied to series of garments. prereq: [2222 or DHA 2222] with grade of at least C-, Apparel Design major, pass portfolio review

ADES 3224W. Apparel Design Studio IV. (WI; 4 cr. ; A-F or Audit; Every Spring)

Principles and theory of functional apparel design. Conduct and apply research in designing apparel for situations requiring thermal or impact protection, accommodation for mobility, or facilitation for bodily function. prereq: apparel design major

ADES 3225. Apparel Design Research. (; 1 cr. ; A-F only; Every Spring)

Market/visual research to support development of apparel line directed at specific audience. prereq: 3324 or concurrent registration is required (or allowed) in DHA 3224

ADES 3227. Technical Design Studio. (4 cr. ; A-F only; Every Fall)

Technical development of sewn product for production. Variability in human physical sizes, and grading and fit across a population. In team-based projects, you will develop a sewn

product pattern; generate prototypes and technical specifications; source materials; and plan, execute, and evaluate a production run for a sewn product. prereq: 2213, [3223 with grade of C or above]

ADES 4121. History of Fashion, 19th to 21st Century. (; 4 cr. ; A-F or Audit; Every Spring)

Survey of apparel/appearances in Western cultures, from 18th century to present. Role of gender, race, and class with respect to change in dress within historical moments and social contexts. Research approaches/methods in study/interpretation of dress.

ADES 4160H. Honors Capstone Project. (; 2 cr. [max 4 cr.] ; A-F only; Every Fall & Spring)

Individualizes honors experience by connecting aspects of major program with special academic interests. prereq: DHA honors

ADES 4193. Directed Study in Apparel Design. (1-4 cr. [max 8 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Independent study in Design, Housing, and Apparel under tutorial guidance. prereq: Undergrad, instr consent

ADES 4196. Internship in Apparel Design. (; 1-4 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Supervised work experience relating activity in business, industry, or government to student's area of study. Integrative paper or project may be required. prereq: Completion of at least one-half of professional sequence, plan submitted and approved in advance by adviser and internship supervisor, written consent of faculty supervisor, instr consent

ADES 4215. Product Development: Softlines. (; 4 cr. ; A-F or Audit; Every Spring)

Product development for apparel and other sewn products. Developing products in a lab studio for effectiveness, reliability, and marketability. Team approach using merchandising/design principles to develop products for specific markets. prereq: 2213 or DHA 2213 or apparel design major or clothing design major or retail merchandising major or instr consent

ADES 4218W. Fashion, Design, and the Global Industry. (WI; 3 cr. [max 6 cr.] ; A-F only; Every Fall)

Relationship of fashion, dress, and culture to fashion industry. Globalization, fashion centers, design, time/place. Focuses on Chinese fashion industry. prereq: Upper level undergraduate or grad student

ADES 4225. Apparel Design Studio V. (4 cr. ; A-F or Audit; Every Fall)

Market research information/implementation. Designing for specific audience, market, user group. Applying market research to design line of apparel. Research of promotional methods for design project. prereq: [[3224 or DHA 3224], [3225 or DHA 3225]] with grade of at least C-, apparel design major

Apparel Studies (APST)

APST 5117. Retail Environments and Human Behavior. (; 3 cr. ; A-F or Audit; Every Fall)

Theory/research related to designed environment across retail channels. prereq: Grad student or instr consent

APST 5121. History of Fashion, 19th to 21st Century. (; 4 cr. ; A-F only; Every Spring)

Analysis/interpretation of primary data about 19th/20th centuries based on historical methods. Critique of cultural, social, economic, technological, political, and artistic data presented through lens of dress in film/literature.

APST 5123. Living in a Consumer Society.

(; 3 cr. ; A-F only; Fall Odd Year)
Consumerism within U.S. society. Commodification of health care, education, and production of news. Commercialization of public space/culture. What drives consumer society. How meaning is manufactured. What the lived experiences are of consumers today. Postmodern market. Alternatives to consumer society. prereq: Sr or grad student

APST 5170. Topics in Apparel Studies. (;

1-4 cr. [max 16 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)
In-depth investigation of specific topic, announced in advance.

APST 5193. Directed Study in Apparel Studies. (; 1-4 cr. [max 8 cr.] ; A-F or Audit;

Every Fall, Spring & Summer)
Independent study in apparel studies under tutorial guidance. prereq: instr consent

APST 5218. Fashion, Design, and the Global Industry. (; 3 cr. ; A-F only; Every Fall)

Relationship of fashion, dress, and culture to time, place, and design. Focuses on fashion centers, fashion industry, and globalization. Chinese fashion industry as case study.

APST 5224. Functional Clothing Design. (4 cr. ; A-F only; Every Spring)

This class uses an engineering design process to analyze and meet the functional needs of specific user groups. We will be designing clothing that protects users from environmental conditions, and that facilitates and/or expands body function and movement. Physical principles of clothing and human anatomy are explored. A theoretical understanding of human anatomy and movement is applied through advanced patterning techniques for a variety of body types, work environments, and activities. Class projects are often conducted with an outside partner. Project work focuses on developing skills in collecting, synthesizing (in written and visual form) and using evidence to inform the design of a solution to a user-centered problem. Written documentation, developmental prototypes, and final design solutions are produced and evaluated.

Applied Business (ABUS)

ABUS 3029W. Writing Workshop for Applied & Professional Studies Majors. (WI; 2 cr. ;

A-F only; Every Fall & Spring)
Writing is omnipresent throughout Applied and Professional Studies (APS) courses; nearly all require some form of written product and assess students in some way through their writing ability. Focusing on in-depth

instruction, constructive feedback, and hands-on experience, this 7-week writing workshop is designed for students who find themselves struggling with writing concepts in their other classes or who want more writing practice to refine and hone their existing skills. Students will learn to understand writing expectations in their disciplines and develop techniques for brainstorming, organizing, outlining, and researching. Students will also practice the drafting process, focusing on mastering business grammar, avoiding common mistakes, and cultivating a clear and concise style. Students will learn the components of clear structure such as transitioning between ideas, logical organization, and integrating research. Students will also develop reliable editing techniques to test their own writing for clarity, logic, and appropriate tone, as well as methods for thinking through critical feedback and incorporating changes into revisions of existing documents. Students must be enrolled in a CCAPS undergraduate major (premajor status is allowed).

ABUS 3051. Career Search for the Professional Environment. (; 2 cr. ; Student Option; Every Fall, Spring & Summer)

An introduction to the nuts and bolts of job search strategies, including r?sum? writing, interviewing, networking, and the use of technology and the Internet in job seeking. You will begin to make realistic decisions about what kinds of jobs and work environments will best suit you after graduation and into the future, and formulate a concrete plan for how to attain this important career goal. In addition, you will have an understanding of the professional environment of business. This will include appropriate on-the-job behavior and how knowledge of corporate culture, communication, and etiquette can make the difference between struggling in the business world and succeeding and advancing. Professional presentation, dress, and communication are highlighted. Assignments will focus on practical and applied knowledge relating to career-oriented skills, exploration, and success. Prerequisites: None, but upper-division status recommended.

ABUS 3052. Career Building in the Remote Gig Economy. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Businesses are shifting from full-time permanent employment models to a greater reliance on short-term contract work and freelance projects. This trend is referred to as the emerging "gig economy." Already, more than one in three people earn a full or partial income from leveraging this evolving marketplace. In 2019, Amazon announced plans to hire over a thousand remote customer service reps. Technical coders, freelance photographers, consultants, bloggers, rideshare contractors, career coaches, and online affiliate marketers are just a few among many remote gig opportunities experiencing rapid growth. This course examines the structure of a remote gig economy and corresponding career opportunities. Students will develop a deep understanding of the current gig landscape, develop initiatives

and self-direction tactics to meet its needs, and leave armed to succeed in a growing remote gig economy. Activities are centered around obtaining work in the gig economy and being an exceptional remote "gigger" as an individual contributor. Additionally, students will learn how to parlay those talents into endless career path opportunities, including leadership and management roles in a quickly evolving, exciting workplace. Prerequisites: None

ABUS 3201. Digital Design Strategies for Small Business. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Basics of multi-platform strategies to promote small businesses or a personal brand. Primary concepts include developing a cross-platform digital presence, creating brand identity, analyzing strategy effectiveness, and researching the competition. Students will work to develop a complete digital strategy for their own small business or personal brand by working both individually and in groups to find creative solutions for reaching their target audience in today's market. Prerequisites: None.

ABUS 3301. Introduction to Quality Management. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Principles/concepts of managing quality in business applications. Improving business processes with six sigma method. Implementing/leading process improvement. Baldrige Award, ISO 9000. prereq: Introductory statistics

ABUS 3510. Communicating Virtually Across Global Teams in Applied Business Settings. (; 4 cr. ; A-F or Audit; Every Fall)

Collaborative exploration of virtual communication within teams/across cultures. Impact of technologies on global business/societies. Virtual team functioning/dynamics. Influence of cultural perspective on communication within group. Role of communication technology in cultural development. Ethical/legal implications.

ABUS 4013W. Legal, Ethical, and Risk Issues for Managers. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

Key legal, ethical, and risk frameworks in business activity and civic life. Students will identify areas of exposure within their specific industry and learn about best practices to minimize legal liability and manage risk. The writing-related instruction is designed to develop effective management-level communication skills regarding legal, ethical, and other risks and to develop a thoughtful analytical approach to addressing real-world risks. prereq: CMgt 4011 recommended for CMgt students, 45 semester credits

ABUS 4022W. Management in Organizations. (WI; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Demands on today's managers, with a focus on small to medium-sized organizations. Techniques/ideas beyond traditional studies. Applying management theory at all levels. Managing in a global workplace. Organizational planning and decision making. Organizing resources. Leading/motivating people.

Controlling/evaluating organizational activities. This writing intensive designated course will spend significant time focusing on the writing process. Writing is crucial to this discipline because clear, accurate, and professional communication is essential to organization management. The ability to write effectively in terms of specified audiences ensures, in the professional world, successful communication between team members as well as the success of the projects, companies, and employees they represent. prereq: 45 semester credits recommended

ABUS 4023W. Communicating for Results. (WI; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Aspects of communication essential for being persuasive/influential. Organizing/presenting ideas effectively, strategies for audience analysis, choosing communication methods, making appropriate use of informal influence methods, handling dissent. Processes for intercultural communication. prereq: 45 cr completed

ABUS 4041. Dynamics of Leadership. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer) Successful leadership via flexible approach. Knowledge, skills, and abilities that leaders develop from eight leadership strategies: academic, bureaucratic, eclectic, economic, fellowship, military, political, social. Ways to lead diverse populations in a global environment. prereq: 45 cr completed

ABUS 4043. Project Management in Practice. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to project management: tools and techniques for defining, scheduling, and managing a project. Learn about team development and ways to enhance team performance through planning and executing a project. Requires use of MS Project, which will be made available to students without cost via download. prereq: 45 cr completed

ABUS 4101. Accounting and Finance for Managers. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Cost accounting concepts. Cost behavior. Management decision making using cost data. Time value of money. Cost of capital. Capital budgeting techniques. Financial statement analysis. Assignments draw on business/industry examples. prereq: Financial accounting, 45 cr

ABUS 4104. Management and Human Resource Practices. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Providing day-to-day leadership. Organizing work, motivating employees. Delegating, coordinating, and achieving results. Front line human resource practices, including selection, induction, and training of new employees, employee appraisal. Handling grievances/discipline. prereq: 45 cr completed

ABUS 4105. Becoming an Authentic Leader in an Applied Business Setting. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Students will gain proficiency in various leadership modalities within a self-reflective

framework. They will learn to build their own authentic leadership capabilities as well as assess those of fellow leaders across individual, group, and organization levels. Assignments will examine temperament and decision-making, goal setting and personal beliefs, change-making and coping with pressure, and developing personal strengths and professional authenticity. Prerequisites: None

ABUS 4151. Innovation for Leaders and Organizations. (; 3 cr. ; A-F or Audit; Every Spring)

Innovation as cornerstone of knowledge economy. History of innovation process, importance to individuals/organizations. Strategies to foster innovation. Responsibilities in innovation skill-building/leadership. prereq: 45 cr

ABUS 4211. Facility Asset Management, Finance, and Budgeting. (; 2 cr. ; A-F or Audit; Every Fall)

Examination of different types of leases. Relevance of BOMA (Building Office & Managers Association) space standards. Understanding components of total annual and capital facility costs. Analyzing and interpreting facility financial statements and reports. Constructing facility capital and operating budgets. Illustrating GAAP (generally accepted accounting principles) related to asset capitalization, and applying financial terminology when speaking to the chief financial officer. Recommended prereq: ABUS 4101 or basic accounting/finance knowledge/experience

ABUS 4213. Facility Management Fundamentals. (; 3 cr. ; A-F or Audit; Every Fall)

Managing operation and maintenance of building systems and facility management departments. Operation of mechanical, electrical, and plumbing systems. Critical spaces, fire/life safety systems, utilities. Maintenance for specific building systems. Technology and resources used to support building operations and maintenance.

ABUS 4217. Real Estate Development: Process and Tools. (; 2 cr. ; A-F or Audit; Every Fall)

Real estate development creates and alters our built environment. Working with architects, engineers, contractors, financing teams, government, and a host of consultants, real estate developers transform ideas into buildings, and with this, the spaces in which we live, work, and play. So, how do developers identify good and bad opportunities, and then, once committed, manage a wide group of stakeholders, often with disparate interests, to get the project completed and operating as planned? It is a challenge every step of the way, with a myriad of risks and obstacles to overcome, but with significant potential rewards. This course traces the development process from beginning to end, introducing foundational knowledge in project feasibility analysis and financial modeling, and integrating real world examples via case studies and interviews with Twin Cities-based practitioners.

Prereq: 45 credits. Familiarity with finance and accounting concepts helpful.

ABUS 4218. Real Estate Finance. (; 2 cr. ; A-F or Audit; Every Fall)

Real estate finance, as commonly understood, is about the capital that transforms development ideas into the built form. But in this course, we will focus on real estate finance as a dynamic and significant industry and explore the internal language, norms, and practices of financiers, ranging all the way from hedge funds seeking returns rivaling those of Wall Street, to those backing community redevelopment and affordable housing projects. It will begin with an overview of the industry and introduce common tools of finance such as pro forma, then move on to sources of finance, from hedge funds to commercial banks and community-based lenders. We will be visited by finance practitioners, including several operating in the Twin Cities, as well as their development clients. There is an entire real estate finance ecosystem to explore, and students will leave the class with an understanding of its products, sources, and roles while developing facility with its analytical tools.

ABUS 4501. Building and Running a Small Business Enterprise. (; 4 cr. ; A-F or Audit; Every Fall)

Basic marketing, finance, and leadership principles that apply to the formation of a small business enterprise. A variety of class discussions and independent reflective exercises will enable students to assess their resources and develop management, leadership, and business administration skills. The final project is collaborative: the creation of a business plan for a start-up. Prerequisites: None, although previous business experience or study will be helpful.

ABUS 4502. Inclusive Business Leadership: Advancing Diversity. (; 3 cr. ; A-F or Audit; Every Fall)

This course explores leveraging an organization's diversity through inclusive leadership. Taking consideration of the value of diversity to the next level, we ask: How do we unleash the full potential of a diverse organization? To answer, students will do personal reflection on diversity, inclusiveness, and unconscious biases, and also take the Cultural Orientations Indicator (COI). This increased self-awareness will serve as a foundation for students to strategically plan and actively engage business leaders in creating more inclusive business practices.

ABUS 4509. New Product Development. (; 3 cr. ; A-F or Audit; Every Spring)

How new consumer, industrial, and service products are planned/developed. Idea generation, concept/buyer testing, pricing, sales/profit strategies, product positioning, promotion, packaging/distribution. Marketing case histories. Student projects. prereq: [[4103 or 4701 or Mktg 3001], at least 45 cr] or instr consent

ABUS 4515. Strategy and Management for a Sustainable Future. (; 3 cr. ; A-F or Audit; Every Spring)

Sustainability in business. Relationship of sustainable environments to organizations. Economic/strategic enterprise value. Relationship of sustainable business practices to marketplace trends/realities. prereq: 45 cr completed

ABUS 4518. Leadership and Innovative Decision Making in Applied Business. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

This course is a deep immersion in essential skills for businesspeople: change management, creative problem solving, and innovation, leading to effective decision-making. Huge changes in our world require creative and innovative responses. You might be called upon to make important decisions for the next half-century, so why not learn the tools right now to make them great ones? These skills are the pillars of a successful personal and professional life, and workplace managers are pleading for more creativity in their employees. Be one of those outstanding individuals who can be a creative problem solver, not a problem. Though the course is built as a guide in using these important concepts to launch and build a successful business of your own, it is recommended for anyone contemplating a business career. Prerequisites: None

ABUS 4545. Defying Racial Bias in the Workplace: Individual Action and Accountability. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

This course focuses on the employee as an individual and the ways unconscious bias adversely affects organizational culture, including stifling decision-making, productivity, innovation, and market competitiveness. Inclusion and multiculturalism take center stage. Through self-examination and reflection within the context of their own experience, students will explore the concepts of identity, privilege, and conscious and unconscious bias, as well as their financial impacts on the organization. They will identify ways they can mitigate racial workplace bias by holding themselves and their organization accountable. The concept of allyship will also be explored. Students will learn how, by putting allyship into practice, they can contribute to the creation of an antiracist work environment. By building empathy, embracing difference, and using emotional intelligence techniques, they will learn how to foster diversity, inclusion, and equity. Throughout the course, they will develop an understanding of the ways recognition of individual racial bias will unlock the potential of both themselves and the organization. Prerequisites: None

ABUS 4571W. Introduction to Grant Writing for Health Care and Nonprofit Organizations. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

Nonprofits and health care entities will continue to be challenged by limited resources and increased needs in communities they serve. This reality also results in an increased need for these groups to find additional financial support. This course will provide an understanding of ways to find, research, and write proposals for grants offered by

government and private entities. As a writing intensive course, it will spend significant time focusing on the writing process. Writing is crucial to the field because the only way for a nonprofit to be awarded a grant is by submitting a written proposal. The strength of the proposal has a significant impact on the money that an organization will receive. Students will become familiar with various sections of the proposal by drafting, editing, and seeking feedback, and by revising a needs assessment, goal statement, budget justification, and statement of organizational purpose. By learning how to write well in the field, students will increase their chances of being employed by a nonprofit and securing funding for their organization.

ABUS 4701. Introduction to Marketing. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Conceptual tools for creating a marketing plan. How marketing relates to other functional areas of business. Importance of an ethical, global view. prereq: [Macroeconomics or microeconomics], 45 cr

ABUS 4702. Applied Digital Marketing. (; 3 cr. ; A-F or Audit; Every Fall)

Digital marketing represents the fastest growing sector in most marketing departments. But what is digital marketing? Understanding the digital realm of marketing requires a curiosity about how new technologies will change business, while grasping the key strategies that drive tactics and trends. This course is designed to be a primer on the world of digital marketing and ways it will affect both your future employment and larger business trends. Through case studies, discussion forums, and interactive activities, you will learn about the latest research and best practices in the industry to have a solid grasp of the core concepts and tools of digital marketing management, both today and in the future. Prerequisites: None

ABUS 4703. Marketing for the Professional Practice. (; 3 cr. ; A-F or Audit; Every Spring)

Principles of marketing applied to the management of the professional practice. Begins with an introduction to marketing and its overall role and function. We will examine the four P's of marketing (product, price, place, and promotion), then move on to developing a marketing plan, which serves as a map that highlights a path towards success. We look at the major components of a marketing plan and provide you with an opportunity to gain knowledge and experience by completing one. Topics include understanding the internal and external environment, segmenting the market, positioning, differentiating, branding, and formulating a marketing plan with goals, strategies, and financial considerations. prereq: 45 semester cr recommended

ABUS 4705. Leadership and Management for the Professional Practice. (; 3 cr. ; A-F or Audit; Every Fall)

An introduction to organizational behavior for students and professionals interested in leading or managing a professional practice. Its purpose is to improve your effectiveness as a leader or manager through an understanding of the sociological, economic, and political

factors that affect organizations. The course will progress from an introspective look at leadership and your own personal preferences and style, to interactions with others in groups or teams, to the structure and dynamics of organizations and how they respond to external factors. prereq: 45 semester cr recommended

ABUS 4707. Financial Management for the Professional Practice. (; 3 cr. ; A-F or Audit; Every Spring)

Provides professional practitioners with the skills they need to make informed financial decisions for their business. It introduces the fundamental concepts of finance and also touches on related topics in financial and managerial accounting, marketing, and personal finance. Students will work in small groups to implement the principles they have learned by developing and analyzing a business plan of the kind used to request funding for a professional practice. prereq: 45 semester cr recommended

ABUS 4709. Managing the Professional Practice I: Business Design. (; 3 cr. ; A-F or Audit; Every Summer)

Factors/challenges involved in designing structure of professional practice. Core values/mission, design of services, physical design, risk management, equipment/IT, partners/staffing. Exercises in applied practice development/management. prereq: 45 cr

ABUS 4711. Managing the Professional Practice II: Operations. (; 3 cr. ; A-F or Audit; Every Summer)

Factors/challenges in day-to-day operations of professional practice. Marketing, human resources, finance, entrepreneurial spirit, inventory management, operational quality, transitions. Exercises in applied operations. prereq: 4709, 45 cr

ABUS 4993. Directed Study. (; 1-3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Specially arranged projects, trips, or field work. prereq: instr consent, dept consent

Applied Economics (APEC)

APEC 1001. Orientation to Applied Economics. (; 1 cr. ; A-F or Audit; Every Fall)

Introduction to curriculum offerings, liberal education requirements, employment opportunities, faculty in the Department of Applied Economics. Emphasizes historical development of the discipline, areas of specialization, coursework expectations, career planning.

APEC 1101. Principles of Microeconomics. (GP,SOCS; 4 cr. ; Student Option; Every Fall & Spring)

Economic behavior of consumers/firms in domestic/international markets. Demand, supply, competition. Efficiency, Invisible Hand. Monopoly, imperfect competition. Externalities, property rights. Economics of public policy in environment/health/safety. Public goods, tax policy.

APEC 1101H. Principles of Microeconomics. (GP,SOCS; 4 cr. ; A-F only; Every Fall)

Economic behavior of consumers/firms in domestic/international markets. Demand, supply, competition. Efficiency, Invisible Hand. Monopoly, imperfect competition. Externalities, property rights. Economics of public policy in environment/health/safety. Public goods, tax policy. prereq: Honors student, proficiency in high school algebra

APEC 1102. Principles of Macroeconomics. (3 cr. ; Student Option; Every Spring)
Unemployment/inflation, measures of national income, macro models, fiscal policy/problems. Taxes and the national debt. Money/banking, monetary policy/problems. Poverty and income distribution. International trade and exchange rates. Economic growth/development. prereq: 1101 or Econ 1101

APEC 1201. Applications of Excel in Economics and Management. (; 1 cr. ; Student Option; Every Fall & Spring)
This course offers students the opportunity to master the basic and intermediate functionality of Microsoft Excel, and apply those skills to economic and managerial applications such as the financial impact of loans and investments, growth accounting, basic regression analysis, demand and cost estimation, and resource allocation. In addition, this course also emphasizes competencies regarding presenting and discussing quantitative information: interpreting quantitative/graphical data (demonstrating quantitative literacy), determining effective data display with charts, and making adequate choices about the graphical presentation of data. This course will enable students to become proficient in assembling and presenting data using Microsoft Excel.

APEC 1251. Principles of Accounting. (3 cr. ; A-F only; Every Fall)
Financial accounting. Theory, concepts, principles, procedures. Preparation/understanding of the four financial statements.

APEC 1905. The Ordinary Business of Life: Issues in Business, Government, and Macroeconomics. (; 3 cr. ; A-F only; Every Fall)
The world of economics is sometimes referred to as the study of the ordinary business of life. In this course we will discover, reflect on, and teach ourselves about a selected group of topics in the fields of business management and economics. While the first quarter of our meetings will be on business and economic history to provide context (the "Economic Revolution," the Federal Reserve System, and the role of government in the economy), the second quarter of class will analyze macro issues related to the domestic and world economies (economic growth, income inequality, the New Economy, and globalization). The third and fourth quarters of our time together will be micro-related. As part of this class, we will investigate the fields of leadership and business ethics through a series of readings and films. In addition, throughout the term some of our class discussions will be dedicated to helping you make your transition to and navigation of the University a smooth one. prereq: freshman

APEC 1906. The Farm Bill's Impact on You. (; 1 cr. ; A-F only; Every Fall)
The Farm Bill has widespread bipartisan support from the U.S. Congress. The course looks at each component of the most recent Farm Bill: Crop insurance, commodities, forestry, rural development, food aid, trade, nutrition including school nutrition, SNAP and WIC, research, extension, and education, and other components. Each week will include a look at one component and students will choose a component to write short essays and oral presentations looking at the history, authorization and appropriation language, and how it is implemented by USDA. Each class will include a short remote presentation by a CFANS faculty member discussing how their research fits within that week's component. Students will meet with the instructor individually to discuss their essays and presentations.

APEC 3001. Applied Microeconomics: Consumers, Producers, and Markets. (; 4 cr. ; Student Option; Every Fall & Spring)
Consumer/producer decisions. Theory of supply/demand. Markets, pricing, investment, effect regulation, market failures. prereq: [[1101 or ECON 1101 or 1101H or ECON 1101H], [MATH 1142 or MATH 1271]] or instr consent; intended for undergrads in [Ag/Food Bus Mgmt, Appl Econ]

APEC 3002. Managerial Economics. (; 4 cr. ; Student Option; Every Fall & Spring)
Microeconomic theory, its application to managerial problems. Introduction to regression analysis, demand analysis, demand function estimation, forecasting, cost function estimation, resource allocation decisions, linear programming, market structure, pricing policy, risk analysis, investment analysis. prereq - ApEc 3001 or Econ 3101 AND SCO 2550 or Stat 3011

APEC 3003. Introduction to Applied Econometrics. (4 cr. ; A-F only; Every Spring)
Econometrics is the core empirical methodology used in economics. It allows economists (and others) to learn about the world through data in non-experimental situations. This course teaches student how to use common types of econometric analysis to answer research questions in an experiential learning environment. prereq: APEC 1101 or equiv., STAT 3011 or equiv.

APEC 3006. Applied Macroeconomics: Government and the Economy. (; 3 cr. ; Student Option; Every Fall & Spring)
This course covers the core topics in macroeconomics including monetary policy, fiscal policy (including government expenditures and taxation), output, output growth, interest rates, exchange rates, inflation, expectations, GDP accounting, and balance of payments statements. The course modality alternates between in person and remote, depending on the semester and instructor. prereq: [[1102 or Econ 1102], [3001 or Econ 3101]] or instr consent

APEC 3007. Applied Macroeconomics: Policy, Trade, and Development. (GP; 3 cr. ; Student Option; Every Fall & Spring)

Indicators of economic development, growth in trade, and welfare of developing countries. Globalization. Drivers of growth, productivity, technical change, and research. Comparative advantage. Distribution consequences of trade. Trade policy instruments/institutions. prereq: [1101 or ECON 1101], [1101H or ECON 1101H], [1102 or ECON 1102], [1102H or ECON 1102H]; 3001, 3006 recommended

APEC 3061. Economic Development in Contemporary Africa. (GP,SOCS; 3 cr. ; A-F only; Every Spring)
Major socio-economic challenges that confront post-independence sub-Saharan African countries in quest for sustainable economic development/growth. Causes of persistent poverty/inequality, role of institutions/multinational agencies. Growth in 21st century. prereq: 1101 or ECON 1101

APEC 3071. Microeconomics of International Development. (; 3 cr. ; Student Option; Every Spring)
Characteristics and performance of peasant agriculture; potential role of agriculture in economic development, and design of economic policies to achieve agricultural and economic development; role of women in agricultural development. prereq: 1101, 1102, Econ 1101, 1102, or instr consent

APEC 3202. An Introduction to the Food System: Analysis, Management and Design. (3 cr. ; Student Option; Every Fall)
Introduction to use of systems thinking for exploration of problems in contemporary food system from multidisciplinary perspective. System concepts. Historical evolution of food system. Analysis, management, design.

APEC 3411. Commodity Marketing. (; 3 cr. ; Student Option; Every Fall)
Economic concepts related to marketing agricultural commodities. Conditions of competitive markets, historical perspectives on market institutions/policy, structural characteristics of markets, policies/regulations affecting agricultural marketing of livestock, crop, and dairy products. prereq: 1101 or Econ 1101

APEC 3451. Food and Agricultural Sales. (; 3 cr. ; Student Option; Every Spring)
Professional selling of agricultural and food products. Students build/refine sales abilities, identify/qualify prospects, deliver sales presentations, close the sale. Principles of market research. prereq: 1101 or Econ 1101

APEC 3480. Topics in Applied Economics. (; 1-4 cr. [max 24 cr.] ; Student Option; Every Fall, Spring & Summer)
Lectures and discussion on applied economics subjects. Topics specified in Class Schedule.

APEC 3501. Agribusiness Finance. (; 3 cr. ; Student Option; Every Fall)
Analysis of financing and investment strategies for agribusiness firms and their effects on liquidity, solvency, and profitability. Analysis of financial institutions, markets, and instruments. Management problems, issues facing financial intermediaries serving agriculture. prereq: [[1251 or Acct 2050], 60 cr] or instr consent

APEC 3511. Retail Supermarket Case**Analysis.** (3 cr. ; A-F only; Every Fall)

This is a course in which students will work in teams to address a real-world issue faced by a retail food company. The National Grocers Association (NGA) determines the particular case annually, and the event is held at their annual meeting along with the Industry-University Coalition. Elements of the solution may involve marketing, budgeting, strategic pricing, and market research. Students are asked to prepare a presentation to a group of retail grocers at the annual meeting of NGA, typically held in Las Vegas, NV. Students will complete weekly assignments in which they lay the groundwork for the competition. The competition is held in February. During the Fall semester, students engage in research and evaluation of options on the case study. During the Spring semester, students finalize their presentations and compete at the NGA Show with teams from about 18 other universities that are members of the NGA Industry-University Coalition. The competition involves a 15-minute presentation on the first day with 10 minutes of questions and answers. Students are guaranteed to present twice with a second presentation on the second day. Four finalists are chosen for the finals on the third day with the winning team being recognized at the evening banquet and a cash prize. Students will also have the opportunity to interact with industry representatives at the show in a number of ways during the four days. prereq: APEC 1101 or 1101H or Econ 1101 or 1101H

APEC 3521. Agribusiness and Food Supply / Value Chain Issues. (; 3 cr. ; Student Option No Audit; Every Spring)

The course is an introductory survey of the global food economy and current issues. Included in this course is information on marketing channels, value chains, and supply chains; factors that make the global food economy unique relative to other industries; and current policy topics including labeling, Farm Bill, and trade.

APEC 3551. Concept Design and Value-Added Entrepreneurship in Food, Agricultural and Natural Resource Sciences. (; 3 cr. ; A-F only; Every Fall)

Explore the core skills required by entrepreneurs in opportunity identification and problem framing that lead to creating viable concepts that provide solutions to real consumer challenges. Students will tackle innovation challenges from an in-depth exploration of entrepreneurial and design thinking and learn how to incorporate these skills into their future professional work. Master techniques for exploring problems from a systems viewpoint through a series of hands-on projects from concept design to product mapping and consumer testing. Students get to select a project of their choosing directly from their major of study and will pitch their new product or service concept to an expert panel.

APEC 3611W. Environmental and Natural Resource Economics. (ENV,WI; 3 cr. ; Student Option; Every Spring)

Concepts of resource use. Financial/economic feasibility. External effects, market failures.

Resource use, environmental problems. Measuring impacts of resource development. Economics of alternative resource programs, environmental strategies. prereq: 1101 or ECON 1101 or 1101H or ECON 1101H

APEC 3811. Principles of Farm**Management.** (; 3 cr. ; Student Option; Every Fall)

Strategic and operations aspects of farm management; financial analysis, budgeting, strategic management; marketing plan and control; enterprise and whole farm planning and control; investment analysis, quality, risk, and personnel management. prereq: 1101 or Econ 1101

APEC 3841. Agricultural and Consumer Cooperatives and Mutuals. (3 cr. ; Student Option; Every Fall)

Introduction to the cooperative and mutual form of business. Each class begins with a speaker, usually a producer member or manager, from a cooperative or mutual including coffee, cocoa, farm supply, dairy, and other types of cooperatives. About 25% of the speakers are from global cooperatives. Students will choose a cooperative or mutual at the beginning of the semester and most homework assignments will be applied to your cooperative including a final digital media project. The course has one live lecture and one asynchronous lecture each week.

APEC 3993. Directed Study in Applied**Economics.** (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

APEC 3994. Directed Research in Applied**Economics.** (1-4 cr. [max 6 cr.] ; Student Option; Periodic Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

APEC 4451W. Food Marketing Economics. (CIV,WI; 3 cr. ; Student Option; Every Fall)

Economics of food marketing in the United States. Food consumption trends, consumer food behavior, marketing strategies, consumer survey methodology, food distribution/retailing system. Policy issues related to food

marketing. Individual/group projects. prereq: [[1101 or Econ 1101], [1101H or Econ 1101H], SCO 2550 or STAT 3011 or equiv, 60 cr] or instr consent

APEC 4461. Horticultural Marketing. (; 3 cr. ; A-F only; Every Spring)

Major areas in horticultural marketing. Difference between horticultural products and commercial commodities. Core marketing components that should be used by every small horticultural business. Approaches to consumer research.

APEC 4481. Futures and Options Markets.

(; 3 cr. ; Student Option; Every Spring) Economics of futures/options trading in theory/application. Basis/price relationship in storable/nonstorable commodities. Hedging/commercial use of futures/options contracts. Speculation. Pricing efficiency. Market performances/regulation. prereq: [[3001 or Econ 3101], [AnSc 3011 or SCO 2550 or Stat 3011],] or instr consent

APEC 4501. Financial Modeling:**Spreadsheet Applications in Finance, Management, and Marketing.** (; 2 cr. [max 3 cr.] ; A-F or Audit; Every Spring)

Designing/implementing solutions to problems in finance, management, and market analysis with MS Excel? spreadsheet, VBA language, MS Power BI and Power Excel tools. Exercises cover topics such as proforma financial statement analysis, efficient portfolio derivation, VBA macros and functions, and building interactive dashboards for analysis of market trends. prereq: [APEC 3501 or FINA 3001], [APEC 1251 or ACCT 2050]

APEC 4821W. Business Economics and Strategy. (WI; 3 cr. ; Student Option; Every Spring)

Strategic management for production, processing, wholesaling, retailing, and service. Strategy formulation, implementation, and control. Business plans. Case study analysis. prereq: 3002, [3501 or FINA 3001], and [ACCT 3001 or MGMT 3001 or MKTG 3001]

APEC 5031. Methods of Economic Data**Analysis.** (; 3 cr. ; Student Option; Every Fall)

Statistical and econometrics techniques for applied economists. Theory and application of multivariate regression model using data sets from published economic studies. Emphasis on use of statistical techniques to understand market behavior. prereq: APEC 3001, Math 1142 or Math 1272, Stat 3001 or Sco 2550 or grad student or instructor consent

APEC 5032. Economic Data Analysis for Managerial and Policy Decisions. (; 3 cr. ; Student Option; Every Spring)

Statistical and econometric methods for the analysis of large data sets to support managerial and policy decisions. Methods for organizing, accessing, and ensuring the quality of data. Estimation techniques include panel data methods, limited dependent variable models, and time series analysis. Clarity of reporting and design of procedures for maintaining and updating data estimates. prereq: 5031 or instr consent

APEC 5151. Applied Microeconomics: Firm and Household. (; 3 cr. ; Student Option; Every Fall)

Quantitative techniques for analysis of economic problems of firms and households. Links between quantitative tools and economic analysis Regression analysis, mathematical programming, and present value analysis. prereq: (APEC 3001, Math 1142 or Math 1272, and Stat 3011 or Sco 2550) or equiv or grad student or instr consent

APEC 5321. Regional Economic Analysis. (; 3 cr. ; Student Option; Every Spring)

Development patterns. Role of resources, transportation, and institutional constraints. Migration, investments in growth and change. Economic information in investment and location decisions. Economic development policies and tools. Economic impact analysis. prereq: 3006 or ECON 3102 or instr consent

APEC 5411. Commodity Marketing. (3 cr. ; Student Option; Every Fall)

Economic concepts related to marketing agricultural commodities. Conditions of competitive markets, historical perspectives on market institutions/policy, structural characteristics of markets, policies/regulations affecting agricultural marketing of livestock, crop, and dairy products. prereq: graduate student and 1101 or Econ 1101

APEC 5451. Food Marketing Economics. (; 3 cr. ; A-F or Audit; Every Fall)

Economics of food marketing in the United States. Food consumption trends. Consumer food behavior, expenditure, data collection. Consumer utility models, demand forecasting. Food distribution system. Changes in supply chain, industry structure that serves retail food outlets. Individual/group projects.

APEC 5481. Futures and Options Markets. (; 3 cr. ; Student Option; Every Spring)

Economic concepts related to futures/options trading. Hedging, speculation.

APEC 5511. Labor Economics. (; 3 cr. ; Student Option; Periodic Fall)

Theoretical foundations of labor markets. Intertemporal/household labor supply. Demand for labor, efficiency wages. Human capital theory, unemployment, migration decisions. Analysis of econometric research applied to labor policy issues such as minimum wage, tax policy, social insurance, education. prereq: [[3001 or Econ 3101 or PA 5021], [PA 5032 or equiv]] or instr consent

APEC 5711. Agricultural and Environmental Policy. (; 3 cr. ; Student Option; Periodic Spring)

This is a topics course which changes from year to year. This year we will consider the relationship between famines and armed conflict. The general supposition (conventional wisdom) is that famines are the result of the forces of nature ? floods, droughts, and earthquakes. In fact, the evidence supports the argument that famines result from the actions of man to do harm to others. We will consider a variety of cases including the Irish Famine of the 19th Century, the hunger after

the conclusion of World War II, and the Bengal Famine of 1948. prereq: 3001 or Econ 3101

APEC 5721. Economics of Science and Technology Policy. (; 3 cr. ; Student Option; Every Fall)

This course covers the economic effects of science and technology policies, such as intellectual property rights. The course considers the effects of policies on: (1) the economic growth and development levels of countries; (2) the international technology transfers that occur between countries through trade, foreign direct investment, and licensing arrangements; and (3) differences in the economic welfare of developed and developing countries. prereq: APEC 3001 or ECON 3101 or instr consent

APEC 5731. Economic Growth and International Development. (; 3 cr. ; Student Option; Periodic Spring)

Economics of research and development. Technical change, productivity growth. Impact of technology on institutions. Science and technology policy. prereq: 3002 or [Econ 3101, Stat 3022]; Econ 4211 recommended

APEC 5751. Global Trade and Policy. (; 3 cr. ; Student Option; Fall Even Year)

Trade policies of import/export nations, gains from trade, trade negotiations/agreements. Free trade and common market areas. Exchange rate impacts. Primary commodities and market instability. Current trade issues. prereq: 3001 or Econ 3101 or PA 5021

APEC 5821. Business Economics and Strategy. (3 cr. ; Student Option; Every Spring)

Strategic management for production, processing, wholesaling, retailing, and service. Strategy formulation, implementation, and control. Business plans. Case study analysis. prereq: graduate student and 3002, [3501 or FINA 3001], and [ACCT 3001 or MGMT 3001 or MKTG 3001]

APEC 5831. Food and Agribusiness Marketplace. (; 2-3 cr. ; A-F or Audit; Every Spring)

This is a graduate student survey course of the industrial organization and current policy issues in the food and agribusiness marketplace. It represents a collaboration between the College of Food, Agricultural, and Natural Resource Sciences and the Carlson School of Management. The course uses short readings and speakers. A comprehensive look at all of the sectors in the food and agribusiness value chain is described. Topics include food policies (Farm Bills, food stamps, food labeling, and similar topics); environmental policies (water, invasive species, agriculture production and similar topics); and industrial organization issues (marketing and production contracts, overview of firm strategic orientation, distribution and similar topics). Readings, guest speakers, and presentations are used. prereq: graduate student

APEC 5832. The Business of Food Systems. (1 cr. ; Student Option; Every Fall)

This is a graduate survey course to introduce students to the Minnesota food industry

through its regulatory process, research and development, and industry structure. It is an integrated week long course that includes field study tours of Minnesota agriculture and food economy coupled with classroom instruction. Each year the course will focus on two Minnesota industries such as dairy, beef, soybean, corn, potatoes, and other agricultural and food industries. The course has been developed through a collaboration with College of Veterinary Medicine, School of Public Health, and College of Food, Agricultural, and Natural Resource Sciences.

APEC 5841. Agricultural and Consumer Cooperatives and Mutuals. (3 cr. ; Student Option; Every Fall)

Introduction to the cooperative and mutual form of business. Each class begins with a speaker, usually a producer member or manager, from a cooperative or mutual including coffee, cocoa, farm supply, dairy, and other types of cooperatives. About 25% of the speakers are from global cooperatives. Students will choose a cooperative or mutual at the beginning of the semester and most homework assignments will be applied to your cooperative including a final digital media project. The course has one live lecture and one asynchronous lecture each week.

APEC 5990. Special Topics in Applied Economics. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Special topics courses - focus on areas not covered in regularly offered courses. prereqs: graduate student or instructor consent

APEC 5991. Independent Study in Applied Economics. (1-4 cr. [max 32 cr.] ; Student Option; Every Fall, Spring & Summer)

Independent study and supervised reading/research on subjects/problems not covered in regularly offered courses. prereq: instr consent

Applied Professional Studies (APS)**APS 5101. Ecological Design for Horticulture.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Polyculture and Ecological Design is the design science of assembling plants into ecologically balanced systems. Natural polycultures are self-supporting plant communities in forests, wetlands, and prairies. Investigate ecological functions and services that are important components for sustainable horticultural design. Learn to apply the ecological landscape design language and technique while using the permaculture design process to create ecologically functional plant communities. Crucial discussions will assess the solutions in horticultural design for adapting to accelerated climate disruption, and follow nature's momentum as a guide to sustainable production systems. Lab sessions will demonstrate, and you will develop, the skills and foresight needed to assess, research, concept, design, and present polycultures in a sequential and professional process.

APS 5102. Garden Design: Theory and Application. (; 2 cr. ; A-F or Audit; Periodic Spring)

This course provides an overview of the garden design process, the analysis and conceptual design of the landscape, exploration of the design characteristics of plants, sustainable design and a descriptive journey into several historical garden styles. You will be introduced to a variety of topics, including the design process, basic design principles, and the basic concepts of graphic communication in garden design. A working knowledge of design process and principles is critical to quality design. This course is intended to strengthen student awareness and knowledge of design rather than fully develop the skills necessary to draw, develop and implement garden designs. This course is different from fact-based horticulture science courses. Although you will be held responsible for learning a broad range of principles and processes in this course, there are typically no absolute right answers relative to design assessment and critique. What is more important is that you gain the ability to articulate and assess design character and quality and give evidence of your thought process.

APS 5103. Integration of Sustainable Agriculture Concepts. (3 cr. ; A-F only; Every Fall)

Biodiversity, ecological balance, nutrient cycling, soil quality. Organic practices of tillage, fertility management, weed control, insect control. Specific practices compared with conventional/integrated pest management. Economic analysis of both organic/conventional practices. prereq: AGRO 1101 or AGRO 1103 or BIOL 1001 or BIOL 1009 or HORT 1001 or HORT 6011 or instr consent, [sr or grad student admitted to MPS in horticulture] Because of the 5xxx level, undergraduates need permission numbers to register. Students can obtain permissions by writing to: reefx001@umn.edu

APS 5104. Conservation at Botanic Gardens. (1 cr. ; A-F or Audit; Periodic Fall)

In this class, students will explore conservation strategies of botanic gardens using the Plant Conservation Program at the University of Minnesota Landscape Arboretum as a model. Discussions will center around scientific and non-scientific strategies, as well as limitations and strengths of the botanic garden system in regards to rare plant conservation. There are many different conservation programs around the continent and world, all of them working on different species and attacking conservation issues with different toolsets, goals, and even philosophies. Some of these gardens interact with each other and combine resources, but some do not. Some gardens work at very large scales of conservation and some work at much smaller, local scales. During this course, there will be opportunities to interact with conservation programs at other botanic gardens.

APS 5950. Topics in APS. (; 1-3 cr. [max 18 cr.]; A-F only; Periodic Fall, Spring & Summer) Topics in APS

APS 5993. Directed Studies. (; 1-6 cr. ; Student Option; Every Fall, Spring & Summer) Directed Studies prereq: dept consent

Arabic (ARAB)

ARAB 1101. Beginning Arabic I. (5 cr. ; Student Option No Audit; Every Fall & Summer)

After learning the Arabic script, you will develop your ability to communicate in Arabic about yourself, your community, and your environment. You will learn to speak, write, read, and listen to meet the demands of daily life. You will learn to inquire about others and negotiate meaning with them, and to interpret concise print, oral, and digital texts. You will also begin to explore the rich cultural diversity of the Arab world. This class is taught following a communicative and interactive approach and is focused on practice.

ARAB 1102. Beginning Arabic II. (5 cr. ; Student Option No Audit; Every Spring & Summer)

As the continuation of ARAB-1101, ARAB-1102 focuses on the equal development of the fundamental skills of speaking, writing, reading, and listening in Modern Standard Arabic. Content is tailored to meet the communicative demands of daily life. Class time is mostly devoted to practice. In addition to daily homework assignments, students give oral presentations, compose basic essays, and work on an oral or written project. Attendance of this class is required for all five weekly contact hours. Pre-req: pass in ARAB-1101/4101, or equivalent experience as assessed through a placement test.

ARAB 1900. Topics in Arabic. (; 2-4 cr. [max 8 cr.]; Student Option No Audit; Periodic Fall, Spring & Summer) Topics specified in course guide.

ARAB 3030. Arabic Content-Based Instruction. (; 1-3 cr. ; S-N or Audit; Periodic Fall & Summer)

Topics in Arabic culture held in conjunction with colloquial language courses.

ARAB 3101. Intermediate Arabic I. (5 cr. ; Student Option No Audit; Every Fall)

This course is designed for students who have successfully completed two semesters of intensive Beginner Modern Standard Arabic. Like its prequels, Intermediate Arabic I focuses on the equal development of the fundamental skills of speaking, writing, reading, and listening in Modern Standard Arabic. This course is designed as a communicative and interactive learning environment, with a strong emphasis on practice. Presentations, oral interaction and writing samples are expected to become lengthier and more intricate. Students study increasingly complex grammar through engagement with authentic oral, print and digital texts. prereq: pass in Arab 1102/4102 or equivalent experience as assessed through a placement test.

ARAB 3102. Intermediate Arabic II. (5 cr. ; Student Option No Audit; Every Spring & Summer)

This course is designed for students who have successfully completed three semesters of intensive Modern Standard Arabic. Like its prequels, Intermediate Arabic II focuses on the

equal development of the fundamental skills of speaking, writing, reading, and listening in Modern Standard Arabic. Thematic units, however, transcend the communicative needs of daily life to include communication about subjects of a broader cultural, historical and sociological relevance. This course is designed as a communicative and interactive learning environment, with a strong emphasis on practice. Presentations, oral interaction, and writing samples are expected to become lengthier and more intricate. Students study increasingly complex grammar through engagement with authentic oral, print, and digital texts. Pre-req: pass in ARAB-3101/4122 or equivalent experience as assessed through a placement test.

ARAB 3290. Arabic Language Teaching Tutorial. (; 1 cr. [max 2 cr.]; S-N only; Every Fall & Spring)

Students tutor beginning students of Arabic and are part of department's Arabic language team. prereq: Grade of A in 3102/4122

ARAB 3542. Medieval Islam. (; 3 cr. ; Student Option;)

Islamic dynasties, Mamluks and Mongols, Crusaders and Assassins. Abbasid Caliphate's disintegration and rise of Seljuk Turks.

ARAB 3811. Egyptian Colloquial Arabic I. (2-3 cr. ; Student Option No Audit; Periodic Fall, Spring & Summer)

This course is designed for students of Arabic who have taken a minimum of two semesters of Modern Standard Arabic (ARAB 1101 and 1102), or the equivalent thereof as determined by a placement test. The course provides training in the fundamentals of Egyptian Colloquial Arabic, one of the most widely-spoken and widely-understood Arabic vernaculars. Students practice the expression and comprehension of communicative needs in a variety of daily-life, informal situations. In addition, they are acquainted with a range of authentic cultural materials (film, TV broadcasts, songs) in Egyptian Arabic. The course relies heavily on oral practice and class periods are designed to be interactive. Credit will not be granted if student has already taken ARAB 3900 Fall 2015, Summer 2016

ARAB 3813. Jordanian Colloquial Arabic. (3 cr. ; A-F only; Periodic Spring)

This course is designed for students of Arabic who have taken minimum two semesters of Modern Standard Arabic (ARAB 1101 & 1102), or the equivalent thereof as determined by a placement test. The course provides training in the fundamentals of Jordanian and Palestinian spoken Arabic, which is widely understood all over the Arab world, and is also very similar to the Arabic spoken in Syria and Lebanon. This course specifically revolves around the development of your speaking, listening and transcultural skills. It will provide you with many opportunities to speak, watch, and listen to Jordanian Arabic and to learn about the cultures and societies of the Levant. The course aims to increase your ability to successfully navigate the variety of Arabic language registers, and to substantially improve your cultural competence. This course

is open to non-native speakers and non-heritage learners of Arabic only. As a 3-credit course, it cannot be taken in lieu of ARAB 3101 or ARAB 3102 to fulfill the CLA second language requirement. It can, however, be taken concurrently with these classes.

ARAB 3814. Gulf Colloquial Arabic. (3 cr. ; A-F only; Periodic Fall & Spring)

This course is designed for students of Arabic who have taken minimum two semesters of Modern Standard Arabic (ARAB 1101 & 1102), or the equivalent thereof as determined by a placement test. The course provides training in the fundamentals of the spoken Arabic of the Arabian Peninsula region. You will learn how to participate with ease and confidence in informal conversations in Gulf Colloquial Arabic around topics in the domestic and informal sphere, as well as some general interest topics of communal/regional relevance. You will engage with a wide variety of authentic popular culture materials from the region, and will explore a variety of cultural practices prevalent in the Arabian Peninsula region, thereby substantially improving your intercultural competence. This course is open to non-native speakers and non-heritage learners of Arabic only. As a 3-credit course, it cannot be taken in lieu of ARAB 3101 or ARAB 3102 to fulfill the CLA second language requirement. It can, however, be taken concurrently with these classes.

ARAB 3900. Topics in Arabic. (; 1-4 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer) Topics specified in course guide.

ARAB 3920. Topics in Arabic Culture. (; 1-3 cr. [max 9 cr.] ; Student Option No Audit; Periodic Fall, Spring & Summer) Selected topics in Arabic culture. Topics specified in the Class Schedule.

ARAB 3993. Directed Study. (1-5 cr. [max 12 cr.] ; Student Option; Periodic Fall, Spring & Summer) For advanced students with individual faculty members. Prereq-instr consent, dept consent, college consent.

ARAB 4101. Beginning Arabic I for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Fall & Summer) After learning the Arabic script, you will develop your ability to communicate in Arabic about yourself, your community and your environment. You will learn to speak, write, read, and listen to meet the demands of daily life. You will learn to inquire about others and negotiate meaning with them, and to interpret concise print, oral, and digital texts. You will also begin to explore the rich cultural diversity of the Arab world. This class is taught following a communicative and interactive approach and is focused on practice.

ARAB 4102. Beginning Arabic II for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Spring & Summer) Comprehension, oral practice, reading of standard Arabic. Meets with 1102. prereq: 4101 or equiv

ARAB 4121. Intermediate Arabic I for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Fall)

This course is designed for students who have successfully completed two semesters of intensive Beginner Modern Standard Arabic. Like its prequels, Intermediate Arabic I focuses on the equal development of the fundamental skills of speaking, writing, reading, and listening in Modern Standard Arabic. This course is designed as a communicative and interactive learning environment, with a strong emphasis on practice. Presentations, oral interaction, and writing samples are expected to become lengthier and more intricate. Students study increasingly complex grammar through engagement with authentic oral, print, and digital texts. prereq: pass in Arab 1102/4102 or equivalent experience as assessed through a placement test.

ARAB 4122. Intermediate Arabic II for Graduate Student Research. (5 cr. ; Student Option No Audit; Periodic Spring & Summer) Advanced grammar, analyses of readings, oral comprehension. Meets with 3102. prereq: 4121 or equiv

ARAB 4811. Egyptian Colloquial Arabic I for Graduate Research. (3 cr. ; A-F only; Periodic Fall)

This course is designed for students of Arabic who have taken a minimum of two semesters of Modern Standard Arabic (ARAB 1101 and 1102), or the equivalent thereof as determined by a placement test. The course provides training in the fundamentals of Egyptian Colloquial Arabic, one of the most widely-spoken and widely-understood Arabic vernaculars. Students practice the expression and comprehension of communicative needs in a variety of daily-life, informal situations. In addition, they are acquainted with a range of authentic cultural materials (film, TV broadcasts, songs) in Egyptian Arabic. The course relies heavily on oral practice and class periods are designed to be interactive. Meets with ARAB 3811.

ARAB 4813. Jordanian Colloquial Arabic for Graduate Research. (3 cr. ; A-F only; Periodic Spring)

This course is designed for students of Arabic who have taken minimum two semesters of Modern Standard Arabic (ARAB 1101 & 1102), or the equivalent thereof as determined by a placement test. The course provides training in the fundamentals of Jordanian and Palestinian spoken Arabic, which is widely understood all over the Arab world, and is also very similar to the Arabic spoken in Syria and Lebanon. This course specifically revolves around the development of your speaking, listening and transcultural skills. It will provide you with many opportunities to speak, watch, and listen to Jordanian Arabic and to learn about the cultures and societies of the Levant. The course aims to increase your ability to successfully navigate the variety of Arabic language registers, and to substantially improve your cultural competence. This course is open to non-native speakers and non-heritage learners of Arabic only.

ARAB 4814. Gulf Colloquial Arabic for Graduate Research. (3 cr. ; A-F only; Periodic Fall & Spring)

This course is designed for students of Arabic who have taken minimum two semesters of Modern Standard Arabic (ARAB 1101 & 1102), or the equivalent thereof as determined by a placement test. The course provides training in the fundamentals of the spoken Arabic of the Arabian Peninsula region. You will learn how to participate with ease and confidence in informal conversations in Gulf Colloquial Arabic around topics in the domestic and informal sphere, as well as some general interest topics of communal/regional relevance. You will engage with a wide variety of authentic popular culture materials from the region, and will explore a variety of cultural practices prevalent in the Arabian Peninsula region, thereby substantially improving your intercultural competence. This course is open to non-native speakers and non-heritage learners of Arabic only.

ARAB 5040. Readings in Arabic Texts. (; 2-4 cr. [max 9 cr.] ; A-F only; Every Fall) Post-advanced study of extensive, complex original Arabic texts and development of students' Arabic discussion and writing skills in the realms of literature, academia, media and/or business. All primary and secondary readings, assignments, in-class analysis and discussion are done fully in Arabic. Topics specified in Class Schedule.

ARAB 5041. Classical and Modern Arabic Prose. (3 cr. ; A-F only; Periodic Fall & Spring) In this class, students read extensive, complex, original Arabic texts and develop their academic discussion and writing skills in Arabic. The course covers a substantial number of Arabic literary texts of different genres and time periods: excerpts of the Prophet's biography, classical treatises and travel writing, stories from the "1001 Nights," 20th-century short stories, and short novels. To contextualize the literary texts, students read secondary texts also composed in Arabic and engage with Arabic audiovisual materials (video clips, TV interviews, songs) in class and at home. In-class analysis and discussion of the texts is conducted exclusively in Arabic. prereq: ARAB 5102 or the equivalent thereof as established by a placement test

ARAB 5101. Advanced Arabic I. (4 cr. ; Student Option No Audit; Every Fall) Advanced readings in classical/modern Arabic. Compositions based on texts. prereq: Grade B- or higher in 3102 or instr consent

ARAB 5102. Advanced Arabic II. (4 cr. ; Student Option No Audit; Every Spring) Readings of Arabic texts. Writing compositions based on texts. Continuation of 5101.

ARAB 5993. Directed Studies. (; 1-5 cr. [max 20 cr.] ; Student Option; Every Fall & Spring) Students enrolling in this directed study/research course will complete the University's common Directed Study/Research contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: -The work proposed is at the appropriate level for the course, academic in nature, and the student will be involved intellectually in the project. -The project scope is reasonable for one semester and the number of credits specified (42 hours of work per

credit). -The faculty mentor is qualified to serve in this role. -Assessment of student learning and grading criteria are clear and appropriate. -The student will be working in a respectful, inclusive environment.

Arabic Lang/Culture in Morocco (MRCO)

MRCO 1301. Accelerated Colloquial

Moroccan Arabic I. (6 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 1401. Intensive Colloquial Moroccan

Arabic I. (3 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 1701. Accelerated Modern Standard

Arabic I. (6 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 1801. Intensive Beginning Modern

Standard Arabic. (10 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 2301. Accelerated Colloquial

Moroccan Arabic II. (6 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 2701. Accelerated Modern Standard

Arabic II. (6 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 2801. Intensive Low Intermediate

Modern Standard Arabic. (10 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 3005. Introduction to the Arabic

Newspaper. (3-5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)
Basic newspaper vocabulary/structure. Analysis of headlines.

MRCO 3006. Media Arabic.

(3-5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)

Media vocabulary sufficient to grasp gist of newspaper article/broadcast. Graded newspaper readings from Middle Eastern dailies. Taped material from Moroccan television/radio.

MRCO 3007. Gender, Modernization, and

Social Change in Morocco. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Interrelationships between gender, modernization, and social change in post-colonial Morocco. Emphasizes social institutions, religion, development, traditions, and contemporary issues.

MRCO 3008. Trajectories of Representation: Indigenous and Western Images of

Morocco. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Contemporary Moroccan literature. Selected texts, their social/political contexts. Issues that have shaped national literature and postcoloniality since 1950s.

MRCO 3009. Moroccan Society and Culture.

(; 1-3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Political, economic, societal, and cultural trends in old/modern Moroccan society. Walking tour, discussions, guest lecturers.

MRCO 3010. Readings in Contemporary

Maghrebi Literature. (3-5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

MRCO 3011. Readings in Islamic Texts I.

(3-5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

MRCO 3012. Readings in Islamic Texts II.

(3-5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

MRCO 3013. Islam: Past and Present.

(; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

MRCO 3014. Morocco: Changes and

Cultural Identities. (3 cr. ; Student Option; Every Fall, Spring & Summer)

The course examines the major social, cultural, political, intellectual, and human rights transformations in Morocco over the last four decades, stressing the undergoing tensions between the secular liberals and conservatives (especially Islamists) across gender, religion, language, and sexual politics. It also explores changing identities and the complexity of Moroccan cultural politics. It is based on a balanced combination of the exploration of major academic scholarship from a comparativist and multi-disciplinary perspective, and insight into the lives and experiences of Moroccans, with particular focus on the inhabitants of Fez and the region. Above all, it traces the blended trajectories and trends in Moroccan society and culture, stressing the pressuring challenges to Moroccan national identities posed by globalization, secularism, conservatism, and fundamentalism.

MRCO 3599. Morocco in Context.

(1-3 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 3701. Accelerated Modern Standard

Arabic III. (6 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 3702. Accelerated Modern Standard

Arabic IV. (6 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 3801. Intensive Intermediate Modern

Standard Arabic. (10 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 3802. Intensive High Intermediate

Modern Standard Arabic. (10 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 3803. Intensive Low Advanced

Modern Standard Arabic. (10 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MRCO 3804. Intensive Advanced Modern

Standard Arabic. (10 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 3901. Accelerated Modern Standard

Arabic V. (6 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 3902. Accelerated Modern Standard

Arabic VI. (6 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 3903. Accelerated Modern Standard

Arabic VII. (6 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 3911. Proficiency Arabic I.

(; 5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MRCO 3993. Directed Research.

(1-3 cr. ; Student Option; Every Fall, Spring & Summer)
This directed research provides students with the opportunity to investigate a cultural or societal topic related to Moroccan society, history, or culture under the supervision of a designated program faculty member. Students design the topic, readings, and methodology at the start of the semester with the faculty member and meet weekly with the faculty member to discuss topic development, additional readings (as needed), additional resources and considerations, and course paper progress. Semester-only students enrolled in the 3-credit research option will have a classroom component (Morocco in Context) as well as individualized instruction; academic year students will have all contact hours through individual faculty meetings. Semester and academic year students enrolled in the course for 3 credits will receive the same amount of individualized contact hours and put forth a total of 100 hours of research effort over the course of the semester. In rare circumstances, a semester student may enroll in a 1-credit research project if they completed the summer program and are continuing into the semester. They have the option to join the semester group for the Morocco in Context discussions and will be graded only on their research project.

Architecture (ARCH)

ARCH 1281. Design Fundamentals I.

(AH; 4 cr. ; A-F only; Every Fall)

Using architecture broadly defined, students will develop essential habits of work and mind, as well as an ability to understand the relationship between drawing, making and exploring. The course will introduce and begin to build an understanding of the role of iteration and critique, as well as traditional and contemporary modes of representation in architecture.

ARCH 1621V. Introduction to Critical Inquiry in Practice.

(WI; 3 cr. ; A-F only; Every Fall)

This course introduces beginning architecture and landscape architecture students to critical inquiry in disciplinary research and professional practice through guest lectures, readings, and discussions. Weekly exercises help develop a beginning-level understanding of the depth and breadth of architectural inquiry in its contemporary context, i.e., as a complex, multi-dimensional, multidisciplinary endeavor with myriad ethical implications. For the final project, students will extend individual curiosity from course materials and presentations into a meaningful proposal for basic or applied research. Students who are engaged in course materials will begin to understand: architecture, landscape architecture, and design more broadly as an ecology of practices; the historical, contemporary, and projective framework for architecture education; the historical, contemporary, and projective framework for architecture as a profession; and specifically how these relate especially in this region.

ARCH 1621W. Introduction to Critical Inquiry in Practice. (WI; 3 cr. ; A-F only; Every Fall)

This course introduces beginning architecture and landscape architecture students to critical inquiry in disciplinary research and professional practice through guest lectures, readings and discussions. Weekly exercises help develop a beginning-level understanding of the depth and breadth of architectural inquiry in its contemporary context, i.e., as a complex, multi-dimensional, multidisciplinary endeavor with myriad ethical implications. For the final project, students will extend individual curiosity from course materials and presentations into a meaningful proposal for basic or applied research. Students who are engaged in course materials will begin to understand: architecture, landscape architecture and design more broadly as an ecology of practices; the historical, contemporary and projective framework for architecture education; the historical, contemporary and projective framework for architecture as a profession; and specifically how these relate especially in this region.

ARCH 2281. Design Fundamentals II. (4 cr. ; A-F only; Every Spring)

Foundation architectural design studio. Design principles, technical drawing, material manipulation.

ARCH 2301. Drawing and Critical Thinking. (4 cr. ; A-F only; Every Fall & Spring)

This course provides an in-depth foundation for understanding how drawing functions as a discipline-specific way of thinking, brings self-critical precision to non-verbal production, and supports processes of conceptual exploration. prereq: Arch 2281 or department consent

ARCH 3150. Topics in Architecture. (; 1-6 cr. [max 24 cr.] ; Student Option; Periodic Fall & Spring)

Selected topics in architecture design, theory, representation, or history.

ARCH 3212. BDA: Analytical Modeling of Contemporary Architecture. (3 cr. ; A-F only; Periodic Fall & Spring)

Insight into analytical modeling as one of the most important tools for a designer. Exercises, activities and iterative making of analytical models will help students to gain insight into works of contemporary architecture; analyze constituent elements and systems of form, space and order; investigate and make visible the underlying conceptual notions that generated the work; explore physical modeling as modes and techniques of analysis and representation; explore the specific issue of scale in analysis, representation and design resolution; read 2-D architectural drawings and translate them into 3-D physical form; and generally improve physical modeling skills.

ARCH 3222. BDA Box Problem. (2 cr. ; A-F only; Periodic Fall & Spring)

Students gain insight into the process of making by designing a wooden box that addresses a specific ritual, ceremony, event or activity of their choosing. The box will be evaluated on creativity, technique, craft, and risk. Introduction and practice with a variety of woodworking joints and techniques used to construct a wooden box.

ARCH 3223. BDA: Screen Test: Metal Work. (2 cr. ; A-F only; Periodic Fall & Spring)

Understanding the screen as an architectural element and screening as an architectural device. Understanding the nature of making and material craft in the design process, specifically metals and metal alloys designed and fabricated as architectural screen panels. Students develop: ability to understand, work with and transform metals; design vocabulary around screens, screening and patterns in architecture; design ideas as material assemblies and spatial propositions; verbal and visual communication skills as part of the design process; criteria for making design decision relevant for using screens, screening and patterns in architecture.

ARCH 3231. Intensive Applications Design Workshop. (3 cr. [max 15 cr.] ; A-F only; Every Fall & Spring)

BDA design core workshops develop your ability to critically approach a broad range of conditions through the lens of architecture. This course will focus on critical inquiry of tangible architectural attributes such as material (assembly), site (context), or program (need). This workshop foregrounds analysis of measurable, physical and specific conditions, and favors local project sites and/or precedent projects. The course offers a structure for moderately directed learning (including guided peer review), emphasizes iteration and process, and offers an opportunity to discover where and how your own interests align with broader opportunities as an emerging designer in architecture and/or other allied disciplines and design fields.

ARCH 3232. Extensive Applications Design Workshop. (3 cr. [max 15 cr.] ; A-F only; Every Fall & Spring)

BDA design core workshops develop your ability to critically approach a broad range of conditions through the lens of architecture. This course focuses on the critical inquiry of latent or intangible attributes such as architecture's

experiential, social, cultural, political, ethical, and poetic dimensions. Students in this course will engage architecture from the point of view of ephemeral conditions, theoretical understandings and operations, spatializing of data, and/or architectural inquiry applied to complex conditions or translations. The course offers a structure for moderately directed learning (including guided peer review), emphasizes iteration and process, and offers an opportunity to discover where and how your own interests align with broader opportunities as an emerging designer in architecture and/or other allied disciplines and design fields.

ARCH 3250. Design Workshop. (; 1-6 cr. [max 54 cr.] ; A-F only; Every Fall & Spring)

Design process as it relates to architecture. Hands-on projects involving interactive design process. Students develop rigorous/inventive graphic means of communicating. prereq: 2281, [Arch BA or BDA major]

ARCH 3261. BDA: The Art of Daylighting Design: Exquisite Rooms. (3 cr. ; A-F only; Periodic Fall & Spring)

Daylighting design and luminous phenomena have long captured the imagination of designers and architects. The beauty and power of light and shadow inspires the work of the greatest architectural masters. This BDA Workshop explores the many roles of daylighting in architectural design and how it is shaped by the intersection of both poetic and performance goals and aspirations. A select group of exquisite rooms of leading modern and contemporary architects will be compared and contrasted to gain insight into larger luminous design concepts, principles, strategies, and lessons on the art of daylighting design. Physical and computer models, photography, rendered drawings, diagramming, and computer analysis will be explored to understand the daylighting design philosophies, strategies, and details of 'Masters of Light' and the application of daylighting design lessons to an individual daylight investigation. Learning objectives are: to compare and contrast poetic and performance daylighting design concepts, principles, and strategies of modern and contemporary masters; to develop a comparative knowledge of daylighting theories and practices from case studies of exquisite rooms to gain the knowledge and skills necessary to effectively develop and assess qualitative and quantitative daylighting strategies; and to develop a personal daylighting design theory, process, and practice.

ARCH 3271. BDA: Watercolor Sketching: Exploring Iconic Sites. (2 cr. ; A-F only; Periodic Fall & Spring)

Students will develop skills in representation and visualization using watercolor as a medium for examining architecture as material, structure and attitude. Students will explore creative methods in representation through a process of working en plein air. A new site of architectural significance will be visited each week. The goal of this design workshop is for students to discover and capture a sense of space, material and design in a personal

manner, developing skills in representation as well as in design process. The way of working en plein air reflects a tradition in architecture of studying precedents in situ as well as an attitude captured by Frederick Frank in *The Zen of Seeing*, namely: To stop rushing around, to sit quietly on the grass, to switch off the world and come back to the earth, to allow the eye to see a willow, a bush, a cloud, a leaf, is an unforgettable experience.

ARCH 3281. Architecture Studio 01:

Material. (; 6 cr. ; A-F only; Every Spring)
Students in this undergraduate studio practice an iterative, open-ended design process as it relates especially to the technical and experiential role of materials, material assembly, construction, structure, and tectonics in architecture. Students develop their ability to think through multiple modes of media, including physical and digital drawings and models, with an emphasis on physical model-making. prereq: Arch BS major and Arch 2301

ARCH 3282. Architecture Studio 02: Site. (; 6 cr. ; A-F only; Every Fall)

Students in this undergraduate studio practice an iterative, open-ended design process as it relates especially to the fundamental role of site as a technical and experiential context in architecture. Students learn to identify and explore the static, dynamic, tangible, and intangible forces that impact, and are impacted by, architectural interventions. Students develop their ability to think through multiple modes of media, including physical and digital drawings and models, with an emphasis on physical model-making. prereq: [3281 or 4281], BS Arch major

ARCH 3351. AutoCAD I. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)
Concepts, tools, and techniques of computer-aided drawing with current AutoCAD Release. Producing dimensioned/annotated drawings for plotting. 3-D drawing capabilities. Use of dimension variables, attributes, blocks, symbols. prereq: Arch major or BED major or instr consent

ARCH 3391. Design and Representation with BIM. (3 cr. ; A-F or Audit; Every Fall)
In this course, students will be introduced to the concept of Building Information Modeling (BIM) through the use of Autodesk Revit, one, one of the BIM software tools most commonly used in architectural practice today. Students will engage in a series of design exercises that will require both learning and applying Revit in the context of real world architectural scenarios. In addition to learning Autodesk Revit as a design tool, we will examine the use of BIM technology within the architectural industry through a series of case study examples. Also, presenters will share firsthand accounts of CAD and BIM Software being implemented in architectural practice.

ARCH 3411V. Architectural History to 1750. (GP,WI,HIS; 3 cr. ; A-F only; Every Fall)
This course will begin to situate us, and our work, in the context of the much larger, much longer human story. Architecture, both in practice and in its historical study, is

fundamentally about people. In studying the human past through the built environment, from prehistory to 1750, we will see how architecture, both the ordinary and the extraordinary, is the product of its cultural, political, and social context. People make buildings and spaces, and buildings and spaces shape the ideas and behaviors of people. By studying architectural history we will learn about trends of style and form, but our primary emphasis is to learn about the relationships, practices, narratives, and beliefs that have constituted human culture around the world and across time. prereq: first year writing requirement; Soph or above

ARCH 3411W. Architectural History to 1750.

(GP,WI,HIS; 3 cr. ; A-F or Audit; Every Fall)
Built environment as a tool to study the human past from ancient times to 1750. Major trends of style and form and the relationships, practices, beliefs that have shaped human behavior. prereq: Soph or above

ARCH 3412V. Honors: Architectural History

Since 1750. (GP,WI,HIS; 3 cr. ; A-F only; Every Spring)
Examples of the built environment from the Enlightenment to the present are studied within a broad social, cultural, and political context. Major architectural movements and their associated forms and designs. prereq: Soph or above

ARCH 3412W. Architectural History Since 1750.

(GP,WI,HIS; 3 cr. ; A-F or Audit; Every Spring)
Examples of the built environment from the Enlightenment to the present are studied within a broad social, cultural, and political context. Major architectural movements and their associated forms and designs. prereq: Soph or above

ARCH 3511. Material Transformations: Technology and Change in the Built Environment.

(TS; 3 cr. ; A-F only; Periodic Fall)
Surveys development of significant architectural material technologies/their relationships to society/natural environment.

ARCH 3611. Design in the Digital Age. (; 3 cr. ; A-F or Audit; Every Spring)

Introduction to design, design process. Developing/understanding ways of seeing, thinking, and acting as a designer. Changes in design being wrought by digital technology. Team design project.

ARCH 3711V. Honors: Environmental Design and the Sociocultural Context.

(CIV,WI,SOCS; 3 cr. ; A-F only; Every Fall)
Designed environment as cultural medium and as product of a sociocultural process and expression of values, ideas, and behavioral patterns. Design/construction as complex political process. prereq: Honors, [soph or above]

ARCH 3711W. Environmental Design and the Sociocultural Context.

(CIV,WI,SOCS; 3 cr. ; A-F only; Every Fall)
Designed environment as cultural medium/product of sociocultural process/expression of values, ideas, behavioral patterns. Design/

construction as complex political process. prereq: Soph or above

ARCH 3756. Public Interest Design: Principles and Practices. (3 cr. ; A-F or Audit; Every Spring)

As the allied fields of design evolve in response to an increasing number of global challenges - inequity, social and political turmoil, disruptive climate-change, accelerating population growth - the question of how designers will address the needs of the most vulnerable among us is fundamental. Public Interest Design (PID), an emerging area of specialization within the design professions, specifically considers the concerns of the vast majority of the world's inhabitants who are historically under-resourced and ill-equipped to respond to the Grand Challenges? facing humankind. With this mind, this introductory survey course has two aims: First, to critically examine the range of environmental, economic, social, and ethical issues that underpins work with under-resourced domestic and international communities? including how these concerns can be collectively addressed to become more resilient; and second, to investigate organizational models that seek to broaden the traditional scope of the allied design fields as disciplines and professions by advocating a humanitarian basis for practice.

ARCH 3993. Directed Study. (; 1-3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)
Guided individual reading or study. prereq: instr consent

ARCH 4150. Topics in Architecture. (; 1-4 cr. [max 24 cr.] ; A-F or Audit; Periodic Fall & Spring)

Design, technology, history, theory, representation, or urbanism. prereq: Arch major or instr consent

ARCH 4194H. Thesis/Capstone Project. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)
Individualizes honors experience by connecting aspects of major program with special academic interests. prereq: Arch major, sr, honors

ARCH 4231. Advanced Intensive Applications Design Workshop. (3 cr. [max 15 cr.] ; A-F only; Every Fall & Spring)
BDA design core workshops develop your ability to critically approach a broad range of conditions through the lens of architecture. This course will focus on the critical inquiry of tangible architectural attributes such as material (assembly), site (context), or program (need). This workshop foregrounds the analysis of more measurable, physical and specific conditions, and will favor local project sites and/or precedent projects. Appropriate to an advanced design workshop, this course provides a structure for more guided, self-directed learning in service of iteratively advancing a design project through the lens of architecture.

ARCH 4232. Advanced Extensive Applications Design Workshop. (3 cr. [max 15 cr.] ; A-F only; Every Fall & Spring)
BDA design core workshops develop your ability to critically approach a broad range of

conditions through the lens of architecture. This course focuses on the critical inquiry of latent or intangible attributes such as architecture's experiential, social, cultural, political, ethical, and poetic dimensions. Students in this course will engage architecture from the point of view of ephemeral conditions, theoretical understandings and operations, spatializing of data, and/or architectural inquiry applied to complex conditions or translations. Appropriate to an advanced design workshop, this course provides a structure for more guided, self-directed learning in service of iteratively advancing a design project through the lens of architecture.

ARCH 4283. Architecture Studio

03:Program. (; 6 cr. ; A-F only; Every Fall)
Students in this undergraduate studio practice an iterative, open-ended design process as it relates especially to the fundamental role of program as a technical and experiential aspect of architecture. Students learn to broadly explore and critically evaluate the needs and activities required and possible through design interventions in the built environment. Students develop their ability to think through multiple modes of media, including physical and digital drawings and models, with an emphasis on digital model-making.

ARCH 4284. Architecture Studio 04: Urban Design. (; 6 cr. ; A-F only; Every Spring)

Students in this undergraduate studio develop design sensibilities around the role of architecture in the urban environment. Students engage the complex realities and discourses that relate to urban design; develop their ability to work with multiple layers of consideration, related terminology and means of representation; develop their ability to work with ways of observing, interpreting, and synthesizing that are specific to urban conditions and processes; and further develop a sensibility for the broad possibilities of doing urban design.

ARCH 4321. Architecture in Watercolor. (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Watercolor as tool in design process. Foundation principles, techniques, medium, tools, materials. Color relationships, mixing, composition, applications to design. prereq: 2301

ARCH 4341. Architecture Portfolio Design.

(3 cr. ; A-F only; Every Fall & Spring)
An introduction to design principles as they relate to the architecture portfolio. Students extend design thinking and visual communication skills in architecture into broader, life-long applications within the architecture profession by designing a portfolio that represents in a meaningful way a range of architecture and/or other coursework.

ARCH 4361. 3-D Computer Architectural Modeling and Design. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Use of 3D computer modeling for representation in abstract/realistic ways. Creation/arrangement of objects. Setting up lighting. Developing surface materials. Creating still renderings/animations. Ways

computer visualization can be used for design exploration, feedback during idea development, and realistic representation of designs. prereq: 3351, Arch major

ARCH 4410. Topics in Architectural History. (; 1-4 cr. [max 24 cr.]; A-F only; Periodic Fall & Spring)

Selected topics in Architectural History

ARCH 4421W. Architecture and Interpretation: The Cave and the Light. (WI;

3 cr. ; A-F or Audit; Periodic Spring)

Historical/hermeneutical investigation of iconography of grotto. Intertwined themes of descent into earth and ascent to light, from earliest strata of human culture to present day. prereq: [3411, 3412] or instr consent

ARCH 4424. Renaissance Architecture. (; 3 cr. ; A-F or Audit; Periodic Fall)

History of architecture and urban design in Italy, from 1400 to 1600. Emphasizes major figures (Brunelleschi, Alberti, Bramante, Palladio) and evolution of major cities (Rome, Florence, Venice). prereq: 3411 or instr consent

ARCH 4425W. Baroque Architecture. (WI; 3 cr. ; A-F or Audit; Periodic Fall)

Architecture and urban design in Italy, from 1600 to 1750. Emphasizes major figures (Bernini, Borromini, Cortona, Guarini) and evolution of major cities (Rome, Turin). prereq: 3411 or instr consent

ARCH 4431W. Eighteenth-Century Architecture and the Enlightenment. (WI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Architecture, urban planning, and garden design in Europe and America, 1650 to 1850.

ARCH 4432. Modern Architecture. (; 3 cr. ; A-F or Audit; Fall Odd Year)

Architecture and urban design in Europe and the United States from early 19th century to World War II. prereq: 3412 or instr consent

ARCH 4434. Contemporary Architecture. (; 3 cr. ; A-F or Audit; Fall Even Year)

Developments, theories, movements, and trends in architecture and urban design from World War II to present. prereq: 3412 or instr consent

ARCH 4435. History of American Architecture. (3 cr. ; A-F or Audit; Periodic Fall)

Through lectures, readings, discussion, and research, we will analyze buildings and spaces?architect designed and ?vernacular?? in the context of social, political, economic, technological, and ecological change. As we address these issues, we will examine the ways design and daily life, performed locally, interacted with national and global systems and flows; and the role the built environment has played in advancing structures and concepts of class, gender, race, ethnicity, and power. Students will gain a broad familiarity with the history of American buildings and landscapes, develop critical frameworks for analysis, and enhance their understanding of the environments they interact with every day?as designers, citizens, consumers, and professionals.

ARCH 4451. Contemporary Architectural Thinking. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course examines major architectural theories and debates which have informed, catalyzed, or destabilized the discourse of architecture in the past seven decades. Focusing on selected key texts, ideologies, and figures, the course considers the changing role of architectural theory?as a vehicle of thought, a guide for practice, a catalyst for design, and a platform for debate. Topics shows formal or theoretical resonances in the problematics and poetics of architectural productions apropos of the technofantast neo-avant-gardism, the post-structural semiosis, the postmodern consumerism, conceptual architecture, pop architecture, hippie counterculture, etc.

ARCH 4511. Materials and Methods I. (; 3 cr. ; A-F or Audit; Every Fall)

Building materials, assemblies, construction operations shaping building designs. Material properties for designing/detailing building systems, elements, components. Applications. Modeling, hands-on building experiences. prereq: BS Arch major or BDA major jr/sr

ARCH 4521. Environmental Technology I. (; 3 cr. ; A-F or Audit; Every Fall)

Issues related to environmental quality/design. Climate response. Heating, cooling, lighting design. Indoor air quality. prereq: BS Arch major

ARCH 4561. Architecture and Ecology.

(ENV; 3 cr. ; A-F or Audit; Every Spring)
Introduction to theories/practices of ecological approaches to architectural design. Ecological context, implications/opportunities of architecture. Historical/theoretical framework for ecological design thinking. Issues studied at various scales: site/community, building, component.

ARCH 4571. Architectural Structures I. (; 3 cr. ; A-F or Audit; Every Fall)

Structural mechanics, graphic/quantitative analysis. Loads, materiality, strength, equilibrium, stability, serviceability, reliability. External/internal forces. Shear/moment diagrams/calculations. Structural behavior of building systems. Design using wood/steel members. prereq: BS Arch major

ARCH 4672. Historic Building Conservation. (; 3 cr. ; A-F or Audit; Every Fall)

Historic building materials, systems, methods of conservation. Structural systems, building repair/pathology. Introducing new environmental systems. Conserving interiors. Research on materials/techniques, using primary/secondary resources. Documenting with photography/measured drawings. prereq: 4671 or concurrent enrollment in 4671 or instr consent

ARCH 4674. World Heritage Conservation. (; 3 cr. ; A-F only; Periodic Fall)

Design/planning options for conservation of historic buildings/cultural heritage sites. Case studies link current practices, methods/solutions with expert preservationists, site conservationists, local communities in

development/design of conservation proposals.
prereq: Jr or sr or instr consent

ARCH 4701W. Introduction to Urban Form and Theory. (WI; 3 cr.; A-F only; Every Spring)

Urban form, related issues of design/theory/culture. Thematic history of cities. Lectures, discussions, assignments. prereq: [3411, 3412] or instr consent

ARCH 5001. Architectural Design Studies: Representation & Design. (1 cr.; A-F only; Every Summer)

During this six week, summer intensive course, students will focus on basic issues of visual thinking and conceptual representation in architecture. This sequence of complementary exercises introduces issues and ways of working intended to complement educational backgrounds from other, non-architectural, disciplines. To do that we have designed the exercises to juxtapose different ways of perceiving and understanding constructed environments. While exploring these architectural ways of thinking, the exercises will also help to acknowledge preconceptions that may hinder one's ability to explore conceptual decisions.

ARCH 5110. Architecture as Catalyst. (1 cr. [max 3 cr.]; S-N only; Every Spring)

Topical workshops on design methods, theories, or emerging practices. prereq: M.Arch

ARCH 5212. Undergraduate Architecture Studio 05: Advanced Design. (6 cr.; A-F only; Every Fall)

Advanced design studio to engage students in range of critical subjects to be determined by respective instructors. Intended to challenge students with independent/experimental approach to design that builds on prior knowledge, develop working methodologies/design ethics. prereq: C- or better in 3281, 3282, 4283, 4284

ARCH 5250. Advanced Topics in Design. (; 1-6 cr. [max 24 cr.]; A-F only; Every Fall, Spring & Summer)

Advanced topics in architectural design.

ARCH 5301. Conceptual Drawing. (; 3 cr.; A-F only; Every Spring)

Drawing as way of analyzing, exploring, and generating design ideas. Projection systems, diagramming, mapping. Different modes of visual perception. Nonverbal structures. prereq: MArch major or instr consent

ARCH 5313. Visual Communication Techniques in Architecture. (; 3 cr.; A-F or Audit; Every Fall & Spring)

Delineation, presentation, and design techniques. Various visual media and methods of investigation. prereq: M Arch major or instr consent

ARCH 5321. Architecture in Watercolor. (; 3 cr.; A-F or Audit; Every Fall, Spring & Summer)

Watercolor as a tool in design process. Foundation principles, techniques, medium, tools, materials. Color relationships, mixing, composition, applications to design. prereq: M Arch grad student or instr consent

ARCH 5350. Topics in Architectural Representation. (; 1-4 cr. [max 16 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Selected topics in architectural representation.

ARCH 5391. Design and Representation with BIM. (3 cr.; A-F or Audit; Every Fall)

In this course, students will be introduced to the concept of Building Information Modeling (BIM) through the use of Autodesk Revit, one, one of the BIM software tools most commonly used in architectural practice today. Students will engage in a series of design exercises that will require both learning and applying Revit in the context of real world architectural scenarios. In addition to learning Autodesk Revit as a design tool, we will examine the use of BIM technology within the architectural industry through a series of case study examples. Also, presenters will share firsthand accounts of CAD and BIM Software being implemented in architectural practice.

ARCH 5392. Facade Design & Construction. (3 cr.; A-F or Audit; Every Fall)

This course explains and explores contemporary facade design by introducing students to key technical principles that will empower them to be more thoughtful and informed facade designers. We will take an in-depth look at four fundamental facade materials ? stone, clay, metal, and glass ? followed by exploration and development in a 3D environment of the students' choice.

ARCH 5410. Topics in Architectural History. (; 3 cr. [max 12 cr.]; A-F or Audit; Every Fall & Spring)

Advanced study in architectural history. Readings, research, seminar reports.

ARCH 5411. Principles of Design Theory. (; 3 cr.; A-F or Audit; Every Spring)

Principles of design and their instrumentation. How and why architecture theory is generated. Types and significance of formal analysis. Theoretical positions and modes of criticism. prereq: M Arch major or instr consent

ARCH 5412. Architecture: A Global and Cultural History. (3 cr.; A-F only; Every Fall)

This course examines the history of architecture from a global perspective, addressing a variety of traditions and geographical locations, and following their interconnections and exchanges.

ARCH 5413. Modern and Contemporary Global Architecture. (3 cr.; A-F only; Every Spring)

This course is a global history of modern and contemporary architecture, tailored to graduate students in the M.Arch. program. The course examines the architectural production of the 20th and 21st centuries through the focused study of buildings, urban plans, unbuilt designs, manifestos, and other visual and textual documents. Students will be called upon to reflect on issues of design, planning, programming, technology, and representation, connecting this course to their architectural training and future professional practice. At the same time, the course will offer a critical and multidisciplinary perspective, presenting architecture in the context of

culture, politics, economics, ideology, and other historical developments. The premise of this course is the fundamental role of history for contemporary and future architectural practice. The course assignments, readings, and activities aim to spur a productive dialogue between critical reflection and historical knowledge with an eye towards creative action.

ARCH 5421. Architecture and Interpretation: The Cave and the Light. (; 3 cr.; A-F only; Periodic Spring)

Historical/hermeneutical investigation of iconography of grotto. Intertwined themes of descent into earth and ascent to light, from earliest strata of human culture to present day. prereq: [3411, 3412] or instr consent

ARCH 5423. Gothic Architecture. (; 3 cr.; A-F or Audit; Spring Odd Year)

History of architecture and urban design in Western Europe, from 1150 to 1400. prereq: MS Arch or M Arch major or instr consent

ARCH 5424. Renaissance Architecture. (3 cr.; A-F or Audit; Periodic Fall & Spring)

History of architecture and urban design in Italy, from 1400 to 1600. Emphasizes major figures (Brunelleschi, Alberti, Bramante, Palladio) and evolution of major cities (Rome, Florence, Venice). prereq: MS Arch or M Arch major or instr consent

ARCH 5425. Baroque Architecture. (; 3 cr.; A-F or Audit; Fall Odd Year)

Architecture and urban design in Italy, from 1600 to 1750. Emphasizes major figures (Bernini, Borromini, Cortona, Guarini) and evolution of major cities (Rome, Turin). prereq: MS Arch or M Arch major or instr consent

ARCH 5431. Eighteenth-Century Architecture and the Enlightenment. (3 cr.; A-F or Audit; Periodic Fall & Spring)

Architecture, urban planning, and garden design in Europe and America from 1650 to 1850.

ARCH 5432. Modern Architecture. (; 3 cr.; A-F or Audit; Periodic Fall)

Architecture and urban design in Europe and the United States, from early 19th century to World War II. prereq: MS Arch or M Arch major or instr consent

ARCH 5434. Contemporary Architecture. (; 3 cr.; A-F or Audit; Every Fall)

Developments, theories, movements, and trends in architecture and urban design, from World War II to present. prereq: MS Arch or M Arch major or instr consent

ARCH 5435. History of American Architecture. (3 cr.; A-F or Audit; Periodic Fall)

Through lectures, readings, discussion, and research, we will analyze buildings and spaces?architect designed and ?vernacular?? in the context of social, political, economic, technological, and ecological change. As we address these issues, we will examine the ways design and daily life, performed locally, interacted with national and global systems and flows; and the role the built environment has played in advancing structures and concepts of class, gender, race, ethnicity, and

power. Students will gain a broad familiarity with the history of American buildings and landscapes, develop critical frameworks for analysis, and enhance their understanding of the environments they interact with every day?as designers, citizens, consumers, and professionals.

ARCH 5441. Minnesota: Architecture and Landscapes. (; 3 cr. ; A-F only; Every Spring)
History of major architectural monuments, urban phenomena, and landscape forms of Minnesota. Interrelationships between architecture, geography, and people. prereq: [3411, 3412] recommended

ARCH 5450. Topics in Architectural Theory. (; 1-3 cr. [max 9 cr.] ; A-F or Audit; Periodic Fall & Spring)
Selected topics in architectural theory and criticism.

ARCH 5451. Architecture: Defining the Discipline. (; 4 cr. ; A-F only; Periodic Fall & Spring)
Paradigms through which architecture has defined itself. Implications for its practice, product, and architecture in general. Lecture, discussion, design exercises. prereq: M Arch major

ARCH 5452. Architecture: Design, Form, Order, and Meaning. (; 4 cr. ; A-F or Audit; Every Fall & Spring)
Architecture and the issue of meaning. Explores fundamental and constituent elements of architectural form and order; their inherent tectonic, phenomenal, experiential, and symbolic characteristics; their potential and implications for the creation and structure of meaningful human places. prereq: M Arch major or instr consent

ARCH 5516. Technology Two: Luminous and Thermal Design. (; 6 cr. ; A-F only; Every Spring)
Concepts/principles of daylighting, thermal, energy, and systems integration. Architectural/technological implications of lighting and thermal design. Ecological thinking in support of sustainable design decision making. prereq: M Arch

ARCH 5518. Environmental Technology: Integrative Ecological Design for Responsive Architecture. (3 cr. ; A-F only; Every Fall)
This course introduces the ecological design concepts and principles of daylighting, thermal, energy, and building systems integration. The course will provide students with an understanding of the primary architectural and technological implications of lighting and thermal to inform design and ecological thinking and to support sustainable design decision-making.

ARCH 5521. Material Investigation: Concrete. (; 4 cr. ; A-F only; Every Spring)
Design projects identify common problems/improvements, investigate alternatives, and develop solutions where concrete is primary building material. prereq: MArch or MS

ARCH 5527. Material Investigations: Stone and Water. (; 4 cr. ; A-F only; Every Spring)

Design projects identify common problems/improvements, investigate alternatives, and develop solutions where wood is primary building material. prereq: M.Arch or M.S.

ARCH 5539. Daylighting and Architecture Design. (; 3 cr. [max 4 cr.] ; A-F only; Every Spring)

This 15-week seminar will explore approaches to daylighting and architectural design that weave together diverse layers of ecological, physiological, and psychological issues to enhance our understanding and relationship of light in place and time. We will explore how the formal, aesthetic, atmospheric, and experiential aspects of daylighting also support and foster more sustainable and regenerative approaches to architectural design. The goal of the seminar is to familiarize students with daylighting from an ecological perspective in order to use both creatively in the design process.

ARCH 5550. Topics in Technology. (; 1-4 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)
Selected topics in architecture technology, e.g., construction, environmental management, energy performance, lighting, materials.

ARCH 5561. Tech 1, Structures for Building. (3 cr. ; A-F or Audit; Every Fall)
Role of structure in architectural design. Common systems found throughout history. Review systems to identify parameters that influence structural decisions. prereq: M Arch major or instr consent

ARCH 5562. Tech 2, Intro to Building Technology. (3 cr. ; A-F only; Every Fall)
Origin/development of architectural idea. Designs as direct means of representing our underlying intentions. prereq: M.Arch or instr consent

ARCH 5563. Tech 3: Advanced Building Technology Integrated Building Systems. (3 cr. ; A-F only; Every Fall)
Logic of integrating building systems. Improving understanding of/thinking critically about integration principles, theories, practice, application. Identifying/working through problems the project architect must address. prereq: M.Arch or instr consent

ARCH 5564. Tech 4: Building Structural Systems. (3 cr. ; A-F only; Every Fall)
Main concepts related to building structures. Basic knowledge of flow of forces. Review of rules for sizing structures. Calculations to understand systems behavior. Knowledge/tools to design buildings considering structure within design process. prereq: M.Arch or instr consent

ARCH 5609. Development and Implementation of Research. (3 cr. ; A-F only; Every Fall)
Bridge gaps among architectural research, design, practice. Forum for students to independently develop research topics/implement research methods related to architectural scholarship/practice, aided by classmates, instructor, guest lecturers. prereq: instr consent

ARCH 5611. Design in the Digital Age. (; 3 cr. ; A-F or Audit; Every Spring)

Introduction to design, design process. Developing/understanding ways of seeing, thinking, and acting as a designer. Changes in design being wrought by digital technology. Team design project. prereq: Grad student or upper level undergrad student

ARCH 5621. Professional Practice in Architecture. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Legal, ethical, business, and practical requirements of architectural practice. Contemporary and historical models of contract formation, business principles, accounting, project management, design services, and marketing. prereq: M Arch major or instr consent

ARCH 5630. Practicum: Advanced Issues in Practice. (3 cr. [max 6 cr.] ; Student Option No Audit; Every Fall & Spring)
Advanced architectural practice topics not normally covered in curricula are examined/evaluated as foundation for licensure/ARE 4.0 testing processes. prereq: M.S. Architecture or M.Arch

ARCH 5650. Topics in Architectural Practice. (; 1-4 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)
Topics in architectural practice, methods of design production, marketing, operation, and relationships among clients, architecture, and society. prereq: 5621, Arch major or 5621, M Arch major or instr consent

ARCH 5651. Building Stories. (; 3 cr. [max 12 cr.] ; A-F only; Every Spring)
Professional practice education by means of case study analysis.

ARCH 5670. Topics in Historic Preservation. (; 1-3 cr. [max 12 cr.] ; Student Option; Periodic Fall)
Selected topics in the theory, philosophy, research, and methods of architectural historic preservation.

ARCH 5671. Historic Preservation. (3 cr. ; Student Option; Every Fall)
Philosophy, theory, origins of historic preservation. Historic archaeology/research, descriptive analysis, documentation of historic buildings. Government's role in historic preservation, preservation standards/guidelines, preservation/building codes, preservation advocacy.

ARCH 5672. Historic Building Conservation. (; 3 cr. ; Student Option; Every Spring)
Historic building materials, systems, and methods of conservation. Discussion of structural systems, building repair and pathology, introduction of new environmental systems in historic buildings, and conservation of historic interiors. Research on historic building materials and techniques using primary and secondary resources and on documentation of a specific historic site through large-format photography and measured drawings. prereq: 3412, 5671 or instr consent

ARCH 5673. Historic Property Research and Documentation. (3 cr. ; Student Option; Every Spring)

Philosophy, theory, methods of historic building research. Descriptive analysis of buildings, building documentation, historical archaeology, architectural taxonomy. prereq: [3412, 3641, 4671, 5671, 4672 or 5672] or instr consent

ARCH 5674. World Heritage Conservation. (; 3 cr. ; A-F only; Periodic Fall)

Investigations of World Heritage conservation and nomination for the preservation of historic buildings and sites and their management for public use. Case studies link current practices, methods, and solutions with expert preservationists, site conservationists and local communities in the development and design of preservation strategies. prereq: MS in Arch-HP concentration or M.ARCH or MLA or instr consent

ARCH 5676. Economics of Heritage

Preservation. (; 3 cr. ; A-F only; Periodic Fall) Theory and practice of heritage preservation-based community redevelopment/economics. Financial aspects of real estate development. Case studies of recent historic rehabilitation projects throughout Minnesota. Financial feasibility and compliance with design guidelines/regulatory aspects. Financial incentives in other states/how new policies in Minnesota might positively influence preservation activity.

ARCH 5686. Research Practices Final Project: Research into Practice. (4 cr. ; A-F only; Every Fall)

The course is the first of a three-??course final project sequence required as the capstone experience for MS-??RP students. The course provides a forum for understanding the current state of research in the design and building industry and its trajectories and trends. Student projects will apply this knowledge to a regionally based commercial or non-????profit practices in the building industry, assessing the firm??s research capacity, mapping its potential in context of innovative precedents and suggesting future growth. prereq: MS-RP student

ARCH 5687. Research Practices Final Project: Practice into Research. (4 cr. ; S-N only; Every Fall)

Course is the second of a three-??course final project sequence required as the capstone experience for MS-??RP students. Building upon the previous semester understanding the state of research in the building industry, this course develops a single case study project in comparative context of contemporary practice. The work of individual students adds to a collective knowledge base on project best practices and development of industry-???? wide metrics and standards. Course meets concurrently with ARCH 5688 Representation of Case Studies. prereq: Arch 5686

ARCH 5688. Research Practices Final Project: Representation of Case Studies. (1 cr. ; A-F only; Every Fall)

The course is the third of a three-??course final project sequence required as the capstone experience for MS-??RP students. This course meets concurrently to ARCH 5687 Practice into Research. Information graphics are essential to

understanding and explaining critical issues in a case study. The format of information can be designed to emphasize comparisons between projects or to highlight unique characteristics of individual projects. This course will explore a variety of strategies commonly used in case study documentation and ask the student to apply one method to present the case developed in ARCH 5687. prereq: Arch 5686

ARCH 5689. Advanced Inclusive Professional Practice. (3 cr. ; A-F only; Every Fall)

Advanced inclusive professional practice class focuses on new and emerging issues in architectural practice including: Lean design, research practices, collaborative intercultural competence. Student projects include creation of interactive material and diagrams.

ARCH 5711. Theory and Principles of Urban Design. (; 3 cr. ; A-F or Audit; Every Spring) Seminar. Debate on dominant theories/paradigms informing city design from renaissance to 21th century. Critical issues central to current debates. prereq: M Arch major or LA grad major or grad student or instr consent

ARCH 5721. Case Studies in Urban Design. (; 3 cr. ; A-F or Audit; Every Spring)

Reading seminar. Evolution of contemporary city. Dynamics that created contemporary urban spatial patterns. Planning/design theories that have guided public interventions in built environment. Thematic texts, classroom discussions. prereq: Grad student or instr consent

ARCH 5731. Territorial City. (; 3 cr. ; A-F only; Every Fall)

Seminar. Students research, define, and test conditions within which the territory and contemporary city coexist. Site for research is Twin Cities metropolitan area. Readings, discussions, field trips, collaborative development of urban proposals.

ARCH 5750. Topics in Urban Design. (; 1-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer) Special topics in theory/practice of urban design.

ARCH 5756. Public Interest Design: Principles and Practices. (3 cr. ; A-F or Audit; Every Spring)

As the allied fields of design evolve in response to an increasing number of global challenges?inequity, social and political turmoil, disruptive climate-change, accelerating population growth?the question of how designers will address the needs of the most vulnerable among us is fundamental. Public Interest Design (PID), an emerging area of specialization within the design professions, specifically considers the concerns of the vast majority of the world's inhabitants who are historically under-resourced and ill-equipped to respond to the "Grand Challenges" facing humankind. With this mind, this introductory survey course has two aims: First, to critically examine the range of environmental, economic, social, and ethical issues that underpins

work with under-resourced domestic and international communities?including how these concerns can be collectively addressed to become more resilient; and second, to investigate organizational models that seek to broaden the traditional scope of the allied design fields as disciplines and professions by advocating a humanitarian basis for practice.

ARCH 5993. Directed Study. (; 1-4 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)

Guided individual reading or study. prereq: instr consent

Art (ARTS)

ARTS 1001. Introduction to Contemporary Art and Theory. (DSJ,AH; 3 cr. ; Student Option; Every Fall & Spring)

Introductory overview of contemporary artistic practices/theoretical foundations. Familiarization with contemporary critical/creative practices. Approaches to contemporary art through lens of cultural diversity/social justice.

ARTS 1001H. Honors Introduction to Contemporary Art and Theory. (AH,DSJ; 3 cr. ; A-F or Audit; Every Fall & Spring)

Introductory overview of contemporary artistic practices/theoretical foundations. Familiarization with contemporary critical/creative practices. Approaches to contemporary art through lens of cultural diversity/social justice. Prereq: Honors student

ARTS 1002. Art and Life: Thinking About Ethics Through Art. (AH,CIV; 3 cr. ; Student Option; Every Fall & Spring)

Case examples from visual arts. Ethical theories. Philosophical take on relationship between art, life, ethics.

ARTS 1101. Introduction to Drawing. (AH; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This is an introductory studio course that exposes students to the ideas, methods, and materials of drawing. Fundamental elements such as line, value, texture, shape and space are explored in works using media such as graphite, charcoal and ink on a variety of surfaces. Found and other source materials are utilized in collage and mixed-media works. In hands-on exercises and projects, students will create original work based on observation and imagination. This course will also introduce techniques and methods to realize and evaluate visual ideas. Technical demonstrations, lectures and exhibition visits will provide starting points for further explorations. Individual and group critiques will help students to address technical concerns and contextualize their work within the rich history of drawing. Studio work outside of class time is expected.

ARTS 1102. Introduction to Painting. (AH; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This is an introductory studio course that will focus on the fundamentals of painting (oil and/or acrylic). We will explore a variety of media, techniques, and subject matter.

Our assignments will emphasize developing the skills and understanding of basic painting fundamentals, using traditional and experimental approaches to painting, such as: color mixing and relationships, tone, mark-making, texture, abstraction, space, and visual language. There will be demonstrations, practice, field trip(s) and class discussion. We will develop the verbal and analytical skills necessary to critically examine students' work. We will look at historical and contemporary painters. This course provides an introduction the creative process through hands-on investigation, observation of the immediate environment, and the exploring the artist's imagination. Studio work outside of class is expected.

ARTS 1103. Introduction to Printmaking: Relief, Screen and Digital Processes. (AH; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Students will be introduced to techniques of relief printing using oil based inks, screenprinting using water based inks, and digital printmaking. Relief projects (linoleum and woodcut) emphasize the exploration of mark making, printing techniques and color layering. Screen print and digital applications will explore layering, color and image making strategies. Students will learn digital strategies for creating images in screen printing, working from both photo and drawn sources. The course includes the historical context and recent innovations for each process in order to develop contemporary applications for these each method. Students will develop meaningful content in conjunction with the acquisition of technical skills. Individual and group critiques will help students to address technical concerns and contextualize their work within the rich history of printmaking. Studio work outside of scheduled class time is expected.

ARTS 1104. Introduction to Drawing and Printmaking. (4 cr. ; Student Option; Every Fall & Spring)

This course exposes students to the ideas, methods, and materials of drawing and printmaking. Fundamental elements such as line, value, texture, shape and space are explored in works using media such as graphite, charcoal and ink on a variety of surfaces. Students will be introduced to printmaking methods through monoprinting and other immediate techniques. In hands-on exercises and projects, students will create original work based on observation and imagination. Slide lectures and critiques will help students to address technical concerns and contextualize their work within the rich history of these two graphic media. Studio work outside of scheduled class time is expected.

ARTS 1107. Introduction to Digital Drawing. (AH; 4 cr. ; Student Option; Every Fall & Spring)

This course introduces students to digital drawing as a means of expression. Students will experiment with methods of making marks on a surface or virtual surface, and the materiality and process of making those marks.

In this introductory drawing course, students will explore the realm of possibilities of digital technology as an essential component in a contemporary drawing practice. Elements such as line, value, texture, shape and space are explored in works using digital technology. Students will learn the basics of drawing using Wacom Bamboo, Cintiq tablets, and Adobe software applications. This class provides students with hands on experience with technological aids in art making such as a laser cutter, digital router, 3d printers, digital embroidery machine, vinyl cutter, and sonic welder. Students will also gain experience using large format Epson printers with a variety of materials. This class will use drawing to explore conceptual development and critical thinking. Individual and collaborative projects are aimed to provide students with technical ability while building concept and content in the work. Individual and group critiques will help students to address technical concerns and contextualize their work within the rich history of drawing. Studio work outside of scheduled class time is expected.

ARTS 1201. Art + Change: The Transformational Power of Art. (4 cr. ; Student Option; Every Fall & Spring)

Art+ Change: The Transformational Power of Art is an introduction to the complex and varied artist-centered approaches to the social, ethical, political, and environmental challenges of our times. As an emerging form of art, contemporary socially engaged art is not a monolithic practice and goals amongst practitioners exhibit a wide range of approaches. Artists may work towards changing dominant systems in order to foster more positive outcomes; other artists strive to acknowledge and call out complexity and contradictions of those same systems. While artists working in this field, commonly called social practice work, investigate a broad set of topics and media approaches, with varying motivations and intentions, what they share is a foregrounding of the subject and content that informs the work. This course examines the way engaged social art practice can lead to sustained connections and shared visions within communities and institutions; can create a more just and equitable culture; and can address many pressing environmental and social issues of our day. The class investigates the role of the art as a catalyst for social change. We will approach this through questions and dialogue, acknowledging that many of the tensions and contradictions cannot be resolved but are still worth the effort to recognize and address. This course combines a research-based learning environment with a strong studio- based component. Through readings, presentations, field trips, experiential and sensory opportunities, case studies, video presentations, and class project initiatives, we will explore the spectrum of contemporary strategies to a socially engaged approach to art. Students will create hands-on and a culminating collaborative creative project and will learn to identify themes, develop ideas individually, and collectively and execute these ideas through multiple ways of knowing and making of art projects. Through a variety of

media, students will be encouraged to explore issues and address themes that they are passionate about. Students will be assessed through their participation in discussion, through their writing, and the quality of their creative projects

ARTS 1203. Art + The Mississippi River. (4 cr. ; Student Option; Every Fall & Spring)

As the Mississippi River flows through campus, it shapes the site of a seventy-two-mile urban national park in the heart of Dakota homeland. Using the river as a basis for artistic inquiry, research, and collaborative practices, students engage in interdisciplinary creative explorations while learning about water ecologies and politics: mapping, book-making, digital photography, sound portraits, aerial photography, underwater photography, and performance. The Mississippi River, increasingly identified with the University of Minnesota, sparks our collective imagination and connects us through time, water, land, and culture. In this course we will focus on learning about the Mississippi, and ourselves, by cultivating a personal relationship with the river and experimenting with art to convey this. We will examine why place-based learning, systems thinking, and engaged individual and collective creative engagement can lead to out-of-the-box learning, art-making, and innovative solutions to challenging social and ecological problems. Students are not expected to have previous art experience but will be introduced to a number of media approaches. This class provides multiple opportunities to learn about how art intersects with other disciplines, including physics, geology, history, anthropology. Our process will value multiple ways of knowing, generate varied perspectives, emphasize peer-to-peer learning, and introduce a range of creative media, materials, and technologies. Class activities will include traveling on a river boat, launching aerial balloon cameras, visiting cultural, scientific, and historic places, and engaging in conversations with guest artists, architects, composers, scientists, and culture keepers. Many students at the University of Minnesota are looking for ways to be creative in how they connect to issues that they care about. This course introduces approaches that will assist students in learning how to initiate and create these types of art projects and practices.

ARTS 1701. Introduction to Photography.

(AH; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Presents conceptual, technical, historical aspects of photography within fine arts context. Emphasis on creative process through hands-on experience in use of camera, digital, black/white, darkroom processes.

ARTS 1704. Introduction to Moving Images.

(AH; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Introduction to Moving Images provides students with the fundamentals of moving image production including camera work, lighting, and sound. Students will explore audio/visual aesthetics and fundamental elements of narrative, experimental, and

animated moving images. Students create several short film projects, both individually and in groups and develop skills in critical evaluation through critique sessions that investigate the aesthetic, technical and cultural interpretation of moving images. This course is the prerequisite for intermediate level Department of Art courses in Moving Images including Narrative Digital Filmmaking, Experimental Film and Video, Animation and Super 8 and 16 mm Filmmaking.

ARTS 1801. Introduction to Ceramics: Wheel-Throwing and Hand-Building Techniques. (AH; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Interested in working with a material and practice that dates back 20,000 years? Want direct engagement with creative processes and materials that correlate the hand and the eye with the mind? The course introduces an exciting hands-on experience of ceramic three-dimensional object making. The course introduces general aspects of ceramic practice in art form, based on wheel-throwing and hand-building techniques, using electric and gas firing methods. It also deals with the basic visual concepts of three-dimensional form whether utilitarian object or non-utilitarian object. The assignments in this course introduce various fundamental elements, technically and artistically, of artistic ceramic production. Students become familiar with the processes and techniques of working with and firing clay, and also the artistic formal languages and experience of externalizing inner thought. Critiques will be used as a tool for developing critical thinking and project development. Finished pieces will be produced that reflect the full ceramic production experience.

ARTS 1802. Introduction to Sculpture: Understanding the Fundamentals of the Practice of Sculpture. (AH; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This course will help you gain an understanding of the fundamentals of sculpture through a studio practice with a variety of materials, concepts, techniques, and styles. The course is an introduction to the inherent nature of materials, the development of form in real space, and the shops and tools with which to create sculptural forms in our state-of-the-art facilities. We will focus on the foundations of sculpture through hands-on demonstrations of basic sculptural processes: for example, carving, modeling, assembling, and casting. You will also be exposed to, and experiment with, the diverse range of approaches, work methods, and topics that have occupied sculptors both past and present. Students learn the proper use and function of the wood and metal shops, as well as a variety of other tools and techniques, including new technologies such as the Laser Cutter and VR (Virtual Reality), along with more traditional techniques such as metal casting, paper folding, clay, and plaster. You will discover your individual creative process and aid the sculptural articulation of your conceptual issues through discussion and critique of your class accomplishments. Critiques will be used as a

tool for developing critical thinking and project development.

ARTS 1803. Introduction to Sculpture and Ceramics. (4 cr. ; Student Option; Every Fall & Spring)

This course introduces the fundamentals of sculpture and ceramics through a studio practice with a variety of materials, methods, and ideas. Through a studio practice, students will explore hands on experience to find a way to engage with creative production process. The finished pieces will be discussed through various points of views. The instruction in this class will be given through: 1. Demonstrations of techniques 2. Slide presentations and lectures 3. Individual assistance and instruction 4. Individual and group critiques / discussion and evaluation

ARTS 1914. Say Something, Make Something: Art and Language. (; 3 cr. ; A-F only; Every Fall)

Say Something, Make Something: Art and Language focuses on the ways contemporary artists use, re-use, and re-interpret language in their artworks. By utilizing the written word, artists expand their practice from traditional art materials to engage with the interdisciplinary field of language. Utilizing their interests and abilities in a variety of subjects and media, students in this course create works that are personal, engage audiences, and comment on the world around us. Classes include discussions of readings, writing warm-ups, demonstrations of technical skills, visiting artists, field trips, and more. Students will undertake a number of small writing assignments, complete three main art projects, attend art-related field trips, and participate in group discussion. Students learn and utilize a variety of art techniques in this course, including writing, photography, bookmaking, and printmaking.

ARTS 3110. Intermediate Drawing. (; 4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

An intermediate level course that expands upon skills learned in beginning drawing. Specialized drawing techniques in dry and wet media will be introduced as well as contemporary, experimental, and conceptual approaches and issues. prereq: 1101 or 1104

ARTS 3120. Intermediate Painting. (; 4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

This course explores traditional and nontraditional concepts and techniques of painting and the development of artistic voice. The goal of this course is to provide students with a working knowledge of techniques, materials, processes and aesthetic sensibilities related to contemporary painting. Exploration of individual approach and self-directed concepts are stressed. Students can choose to work with acrylics and/or oils. Studio work outside of scheduled class time is expected. prereq: 1102

ARTS 3130. Intermediate Printmaking: Traditional and Contemporary Approaches. (; 4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

The print as vehicle for conceptual/personal expression. Traditional printmaking techniques, evolving contemporary processes for realizing visual concepts. Historical/cultural development of multiple/matrix as means of communication. prereq: 1103 or 1104

ARTS 3140. Figure Drawing. (4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

This course is designed to develop ability in drawing through observation and interpretation of the human form. Some in class work and assignments will be structured with strict limitations, including choices of media. Students will explore contemporary viewpoints and modern aspects of the figure through slide lectures and class discussions. Prereq: 1101 or 1104

ARTS 3150. Dimensional Painting. (; 4 cr. [max 12 cr.] ; Student Option; Every Spring)

This course explores the hybridization of painting, sculpture, and installation. The illusionary space and techniques of two dimensional media is combined and co-exists with three dimensional sculptural approaches. Students will discover their own solutions to painting in space. Formats for projects include wall constructions, wall paintings, object-based paintings, found objects, assemblage, reliefs, floor works, and installations. The students will also explore a vast number of materials, and the technical problems and solutions that are possible. Historical and contemporary artists and concepts that are relevant to dimensional painting will also be introduced. Studio work outside of class is expected. prereq: 1102

ARTS 3170. Intermediate Digital Drawing. (; 4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Possibilities of digital technology as tool and component in contemporary, creative drawing practice. prereq: 1107

ARTS 3180. Zines, Comics, and Books. (4 cr. [max 12 cr.] ; A-F or Audit; Every Spring)

This class introduces students to the culture and creation of artists books, comics, and zines. Students will generate one example of each format, while being exposed to a wide range of works and relevant processes. We will view and read examples across cultures and develop an understanding of the history and contemporary context for making artists books. We will look at zines that embrace punk culture, gay culture, counter culture, and feminist movements. We will read graphic novels and connect with the local comics scene. We will visit archives of artists books in the Twin Cities, starting with the impressive collection at the University of Minnesota. Students will learn basic letterpress printing and screen printing as well as other generative techniques for self-publishing, from the copy machine to internet publishing. Students will also be introduced to binding techniques for the artists' book section of this class.

ARTS 3190. Mixed Media on Paper. (; 4 cr. [max 12 cr.] ; Student Option; Every Spring)

Discover the artistic possibilities of wet and dry mixed media on paper, including water-based painting, wet and dry drawing, and collage. Learn strategies for image-making, techniques

for pairing different media, and color theory through both representational and abstract imagery. Explore various subject matter, including images from the imagination, direct observation of the immediate environment, and reference images from a variety of sources. Projects encourage self-directed content and the development of individuals' artistic voice. Students are introduced to contemporary and historical painting, drawing, and mixed media practices as context for art-making. We will develop the verbal and analytical skills necessary to critically examine students' work. This course provides a focus on the creative process through hands-on investigation. Class time includes student work time, introduction to projects, demonstrations, individual feedback from the instructor, and class critiques. Studio work outside of class is required.

ARTS 3206W. Art + Ecology. (WI; 4 cr. ; A-F or Audit; Every Fall)

Art + Ecology explores the history, theory, and contemporary practice of artists engaged with the ecological issues of our time. This seminar offers an introduction to the dynamic and emerging field of Environmental Art, focusing on the ways in which artists use creativity to work across disciplines to address ecological concerns. This course investigates the role contemporary artists play as catalysts in relation to a range of concerns, including environmental justice, mass extinction, climate change, and treatment of "waste" as well as issues of the quality of the air, water, soil, and habitat. This seminar also will introduce the notion of artists as agents of change who build communities of ecologically aware practices around interrelated environmental and social issues. Students will be encouraged to see how their creativity and imagination can contribute to finding solutions to pressing environmental problems.

ARTS 3230. Sound Art. (; 4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

This Sound Art course is designed to cultivate your curiosity about the sonic as a contemporary art modality. It provides an introduction to diverse practices, techniques, and ways of thinking about sound while encouraging you to develop and expand upon your creative work. Students produce creative projects using sound as primary material. History of experimental sound art from early 20th century to present. Critiques, readings, writing, public presentations will be included weekly.

ARTS 3250. Art + Performance. (; 4 cr. [max 12 cr.] ; Student Option; Periodic Fall & Spring)

Studio practice, investigation of forms of expression involving narrative, performance, installation. Hybrid art forms introduced by Dada movement in 1920's, continued by Fluxus movement in 1950's, to contemporary performance/installation artists.

ARTS 3401V. Honors: Critical Theories and Their Construction From a Studio Perspective. (AH,WI,CIV; 3 cr. ; A-F or Audit; Every Fall)

This honors course examines primary critical theories that shape analysis of works of art.

Evaluation of works from artist's perspective. Theory as organizational structure from which to understand contemporary works. prereq: [junior] or instr consent

ARTS 3401W. Critical Theories and Their Construction From a Studio Perspective. (WI,CIV,AH; 3 cr. ; Student Option; Every Fall & Spring)

Primary critical theories that shape analysis of works of art. Evaluation of works from artist's perspective. Theory as organizational structure from which to understand contemporary works. prereq: instr consent

ARTS 3404W. Professional Practices in the Arts. (WI; 3 cr. ; A-F only; Periodic Fall & Spring)

Professional Practices in the Arts is a course that examines practical applications of presentation, documentation, business skills, and career planning specific to studio art. It provides a foundation of practical information to assist undergraduate and graduate studio majors in building a successful career. The course consists of lectures, discussions, readings, presentations, and demonstrations. The class will spend a significant amount of time discussing different types of art venues and the appropriate contexts for different types of work. Additionally, we will assess and interpret individual students' work as a means to generating appropriate questions and insights for artists statements. prereq: Grad student or [Art BFA student or Art Major, jr or sr]

ARTS 3415H. Honors Exhibition. (; 2 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Advanced problems in studio and research, leading to a magna or summa exhibition. prereq: [Magna or summa honors candidate], instr consent, dept consent

ARTS 3416H. Honors Thesis: Supporting Paper. (; 1 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Summa thesis paper written in support of honors exhibition or in relation to candidate's visual/conceptual interests. prereq: Summa level honors candidate, instr consent

ARTS 3481. Curatorial Practice Field Experience. (; 3 cr. ; A-F only; Every Fall & Spring)

This course looks at current critical questions of curating and exhibition making. We explore the process of developing an exhibition, building working relationships with artists and understanding how to effectively communicate ideas to turn a concept into a project. The course assumes that curating has also evolved from a practice associated with a museum art expert to something that is increasingly framed as a creative marketable skill related to cultural production. Discussions, readings, and coursework include consideration of gallery and public space and audience experience. Curatorial trends will be explored via site visits to established and alternative exhibit spaces. Students are introduced to a wide variety of artists and how their work is contextualized by the exhibition format. Site visits to exhibition spaces and conversations

with professional curators reinforce the course material. Through practice and application, students examine the evolving definitions and responsibilities of a curator, and a variety of issues related to the development of a coherent and relevant exhibition. Students participate in hands-on, curatorial workshops, and curate a professional, public presentation using a nontraditional space, gallery space, digital space or other local venue.

ARTS 3490. Workshop in Art. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Selected topics and intensive studio activity; topics vary yearly.

ARTS 3499. Internship at Katherine E. Nash Gallery. (3 cr. ; A-F only; Every Fall, Spring & Summer)

Hands-on experience in day-to-day operation/mission of Department of Art's professional gallery. prereq: 1001 or ARTH 1XXX or instr consent

ARTS 3710. Black and White Darkroom Photography. (; 4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Classical photographic practice, concentrating on camera and darkroom controls. Historical overview of the medium. Conceptual and contemporary approaches to traditional themes. prereq: 1701

ARTS 3720. The Extended Image. (; 4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

This course explores the use of photography and moving image in expanded interdisciplinary practice. Modes could include installation, performance, social engagement, online and interactive formats, incorporating sound, text and traditional 2D and 3D media. prereq: 1701 or 1704

ARTS 3730. Intermediate Digital Photography. (4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Photographic digital imaging in fine arts. Manipulation, computer applications. Editing in photo imaging software. prereq: 1701

ARTS 3740. Lighting and the Constructed Image. (4 cr. [max 12 cr.] ; Student Option; Every Spring)

Take charge of your photographs and moving images. This class is about making pictures vs. taking pictures. Students will learn to use flash and continuous light sources to shape the content and feeling of your work, to create worlds, characters, and stories. Some projects will be specific to still photography, but you will have the option of working with moving image in others. You will learn principles of lighting that apply to all media. In addition to lighting, the use of props, sets, costumes and digital manipulation will be explored in a series of student projects. We will learn to control and shape light in the studio and on location, in table-top setups and large-scale outdoor productions. We will look at contemporary and historic artists in all genres who are masters of the constructed image. There will be a lot of hands-on skills taught in this class, but always

in the service of exploring and expressing your personal vision. prereq: ARTS 1701 Introduction to Photography

ARTS 3750. Narrative Digital Filmmaking. (4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Narrative forms of video. Documentary, live action, memoir, experimental forms. Digital video production and editing. Personal aesthetic and conceptual directions. Theory, critical readings about historical and contemporary works in video. prereq: [1704 or instr consent]

ARTS 3760. Experimental Film and Video. (4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Experimental approaches in producing digital video within a contemporary art context. Using digital media technologies in installation, performance, and interactive video art. Emphasizes expanding personal artistic development. Theoretical issues, critical/historical readings/writings in media arts. prereq: ARTS 1704

ARTS 3770. Animation. (; 4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Creating ideas visually with 2- and 3-dimensional animation technologies. Vector- and layer-based raster animation. Modeling objects and spaces, creating textures, lighting, movement, sound track. prereq: ARTS 1704

ARTS 3780. Super 8 and 16 MM Filmmaking. (4 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)

This course will explore the medium of Super 8 filmmaking in the tradition of the experimental and avant ?garde. We will focus on the physicality of the film stock, the basic mechanics of the camera and projector, and how these elements translate into a visual language and aesthetic. Students will learn how to shoot, process, edit, splice, project, and transfer their own super 8 films. This course will balance the technical, conceptual, and historical aspects of small? gauge or amateur analog filmmaking, and address what it means to work in this medium at the beginning of the 21st century. The course will include presentations, readings, and discussions on contemporary and historical artists in the medium, as well as outside film screenings and lectures. Classroom visits by artists will also provide an informed context for the primary course objective.

ARTS 3790. Phone It In: Mobile Imaging and the Connected World. (; 4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

The making and sharing of still and moving images has fundamentally changed since the advent of the smartphone. And these images help change the world. The 10-minute video of the murder of George Floyd by Minneapolis police on May 24, 2020 was shot by a high school student, who said ?The world needed to see what I was seeing.? Social distancing in response to the COVID-19 pandemic also highlights the impact of this technology. While our physical mobility may be limited, our mobile devices not only augment our

experience of the world, in many ways they replace it. This is a hybrid art class involving both making and sharing of photographs, as well as readings, presentations and discussions. We will explore how mobile imaging technology and connectivity have transformed photography, as well as every other aspect of our lives- emotional, social, political, economic, and health. We will learn about the history, technology and infrastructure of mobile devices and the internet. This is a rapidly changing topic, and our exploration format will be one of co-teaching and co-learning for instructor and students alike. This is not your grandparents' photo class (although it is open to all generations.)

ARTS 3820. Ceramic: Wheel Throwing. (; 4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Expands wheel-throwing skills, develops aesthetic awareness of ceramic forms. Kiln firing, glaze formulation. prereq: 1801

ARTS 3830. Ceramic Sculpture. (; 4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Intermediate hand building. Development of abilities, critical awareness. Kiln firing, glaze formulation. prereq: 1801

ARTS 3850. Foundry and Metal Sculpture. (; 4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Metal casting of sculpture in bronze, iron, aluminum, other metals. Studio practice, investigation of historical/contemporary methods and concepts. Development of personal sculptural imagery. prereq: ARTS 1802

ARTS 3860. Sculpture and Installation. (4 cr. [max 12 cr.] ; Student Option; Periodic Fall & Spring)

This class will examine the historical and contemporary aspects of sculpture installation art. The structure of this studio course provides space for in-depth research, idea development, individual exploration, experimentation, play and critical feedback. This course is not media specific, you will be working with materials that work with the concepts in your practice. You are encouraged to explore the use of sound, video and performance in your installations. A generous amount of studio time is allowed for studio work and personal exploration augmented by readings, field trips and visiting artist lectures. prereq: 1802

ARTS 3890. 3D Modeling and Digital Fabrication. (4 cr. [max 12 cr.] ; Student Option; Every Spring)

In this class, students will learn the basic skills of 3D computer modeling and digital fabrication to generate objects using the Department of Art's 3D Printers, 3-axis CNC Router and Laser Cutter. Instruction includes computer modeling in Adobe Illustrator and Rhino, transfer of files and object fabrication.

ARTS 3896. Internship. (; 1-3 cr. [max 6 cr.] ; S-N or Audit; Every Fall, Spring & Summer)

Field work at local, regional, national, or international arts organization or with professional artist provides experience in activities/administration of art/art-based

organizations. prereq: BFA Art major, instr consent

ARTS 5105. Advanced Dimensional Painting. (; 4 cr. ; Student Option; Every Spring)

Illusionary space applied to sculptural forms. Practical applications of spatial/painterly concepts. Emphasizes critical/visual judgment. Development of cohesive body of work reflecting interaction of two/three dimensions. prereq: 3105 or instr consent

ARTS 5110. Advanced Drawing. (; 4 cr. [max 16 cr.] ; Student Option; Every Fall & Spring)

This studio course provides students the opportunity to investigate individual ideas and work on self-guided projects within a communal learning environment. Students will be encouraged to develop and execute their ideas with skillfulness and clarity. Through a consideration of diverse materials and practices, students will develop a proficiency in the language of contemporary drawing or painting. This course is designed to assist students in making connections between their own work and larger global themes and issues. Group and individual critiques, field trips, reviewing the work of other artists and readings will supplement studio work. Students are expected to spend time working on their projects outside of scheduled class time. prereq: Art major and ARTS 3110

ARTS 5120. Advanced Painting. (; 4 cr. [max 16 cr.] ; Student Option; Every Fall & Spring)

This studio course provides students the opportunity to investigate individual ideas and work on self-guided projects within a communal learning environment. Students will be encouraged to develop and execute their ideas with skillfulness and clarity. Through a consideration of diverse materials and practices, students will develop a proficiency in the language of contemporary painting. This course is designed to assist students make connections between their own work and larger global themes and issues. Group and individual critiques, field trips, reviewing the work of other artists and readings will supplement studio work. Students are expected to spend time working on their paintings outside of scheduled class time. prereq: ARTS 3120 and ARTS major

ARTS 5140. Advanced Printmaking. (; 4 cr. [max 16 cr.] ; Student Option; Every Fall & Spring)

In-depth research of personal imagery using a broad range of historical and contemporary applications. Development of imagery using color, photo-mechanical, digital processes. Cross-media approaches. Prereq: ARTS 3130

ARTS 5230. Advanced Art + Sound. (; 4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Sound art practice/theory. Emphasizes individual creative projects using sound as primary material. History of experimental sound art from early 20th century to present. Critiques, readings, writing, public presentations. prereq: ARTS major and 3605 or 3230

ARTS 5250. Art + Performance. (; 4 cr. [max 12 cr.]; Student Option; Periodic Fall & Spring) Studio practice in performance art and installation; investigation of historical and contemporary methods and concepts of interdisciplinary expression. Development of personal imagery. Prereq: ARTS major

ARTS 5260. Art + Interdisciplinary Collaborations. (; 3 cr. [max 9 cr.]; Student Option; Every Fall & Spring) Interdisciplinary, collaborative artist teams explore modes of creative expression at intersections of the arts. Students collaborate to co-author/produce works of art for public presentation. Emphasizes integration of media arts with visual art, music, dance, and theater to produce interdisciplinary/collaborative art. prereq: Upper-division undergraduate or graduate student in art, creative writing, dance, music or theater.

ARTS 5401W. BFA Seminar Capstone 1: Concepts and Practices in Art. (WI; 3 cr.; Student Option; Every Fall & Spring) Various ideologies, cultural strategies that influence practice/interpretation of art. Emphasizes diversity of viewpoints. Application of issues in developing final BFA exhibition.

ARTS 5404. BA Capstone and Exhibition. (3 cr.; S-N only; Every Fall & Spring) The BA Capstone and Exhibition will focus on building professional skills, developing a strong studio practice, and preparing for an exhibition in Regis Center Public Spaces.

ARTS 5407. BFA Capstone 2: Critique and Exhibition. (; 4 cr.; A-F only; Every Spring) This critique-based seminar will provide a structured critical forum for the discussion of your work, help you to verbally articulate and defend your work and prepare you in the presentation of your work. This is a self-motivated and self-directed class. It is expected that you will produce a substantial amount of work to show in this course. Your work is self-directed artwork created from assignments (in other classes) will not be critiqued. Each artist will have two one-hour critiques of their work over the course of the semester. Critiques may include members from the arts community such as local artists, MIA, Midway Contemporary Art, Walker Art Center, The Soap Factory and Franklin Artworks. Grades are based on critique participation, attendance and your artist presentation. This class culminates in the BFA Exhibition in the Nash Gallery. Throughout the semester, we will meet with Nash Gallery staff to develop this final show.

ARTS 5490. Workshop in Art. (; 1-4 cr. [max 48 cr.]; Student Option; Every Fall, Spring & Summer) Selected topics and intensive studio activity. Topics vary yearly.

ARTS 5610. New Media: Making Art Interactive. (; 4 cr. [max 12 cr.]; Student Option; Periodic Fall & Spring) Conceptual/aesthetic development with digital, interactive art. Experimental approaches to interactive technologies. Projects with responsive/tangible media. Theory/history of new media. prereq: 3601 or instr consent

ARTS 5710. Advanced Photography and Moving Image Projects. (; 4 cr. [max 16 cr.]; Student Option; Every Fall & Spring) Design/implementation of individual advanced projects. Demonstrations, lectures, critique. Reading, writing, discussion of related articles/exhibitions. prereq: previously completed a 3XXX course in Photography or Moving Images and Art major

ARTS 5750. Advanced Narrative Digital Filmmaking. (; 4 cr. [max 12 cr.]; Student Option; Every Fall & Spring) Narrative forms of video. Documentary, live action, memoir, experimental forms. Digital video production and editing. Personal aesthetic and conceptual directions. Theory, critical readings about historical and contemporary works in video. prereq: 3750

ARTS 5760. Experimental Film and Video. (; 4 cr. [max 12 cr.]; Student Option; Every Fall & Spring) Experimental approaches in producing digital video within a contemporary art context. Using digital media technologies in installation, performance, and interactive video art. Emphasizes expanding personal artistic development. Theoretical issues, critical/historical readings/writings in media arts. prereq: ArtS major, ArtS 1704

ARTS 5770. Animation. (; 4 cr. [max 12 cr.]; Student Option; Every Fall & Spring) Creating ideas visually with 2- and 3-dimensional animation technologies. Vector- and layer-based raster animation. Modeling objects and spaces, creating textures, lighting, movement, sound track. prereq: Art major

ARTS 5780. Advanced Super 8 and 16 MM Filmmaking. (4 cr. [max 8 cr.]; A-F or Audit; Every Fall & Spring) This course will explore the medium of Super 8 filmmaking in the tradition of the experimental and avant ?garde. We will focus on the physicality of the film stock, the basic mechanics of the camera and projector, and how these elements translate into a visual language and aesthetic. Students will learn how to shoot, process, edit, splice, project, and transfer their own super 8 films. This course will balance the technical, conceptual, and historical aspects of small gauge or amateur analog filmmaking, and address what it means to work in this medium at the beginning of the 21st century. The course will include presentations, readings, and discussions on contemporary and historical artists in the medium, as well as outside film screenings and lectures. Classroom visits by artists will also provide an informed context for the primary course objective. Prereq: Art major

ARTS 5810. Advanced Ceramics. (; 4 cr. [max 16 cr.]; Student Option; Every Fall & Spring) Critical discourse of aesthetics. History of, contemporary issues in clay and criticism. Independent, advanced projects. prereq: ARTS major and ARTS 3820 or ARTS 3830

ARTS 5850. Advanced Foundry and Metal Sculpture. (4 cr. [max 12 cr.]; Student Option; Every Fall & Spring)

Metal casting of sculpture in bronze, iron, aluminum, other metals. Studio practice, investigation of historical/contemporary methods and concepts. Development of personal sculptural imagery. prereq: Art major

ARTS 5860. Advanced Sculpture. (; 4 cr. [max 12 cr.]; Student Option; Every Fall & Spring)

This advanced Sculpture course is a self-motivated and self-directed studio class to help you develop and maintain a personal studio practice. The structure of this studio course provides space for in-depth research, idea development, individual exploration, experimentation, play and critical feedback. Prereq: ARTS major and ARTS 3860

ARTS 5890. 3D Modeling and Digital Fabrication. (4 cr. [max 12 cr.]; Student Option; Every Spring) In this class, students will learn the basic skills of 3D computer modeling and digital fabrication to generate objects using the Department of Art's 3D Printers, 3-axis CNC Router, and Laser Cutter. Instruction includes computer modeling in Adobe Illustrator and Rhino, transfer of files, and object fabrication. Prereq: ARTS major

ARTS 5990. Independent Study in Art. (1-4 cr. [max 12 cr.]; Student Option; Every Fall & Spring) Independent study project designed by student in consultation with instructor. prereq: Major, completed regular course with instructor, instr consent

Art History (ARTH)

ARTH 1001. Introduction to Art History: Prehistoric to Contemporary. (AH; 4 cr.; Student Option; Every Fall & Spring) Major monuments/trends in art, prehistoric to present. Style, subject matter, patronage. Reconstructing artworks' original setting: religious, political, and social contexts. Western canon, occasionally in comparison with non-Western works.

ARTH 1002W. Why Art Matters. (AH,WI,GP; 4 cr.; Student Option; Every Fall) Introduction to history of topics that investigate power/importance of art both globally and in its diverse forms, from architecture and painting to video and prints. Sacred space, propaganda, the museum, art/gender, art/authority, tourism.

ARTH 1004W. Introduction to Asian Art. (HIS,WI; 4 cr.; Student Option; Every Fall & Spring) This one-semester course is an introduction to painting, sculpture, and architecture from South, Southeast, and East Asia. It will cover works from ancient cultures to those of contemporary Asian diasporas. Resisting the impossible task of covering everything, we will instead home in on specific objects in order to understand them in their broader cultural, religious, and social contexts. We will trace the ways in which common themes and problems appear in different art forms and in different places, and we will discover the ways in which seemingly disparate styles and objects may be

productively understood in conversation with each other. We will work together to create an interpretive model that is synthetic, critical, and appreciative of the enormously diverse field that is Asian Art. Lectures will move from explanatory descriptions of objects and histories that are covered in the textbook to critical interpretations of the historiographies that shape the contemporary reception of Asian art.

ARTH 1915. Broadcasts: Art, the Media, and Political Turmoil, the 1960s and Today. (; 3 cr. ; A-F only; Periodic Fall)

Violence, racial reckoning, war, and media manipulation, the 1960s and the 2000s are periods of political turmoil where artists examine, question, and create alternatives to the news media. This course studies artistic responses to such public crises as the Kennedy Assassination and the Capitol Insurrection, the Vietnam War, and Black Lives Matter.

ARTH 1916. Witches, Ghosts, and Evil Clowns: Figures of Fear in Art, Folklore, and Popular Culture. (; 3 cr. ; Student Option; Every Fall)

From ancient images through popular culture and social media, our art, stories, and beliefs have been filled with figures of fear. The returning dead, people with weird powers, demons, monsters, and mad killers haunt our dreams, but also seem to show up during waking hours. People have committed acts of violence based on fears of such beings. Yet we are also drawn to them, depicting and playing with them, and taking on their guises to scare ourselves for fun. This course will investigate these figures of fear, using approaches from art history, folklore, anthropology, and other fields. We will read a variety of texts, and will also encounter and think about legends, art, movies, literature, games, costumes, haunted houses, and objects used for magic and protection. This course will help you build skills of close observation and visual analysis, learn surprising things about your own surroundings, think critically about culture, and deepen your appreciation for the cultural knowledge and play of communication that make folklife, art, and popular culture so rich and remarkable.

ARTH 1921W. Introduction to Film Study.

(AH,WI; 4 cr. ; Student Option; Every Fall)
Fundamentals of film analysis and an introduction to the major theories of the cinema, presented through detailed interpretations of representative films from the international history of the cinema.

ARTH 3005. American Art. (AH; 3 cr. [max 4 cr.] ; Student Option; Periodic Fall & Spring)

Artistic practice in the United States: colonial period to cold war. America as idea/identity shaped, expressed, represented, and contested through art. Canon of American art history. Works by individuals outside of traditional channels of art instruction/reception. Questions about what does/does not count as art history.

ARTH 3009. Medieval Art. (AH; 3 cr. ; Student Option; Every Fall & Spring)

Medieval art in Western Europe, from around 1000 to the mid-14th century. Works from France, Spain, Germany, Italy, and England examined in their historical context. Cross cultural relations, development of completely new forms of art and techniques, and the processes of realization.

ARTH 3012. 19th and 20th Century Art. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Major monuments/issues of modern period. Sculpture, architecture, painting, prints. Neo-classicism, romanticism, realism, impressionism, evolution of modernism, symbolism, fauvism, cubism, dadaism, surrealism, abstract expressionism, pop art, conceptualism, postmodernism.

ARTH 3014W. Art of India. (AH,WI,GP; 3 cr. ; Student Option; Every Spring)

Indian sculpture, architecture, and painting from the prehistoric Indus Valley civilization to the present day.

ARTH 3015W. Art of Islam. (AH,WI,GP; 3 cr. ; Student Option; Every Fall)

Architecture, painting, and other arts from Islam's origins to the 20th century. Cultural and political settings as well as themes that unify the diverse artistic styles of Islamic art will be considered.

ARTH 3018. Art of the Ottoman Empire. (3 cr. ; Student Option; Periodic Fall & Spring)

This course offers a wide-ranging introduction to visual culture under the Ottoman Empire. Initially formed as a small principality at the beginning of the fourteenth century in Anatolia, the Ottoman polity established itself as a major political and military power through the early modern period and beyond. With emphasis placed upon key monuments and objects, we will examine an array of artistic media, ranging from manuscript illumination and calligraphy to ceramics, textiles, metalwork, glasswork and jewelry. Major themes include the urban transformation of the Byzantine capital; the formation of imperial ideology and its visual articulation, the formation of a distinctive imperial style across media; the operation of court ateliers and societies of artists and artisans; contacts and interactions with the European and Islamic contemporaries; and cultural and artistic "decline."

ARTH 3019. Buddhist Art and Architecture.

(3 cr. ; Student Option; Periodic Fall & Spring)
This class provides an introduction to Buddhist art and architecture, from the sixth-century BCE to the present. Beginning with the life of the historical Buddha (563-483), it will follow the development of Buddhist art in India before tracing it across the Silk Road to China, Korea, and Japan. The class will consider how art and architecture evolved to serve the needs of Buddhism as its doctrine and practice evolved. At the same, we will consider how Buddhist cosmology and metaphysics were translated into culturally specific modes that served the multifarious cultural and artistic traditions of Asia.

ARTH 3021. Art and Revolution, 1789-1889. (3 cr. ; Student Option; Periodic Fall & Spring)

The visual arts both reflected and shaped the large-scale transformations?from imperialism to the rise of the ?new? woman?that defined the modern world as we know it. Focusing on European artworks produced between 1789 and 1889, we'll investigate how paintings, sculptures, prints, and photographs both illustrated and fashioned the revolutionary character of the period and the enduring legacies of the nineteenth century today.

ARTH 3152. Art and Archaeology of Ancient Greece. (HIS; 3 cr. ; Student Option; Periodic Fall & Spring)

This course will provide an introduction to the history of Greek art, architecture and archaeology from the formation of the Greek city states in the ninth century BCE, through the expansion of Greek culture across the Mediterranean and Asia in the Hellenistic period, to the coming of Rome in the first century BCE. While this survey concentrates on the main developments of Greek art, an important sub-theme of this course this is the changes Classical visual culture underwent as it served non-Greek peoples, including the role it played for Alexander and his successors in forging multiethnic, globally minded empires in Western, Central and South Asia. No background in the time period or discipline is expected and therefore this class will also serve as an introduction to interdisciplinary study of art history and the classical world. A number of art historical methodologies will be introduced in order to not only give students a useful background in art history but to give them the tools to think as art historians and incorporate related visual and textual evidence meaningfully into their writing.

ARTH 3162. Roman Art and Archaeology. (HIS; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

Introduction to history of Roman art, from formation of city-state of Rome under Etruscan domination, to transformation of visual culture in late antiquity under peoples influenced by the Romans.

ARTH 3182. Egypt and Western Asia: Art and Archaeology of Ancient Egypt and Western Asia. (AH,GP; 3 cr. ; Student Option; Every Fall & Spring)

This course will provide students with foundational knowledge in the art, architecture, and archaeology of Egypt, East Africa, Asia Minor, Mesopotamia, Iran and Central Asia from the Neolithic through Late Antiquity (ca. 7,000 B.C.E. - 650 C.E.). Students will gain an understanding of the relationship between the visual material and the social, intellectual, political, and religious contexts in which it developed and functioned. In this regard, students will also gain an understanding of the evolution of, and exchanges and differences among, the visual cultures of these time periods and regions. It will also expose them to the preconditions for contemporary geopolitics in the region.

ARTH 3216W. Chicana and Chicano Art. (WI; 3 cr. ; Student Option; Periodic Fall & Spring)

A Chicana/o has been described as a Mexican-American with a political sense of identity

that emerges from a desire for social justice. One journalist bluntly stated, "A Chicano is a Mexican-American with a non-Anglo image of himself" (Ruben Salazar, Los Angeles Times, 1970). This identity emerged through the Chicano Movement, a social and political mobilization that began in the 1960s and 1970s. The Chicano Movement witnessed the rise of community-based political organizing to improve the working conditions, education, housing opportunities, health, and civil rights for Mexican-Americans. For its inception, the Chicano Movement attracted artists who created a new aesthetic and framework for producing art. A major focus of Chicana/o artists of the 1960s and 1970s was representation, the right to self-determination, and the role of art in fostering civic and public engagement. This focus continues to inform Chicana/o cultural production. Social intervention, empowerment, and institutional critique remain some of the most important innovations of American art of the last several decades, and Chicana/o artists played a significant role in this trend.

ARTH 3309. Renaissance Art in Europe. (AH; 3 cr. ; A-F or Audit; Every Fall & Spring) Major monuments of painting/sculpture in Western Europe, 1400-1600. Close reading of individual works in historical context. Influence of patrons. Major social/political changes such as Renaissance humanism, Protestant Reformation, market economy.

ARTH 3311. Baroque Art in Seventeenth Century Europe. (AH; 3 cr. ; Student Option; Every Spring) Dominant trends/figures of Italian, French, Flemish, and Dutch Baroque period. Works of major masters, including Caravaggio, Bernini, Poussin, Velazquez, Rembrandt, and Rubens. Development of illusionistic ceiling decoration. Theoretical basis of Baroque art. Art's subservience to Church and royal court.

ARTH 3312. European Art of the Eighteenth Century: Rococo to Revolution. (HIS; 3 cr. ; Student Option; Every Fall) Major developments in 18-century painting, sculpture, and interior decoration, from emergence of Rococo to dawn of Neoclassicism. Response of art to new forms of patronage. Erotics of 18-century art. Ways art functioned as social/political commentary.

ARTH 3313. Spanish Baroque Masters: Tradition and Experimentation in Golden Age Spain. (HIS; 3 cr. ; Student Option; Periodic Fall & Spring) This seminar focuses on some of the major masters of Spanish Baroque art, including Francisco de Zurbarán, Diego Velázquez, Jusepe de Ribera, Bartolomé Esteban Murillo, and Juan Sánchez Cotán. We will explore their works from a variety of perspectives in an effort to understand the unique character and contributions of the art of the Spanish Golden Age.

ARTH 3315. The Age of Curiosity: Art, Science & Technology in Europe, 1400-1800. (AH,TS; 3 cr. ; Student Option; Periodic Fall & Spring)

Diverse ways in which making of art and scientific knowledge intersected in early modern Europe. Connections between scientific curiosity and visual arts in major artists (e.g., da Vinci, Durer, Vermeer, Rembrandt). Artfulness of scientific imagery/diagrams, geographical maps, cabinets of curiosities, and new visual technologies, such as the telescope and microscope.

ARTH 3335. Baroque Rome: Art and Politics in the Papal Capital. (HIS; 3 cr. ; Student Option; Fall Even Year) Center of baroque culture--Rome--as city of spectacular and pageantry. Urban development. Major works in painting, sculpture, and architecture. Ecclesiastical/private patrons who transformed Rome into one of the world's great capitals.

ARTH 3401W. Art on Trial. (AH,WI,CIV; 3 cr. ; Student Option; Periodic Fall & Spring) Why does art so often elicit anger, debate, protest, and vandalism? Arts controversies raise many difficult questions that this class examines: should artists be allowed to use taxpayer funds to create works of art critical of the government or that some find offensive? Should public sculptures commemorate Confederates, slave owners, or colonialists? How do we know when something is obscene? Is censorship ethical? Do artists have the right to control the fate of their work after it is sold? Who should decide what artists are chosen for public commissions, what artworks are selected for public buildings, or how works of art should be interpreted? Does public opinion make bad art? This course trains students in the history of arts controversies in the United States from the 19th century to the present and in the changing social conditions through which art has become a flashpoint for public debate. Assignments focus on discipline-specific research and writing techniques that build toward a group project in which students research, take up positions, and debate the merits of important case studies. The class is primarily designed for students to learn about the arts and arts policy today, i.e., the art world of which they are and will be citizens. They are asked to inspect the sources of dominant cultural beliefs and to gain a deeper understanding of and take responsibility for their own cultural, political, and artistic values.

ARTH 3422. Off the Wall: History of Graphic Arts in Europe and America in the Modern Age. (; 3 cr. [max 4 cr.] ; Student Option; Periodic Fall & Spring) History/theory of creation of lithography, social caricature (e.g., Daumier, Gavarni), revival of etching (e.g., Goya/mid-century practitioners, Whistler), and color lithography (e.g., Toulouse-Lautrec, Vuillard, Bonnard). Media changes of 20th century. Revolutionary nature of new media.

ARTH 3434. Art and the Environment. (AH,ENV; 3 cr. ; Student Option; Every Fall & Spring) Historical development of land, earth, and environmental art since 1968. Artists' engagement with environmental problems. Responses to changing aesthetic,

political, biological, economic, agricultural, technological, and climactic conditions from global perspective.

ARTH 3464. Art Since 1945. (HIS; 3 cr. ; Student Option; Periodic Spring) The end of the Second World War is commonly understood as a watershed moment in art history when the center of western art shifted from Paris to New York and the old tradition of art academies and annual salons disappeared once and for all. It is a moment that sees dramatic changes in who artists are, how they are trained, what kind of art they make, and the audiences to whom they appeal. This course surveys U.S. and European art history from 1945 to the present so that students gain a thorough understanding of the social, political, and economic forces that contributed to the development of significant art movements including abstract expressionism, pop art, and minimalism, as well as key modes of artmaking including painting and sculpture, happenings, installations, video, earthworks, and participatory art. The course also trains students in philosophies of art and tracks the dramatic changes in aesthetics over the period. Primarily a lecture course, students' historical knowledge is assessed through two in-class examinations in which they identify, compare, contrast, and think critically about works of art. In addition, students practice discipline-specific research skills by compiling an annotated bibliography and writing short papers that rigorously examine primary sources.

ARTH 3481. Curatorial Practice Field Experience. (; 3 cr. ; A-F only; Every Fall & Spring) This course looks at current critical questions of curating and exhibition making. We explore the process of developing an exhibition, building working relationships with artists, and understanding how to effectively communicate ideas to turn a concept into a project. The course assumes that curating has also evolved from a practice associated with a museum art expert to something that is increasingly framed as a creative marketable skill related to cultural production. Discussions, readings, and coursework include consideration of gallery and public space and audience experience. Curatorial trends will be explored via site visits to established and alternative exhibit spaces. Students are introduced to a wide variety of artists and how their work is contextualized by the exhibition format. Site visits to exhibition spaces and conversations with professional curators reinforce the course material. Through practice and application, students examine the evolving definitions and responsibilities of a curator, and a variety of issues related to the development of a coherent and relevant exhibition. Students participate in hands-on, curatorial workshops, and curate a professional, public presentation using a nontraditional space, gallery space, digital space, or other local venue.

ARTH 3577. Photo Nation: Photography in America. (AH; 3 cr. ; Student Option; Every Fall & Spring) Development of photography, from 19th century to present. Photography as legitimate

art form. Portraits/photo albums in culture. Birth of criminal justice system. Technological/market aspects. Politics of aesthetics. Women in photography. Ways in which idea of America has been shaped by photographs.

ARTH 3655. African-American Cinema. (AH,DSJ; 3 cr. ; Student Option; Spring Even Year)

African American cinematic achievements from silent films of Oscar Micheaux through contemporary Hollywood and independent films. Class screenings, critical readings.

ARTH 3765. Chinese Art and Architecture. (3 cr. ; Student Option; Periodic Fall & Spring)

This class provides an introduction to Chinese art and architecture, from prehistory to the present. Proceeding chronologically and thematically, the class will consider a broad range of artistic media including jade, stone, bronze, paintings, calligraphy, ceramics, printing, photography, and architecture. Through a close connoisseurial engagement and visual analysis these materials, the class will examine how Chinese art developed in relation to broader themes of Chinese political, religious, and cultural history. At the same time, it will consider how the art of China engaged in cultural and artistic dialogue with other traditions and cultures of East Asia.

ARTH 3777. The Diversity of Traditions: Indian Empires after 1200. (3 cr. ; Student Option; Periodic Fall & Spring)

This class considers the development of Indian and Pakistani art and architecture from the introduction of Islam as a major political power at the end of the 12th century to the colonial empires of the 18th century. We will study how South Asia's diverse ethnic and religious communities interacted, observing how visual and material cultures reflect differences, adaptations, and shared aesthetic practices within this diversity of traditions. Students in this class will have mastered a body of knowledge about Indian art and probed multiple modes of inquiry. We will explore how Muslim rulers brought new traditions yet maintained many older ones making, for example, the first mosque in India that combines Muslim and Indic visual idioms. We will study the developments leading to magnificent structures, such as the Taj Mahal, asking why such a structure could be built when Islam discourages monumental mausolea. In what ways the schools of painting that are the products of both Muslim and Hindu rulers different and similar? The course will also consider artistic production in the important Hindu kingdoms that ruled India concurrently with the great Muslim powers. In the 18th century, colonialist forces enter the subcontinent, resulting in significant innovative artistic trends. Among questions we will ask is how did these kingdoms influence one another? Throughout we will probe which forms and ideas seem to be inherently Indian, asking which ones transcend dynastic, geographic and religious differences and which forms and ideas are consistent throughout these periods of political and ideological change. To do all this we must constantly consider how South Asia's diverse ethnic and religious communities

interact. There are no prerequisites for this course.

ARTH 3778. Traditions of South Asian Painting: Past to Present. (3 cr. ; Student Option; Periodic Fall & Spring)

This course surveys the rich diversity of painted media in India, Pakistan, Sri Lanka, and Nepal, from 5th-century murals to contemporary canvases that travel the world. We will locate the works in their physical, ritual, and intellectual contexts. We will explore how the familiar categories with which we describe painting, such as Landscape, Portraiture, Narrative, and even Modern, might be productively reassessed in light of South Asian aesthetic traditions by locating the works in their physical, ritual, and intellectual contexts. The course culminates in the contested spaces of contemporary art, where questions of politics, identity, and intention come to the fore. Although mainly focusing on the painting traditions of India, the course will include painting from Pakistan, the Himalayas, Sri Lanka, and the South Asian diaspora. The humanities sharpen our ability to develop critical questions and to judge why and how one answer or interpretation may be stronger than another. Humanistic thinking is developed in dialogue; it emerges between individuals in conversation with each other and with their objects of study. This course asks you to boldly bring your curiosity, convictions, and blind-spots to our collective conversation, close reading, and individual writing. The course consists of two weekly meetings, and one or two trips to nearby museums or galleries.

ARTH 3779. Visions of Paradise: The Indian Temple. (3 cr. ; Student Option; Periodic Fall & Spring)

This course traces the development and diversity of the Indian temple, focusing the ways in which people interact with sacred space and how religious art addresses its viewers. We primarily focus on Hinduism, but also include Buddhism and Jainism. We will discuss the role of sculpture, painting, textiles, dance, and food within the temple. We will also examine how the legacy of colonial and orientalist scholarship inflects our study of these traditions and monuments. Although the architecture of both structural and rock-cut temples will be our main object of study, we will also discuss the role of sculpture, painting, textiles, and food within the temple. Our consideration of the structures will be attentive to the ways in which people interact with the space and how objects of sacred art address their viewers. In classroom discussions we will work together to create an interpretive model that is synthetic, critical, and appreciative of the enormously diverse field that is South Asian Art. Lectures will move from explanatory descriptions of objects and histories that are covered in the textbook to critical interpretations of the historiographies that shape their contemporary reception. Class discussions and assignments are intended to encourage students to bring their own ways of looking at this art, to read critically in light of what they see, and to consider new approaches to the material. No prior

experience in the history of art or religions of South Asia is required for this course.

ARTH 3896. Directed Professional Experience. (; 1-2 cr. ; Student Option; Every Fall, Spring & Summer)

Internship or research assistantship in approved program, art institution, business or museum. prereq: instr consent

ARTH 3921W. Art of the Film. (AH,WI; 4 cr. ; Student Option; Every Spring)

This course will engage with the history of film as an art form through a selection of significant movements, styles, filmmakers, institutions, and, of course, individual films from around the world. While this will not be a comprehensive study, it will address both mainstream, commercial films as well as oppositional, experimental, underground, and otherwise challenging works. Some of the wide-ranging selection of films we will watch and discuss: Germaine Dulac's *La Coquille et le Clergyman* (*The Seashell and the Clergyman*) (1922), Gillo Pontecorvo's *The Battle of Algiers* (1966), Julie Dash's *Daughters of the Dust* (1991), and Alfonso Cuarón's *Roma* (2018).

ARTH 3929. Cinema Now. (AH; 3 cr. ; Student Option; Fall Odd Year)

Course examines contemporary cinema, including fiction films, documentaries, animation, and avant-garde experiments. Focuses on feature-length theatrical films, but will also consider other aspects of the contemporary media world: graphic novels, video games, television series and the Internet (e.g., Youtube). Examines media production, distribution, marketing, exhibition, and reception. Course will also present a survey of developments in contemporary cinema studies, since the choice of films will support a variety of critical approaches including economic, aesthetic (generic, auteurist, formalist), ideological (race, class, gender), and reception studies.

ARTH 3940. Topics in Art History. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)
Topics specified in Class Schedule.

ARTH 3971V. Honors: Art History Capstone. (WI; 3 cr. ; A-F only; Every Fall & Spring)

Capstone course for art history majors, which teaches writing skills and strategies, and aids students in the completion of senior paper projects through the study of art historical methods. Students work with both the class instructor and individual faculty advisers on independent research and writing.

ARTH 3971W. Art History Capstone. (WI; 3 cr. ; A-F only; Every Fall & Summer)

Capstone course for art history majors, which teaches writing skills and strategies, and aids students in the completion of senior paper projects through the study of art historical methods. Students work with both the class instructor and individual faculty advisers on independent research and writing. prereq: Arth major, instr consent

ARTH 3993. Directed Study. (; 1-4 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)

TBD prereq: instr consent

ARTH 3994. Directed Research. (; 1-4 cr. [max 12 cr.] ; A-F or Audit; Every Fall)
TBD prereq: instr consent

ARTH 5252. History of Early Christian Art in Context. (; 3 cr. [max 4 cr.] ; Student Option; Periodic Spring)

This course will introduce graduate and advanced undergraduate students to Christian visual art from its evident beginnings (ca. 200) to the dawn of the early Middle Ages, attending to its transformation under imperial patronage. Working with both objects and texts, core themes include the continuity between Christian and pagan art of Late Antiquity, the influence of imperial ceremonies and style, the emergence of sacred icons, the development of Passion iconography, the influence of Islam, and the divergent styles, motifs, and theological perspectives on the validity and role of images from the Byzantine East to the early Medieval West.

ARTH 5302. The Image Multiplied: Prints in Early Modern Europe. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

The technology of mechanically reproducing complex visual images on paper, a development of fifteenth-century Europe, transformed the early modern world no less than the emergence of digital media has transformed our own. Techniques of woodcut, engraving and etching quickly became important media for innovation within the fine arts. At the same time, they became equally important as sources for devotional imagery, for disseminating copies of other artworks, for the expansion of knowledge through scientific illustration, and for the effective broadcasting of political and religious messages during centuries of extraordinary political and religious upheaval. In this course we will investigate the cultural history of printed images in Europe from the time of their emergence in the fifteenth century through the mid-eighteenth century. Through lectures and class discussion, you will develop a familiarity with the technical aspects of printmaking and apply that understanding to the historical interpretation of specific works. The course will not be an exhaustive survey of printmakers and printmaking styles during the early modern era but will instead approach the early modern print through the changing cultural circumstances of its production and reception. While we will consider the work of many lesser-known (and anonymous) artists, we will concentrate on the work of major printmakers such as Mantegna, Dürer, Goltzius, Rembrandt, Callot, Hogarth, and Piranesi. The course will include visits to local collections.

ARTH 5313. Spanish Baroque Masters: Tradition and Experimentation in Golden Age Spain. (HIS; 3 cr. ; Student Option; Periodic Fall & Spring)

This seminar focuses on some of the major masters of Spanish Baroque art, including Francisco de Zurbarán, Diego Velázquez, Jusepe de Ribera, Bartolomé Esteban Murillo, and Juan Sánchez Cotán. We will explore their works from a variety of perspectives in an

effort to understand the unique character and contributions of the art of the Spanish Golden Age.

ARTH 5315. The Age of Curiosity: Art, Science & Technology in Europe, 1400-1800. (AH,TS; 3 cr. ; Student Option; Periodic Fall & Spring)

Diverse ways in which making of art and scientific knowledge intersected in early modern Europe. Connections between scientific curiosity and visual arts in major artists (e.g., da Vinci, Durer, Vermeer, Rembrandt). Artfulness of scientific imagery/diagrams, geographical maps, cabinets of curiosities, and new visual technologies, such as the telescope and microscope.

ARTH 5335. Baroque Rome: Art and Politics in the Papal Capital. (; 3 cr. ; Student Option; Fall Even Year)

Center of baroque culture--Rome--as city of spectacle and pageantry. Urban development. Major works in painting, sculpture, and architecture. Ecclesiastical/private patrons who transformed Rome into one of the world's great capitals.

ARTH 5336. Transformations in 17th Century Art: Caravaggio, Velazquez, and Bernini. (3 cr. ; Student Option; Periodic Fall & Spring)

This course offers an in-depth examination of three of the most innovative masters of early modern European art, the painters Michelangelo Merisi da Caravaggio and Diego Velázquez, and the sculptor and architect Gianlorenzo Bernini. Through selected readings, slide presentations and discussions, we will explore the lives and works of these artists, paying particular attention to the ways they created an entirely new relationship between the work of art and the viewer and ushered in a radically new way of conceiving visual imagery.

ARTH 5411. Gender and Sexuality in Art Since 1863. (; 3 cr. ; Student Option; Periodic Fall & Spring)

In 1863, Édouard Manet painted a scandalous nude titled Olympia, which was met with outrage by critics when it was exhibited at the Paris Salon in 1865. The painting has been the subject of extensive discussion ever since among critics, curators, and art historians who examine not only its modernist style and formal qualities, but also the class, racial, and sexual identities of the two figures it depicts. This course surveys the role gender and sexuality have played in the historical development of western art from Manet's Olympia to the present, and the role that art has played in both reinforcing and challenging dominant theories of gender identity. It considers modernism and postmodernism not only as products of the rise of industrial and post-industrial capitalism, urbanization, colonialism, and globalization, etc., but also as tangled up with the establishment of gender and sexuality as powerful ideas that bring into being the very categories they name. Students gain knowledge not only about the historical development of art throughout this period, but also about diverse strategies for

scholarly research that is informed by theories of gender and sexuality, and art historical models for reading bodies, gestures, texts, and works of art. They complete guided or independent research papers, prepare an in-class presentation on a work of art in a local museum, and complete a structured literature review through which they learn to read and critically evaluate art historical scholarship.

ARTH 5413. Alternative Media: Video, Performance, Digital Art. (; 3 cr. ; A-F or Audit; Periodic Fall)

One rather old and rigid concept in the history of art and aesthetics is that artistic media, each with its distinct qualities, are most successful when they remain separate. The best painting, according to this view, is one that explores its own properties of flatness, abstraction, and color. What became known in the first half of the 20th century as the philosophy of "medium specific purity" was radically challenged in the 1960s when the differences between painting and sculpture were intentionally blurred and when new media (performance, body art, happenings, video art, installations and digital art) were introduced. This course seeks to understand how alternative media were developed not through the invention of new technologies nor in isolation, but through revolutionary modes of thinking about time and space, human and non-human life, machines, archives, cyborgs, and interactivity (some of which date back to the 18th and 19th centuries). Through assigned readings and discussions as well as structured essay assignments, the class provides students with extensive practice in the critical analysis of theoretical texts and ample experience synthesizing diverse intellectual ideas and arguments in written form. More broadly, through a creative "timeline" assignment, the course seeks to teach students to think inventively about new media and their histories, to learn strategies for looking at, evaluating, and thinking about works of new media art. It also provides instruction in research techniques and resources in contemporary art, as well as on writing in art history.

ARTH 5417. Twentieth Century Theory and Criticism. (; 3 cr. ; Student Option; Periodic Fall)

Since the 19th century, artists, critics, and historians have deployed philosophical and theoretical ideas to think self-reflexively about the meaning of art. What counts as a work of art and who qualifies as an artist? What is the role of the viewer and how should works of art be interpreted? Are they passive reflections of their historical milieu or do they play an active role in forming cultural values? In the 1920s, the surrealists were reading Karl Marx and Sigmund Freud to answer these questions. Artists of the Harlem Renaissance studied the sociological essays of W.E.B. Dubois and Zora Neale Hurston. Conceptualist artists in the 1960s read books on semiotics; performance artists studied phenomenology reading the work of Maurice Merleau-Ponty. Feminist artists in the 1970s read up on psychoanalysis and feminist philosophy. Following in their footsteps, this

is primarily a readings course designed to familiarize students with important theoretical ideas applied to the visual arts of the 20th century. The course focuses on significant trends in that century's art theory, historical methodology, and criticism. It examines key philosophical ideas of modernism and postmodernism including formalism, semiotics, poststructuralism, feminism, Marxism, psychoanalysis, deconstruction, critical race and queer theory. Because the course is organized chronologically as well as thematically and follows the lives and writings of key figures, it is also intended to help students trace intellectual histories as they develop over the century. In addition, it seeks to foster students' critical reading skills, discipline-specific writing skills, and to help them consider the historical implications of art theory for the production and reception of works of art today.

ARTH 5422. Off the Wall: History of Graphic Arts in Europe and America in the Modern Age. (; 3 cr. [max 4 cr.] ; Student Option; Periodic Fall & Spring)

History/theory of creation of lithography, social caricature (e.g., Daumier, Gavarni), revival of etching (e.g., Goya, mid-century practitioners, Whistler), and color lithography (e.g., Toulouse-Lautrec, Vuillard, Bonnard). Media changes of 20th century. Revolutionary nature of new media.

ARTH 5431. Art and Activism: French Painting 1789 to 1870. (3 cr. ; Student Option; Periodic Fall)

This course surveys art major movements, institutions, and debates in France and its expanding overseas empire from the late eighteenth to the late nineteenth centuries, paying particular attention to the intersection of art and politics. Artists and movements we will consider include some of the most well-researched and revered in art history: neo-classicism-David and Ingres; Romanticism-Corot, Gericault, Delacroix; landscape and peasant painting-the Barbizon group; Realism-Courbet; and Impressionism-Manet, Pissarro, Morisot, and Degas. Major themes to be addressed in the course include, but are not limited to, the following: artists' challenge to established institutions and exhibition practices; their participation in, and responses to, revolutionary political movements; the artist as worker; censorship and exile; visions of empire and abolition; the New Woman; and, finally, contemporary artists' appropriations of nineteenth-century French art to advance their own artistic/political agendas in the present.

ARTH 5466. Contemporary Art. (; 3 cr. ; Student Option; Periodic Spring)

The art of today as it is practiced around the globe takes a bewildering variety of forms? from traditional painting and sculpture to AI, interactive digital media, film projections, bio art (involving human, plant, and animal blood, tissue and DNA), participatory and community engaged projects, and environmental interventions. It addresses urgent social and political themes including globalization, institutionalized racism, climate crisis, big

data, and mechanized vision. Just as today's citizens should inform themselves about contemporary politics and current events, so is it crucial that we understand the art of our own time. In this course students gain an understanding of art's development since the late 20th century and key ideas that are central to interpreting the art of this period. The course begins with a review of important movements, significant artists, and influential theories and issues. It then takes up and studies specific themes through the reading and analysis of theoretical texts. Students are asked to read, participate in class discussions, complete guided or independent research papers, prepare an in-class presentation on one of the course themes, and complete a book review for a textbook on contemporary art history. Each of these assignments is designed to impart specific historical knowledge about the period of the contemporary, to provide students with opportunities to practice critical reading and synthetic writing, and to offer them a chance to inspect their own positions regarding key debates.

ARTH 5565. American Art in the Gilded Age. (; 3 cr. ; Student Option; Periodic Fall & Spring)

In 1873, Mark Twain coined the phrase "Gilded Age" to describe an era in which public displays of national prosperity and optimism barely covered over the deeper realities of racial violence, labor inequities, and strident political divisions in the barely reunited republic, still recovering from a bloody Civil War. This class will examine the social and cultural history of the United States from 1865-1910, by following the visual record of paintings, sculpture, photographs, architecture, and landscape and furniture design. We will look closely at works by artists including Winslow Homer, Abbott Thayer, Cecilia Beaux, Henry Ossawa Tanner, Jacob Riis, Gertrude K?sebier, Thomas Nast, Bernhard Gillam, Frederick Law Olmsted, McKim, Mead & White, and Candace Wheeler. We will consider the role of creatively made images and objects as both a tool of the elite and the weapon of the critic. And we will actively investigate the kinds of questions art historians ask about this era, so as to ask new questions and produce new scholarship that might productively address the concerns of our own. Open to interested students from all majors, this course culminates in an independent research project suitable for development as a senior capstone project.

ARTH 5575. Boom to Bust: American Art from the Roaring Twenties to the Great Depression. (; 3 cr. ; Student Option; Periodic Fall & Spring)

American art/culture from 1917 to 1940. Boom of post-WWI affluence, bust of stock market crash, Midwestern Dust Bowl. How tumultuous times influenced painting, sculpture, photography, and industrial design.

ARTH 5655. African-American Cinema. (AH,DSJ; 3 cr. ; Student Option; Periodic Fall)

African American cinematic achievements, from silent films of Oscar Micheaux through contemporary Hollywood and independent films. Class screenings, critical readings.

ARTH 5765. Early Chinese Art. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Art/material culture of early China from Neolithic age (ca. 10000-2000 BCE) to early imperial period (221 BCE-906 CE).

ARTH 5766. Chinese Painting. (3 cr. ; Student Option; Periodic Fall & Spring)

Major works from the late bronze age to the modern era that illustrate the development of Chinese landscape painting and associated literary traditions.

ARTH 5769. Connoisseurship and Curatorial Practice in Early Chinese Art. (; 3 cr. ; Student Option; Periodic Fall & Spring)

This course provides students an immersive experience in the study of early Chinese art and material culture from the Neolithic age (ca. 8000?ca. 2000 BCE) to the early imperial period (221 BCE-220 CE). Geographical coverage uses today's China as a point of departure, but its scope also extends to the rest of the world. This course will explore artifacts in a variety of media, including ceramic, jade, metal, lacquer, silk, painting and writing, as well as ephemeral arts. Students are expected to think each artwork as the embodiment of the complex socio-cultural history of the period, in which they were produced. Guided by the instructor, students will have a selective examination of representative works of art from MIA (the Minneapolis Institute of Art), where they are supposed to be engaged in comprehensive object study, consultation and investigation with the curators, and develop essential curatorial skills of working with artworks. Based on two or more selected artworks, students are expected to finish a short research paper that is thoroughly studied and potentially publishable.

ARTH 5774. The Body in Indian Art. (3 cr. ; Student Option; Periodic Fall & Spring)

This course explores the concept of embodiment and the nature of representation, from images of gods to human portraits, in Hindu, Jain, Buddhist, Muslim, and courtly contexts. We consider diverse media from ancient to modern periods, including painting, sculpture, photography, architecture, inscriptions, and literature. This course explores the concept of embodiment in the diverse artistic traditions of South Asia. We will consider how ideas of representation of an individual have been understood and expressed differently across the history of South Asian art and religions. The course will consider the embodied representation of deities and semidivine figures along with those of "real" people; we will consider, given the ontologies of such representations in their religious and cultural contexts. Representation of an individual? a portrait? is a foundational subject in the canon of art history. What does the very idea of a portrait mean so far outside the canon of (Western) art history? As we survey the diverse traditions and media of images of the body, we will be attentive to questions such as, Does media make meaning for these types of images? Can a "portrait" be textual? Is verisimilitude essential to the depiction of a person? In what ways are

practices of depiction informed by other modes of image-making, such as images of religious devotion, and traditions of representation encountered through trade or gift? We will consider diverse media from Ancient India to the modern period, including painting, stone and metal sculpture, photography, architecture, inscriptions, and even a Sanskrit play.

ARTH 5777. The Diversity of Traditions: Indian Empires after 1200. (3 cr.; Student Option; Periodic Fall & Spring)

This class considers the development of Indian and Pakistani art and architecture from the introduction of Islam as a major political power at the end of the 12th century to the colonial empires of the 18th century. We will study how South Asia's diverse ethnic and religious communities interacted, observing how visual and material cultures reflect differences, adaptations, and shared aesthetic practices within this diversity of traditions. Students in this class will have mastered a body of knowledge about Indian art and probed multiple modes of inquiry. We will explore how Muslim rulers brought new traditions yet maintained many older ones making, for example, the first mosque in India that combines Muslim and Indic visual idioms. We will study the developments leading to magnificent structures, such as the Taj Mahal, asking why such a structure could be built when Islam discourages monumental mausolea. In what ways the schools of painting that are the products of both Muslim and Hindu rulers different and similar? The course will also consider artistic production in the important Hindu kingdoms that ruled India concurrently with the great Muslim powers. In the 18th century, colonialist forces enter the subcontinent, resulting in significant innovative artistic trends. Among questions we will ask is how did these kingdoms influence one another? Throughout we will probe which forms and ideas seem to be inherently Indian, asking which ones transcend dynastic, geographic and religious differences and which forms and ideas are consistent throughout these periods of political and ideological change. To do all this we must constantly consider how South Asia's diverse ethnic and religious communities interact.

ARTH 5778. Traditions of South Asian Painting: Past to Present. (3 cr.; Student Option; Periodic Fall & Spring)

This course surveys the rich diversity of painted media in India, Pakistan, Sri Lanka, and Nepal, from 5th-century murals to contemporary canvases that travel the world. We will locate the works in their physical, ritual, and intellectual contexts. We will explore how the familiar categories with which we describe painting, such as Landscape, Portraiture, Narrative, and even Modern, might be productively reassessed in light of South Asian aesthetic traditions by locating the works in their physical, ritual, and intellectual contexts. The course culminates in the contested spaces of contemporary art, where questions of politics, identity, and intention come to the fore. Although mainly focusing on the painting traditions of India, the course will include

painting from Pakistan, the Himalayas, Sri Lanka, and the South Asian diaspora. The humanities sharpen our ability to develop critical questions and to judge why and how one answer or interpretation may be stronger than another. Humanistic thinking is developed in dialogue; it emerges between individuals in conversation with each other and with their objects of study. This course asks you to boldly bring your curiosity, convictions, and blind-spots to our collective conversation, close reading, and individual writing. The course consists of two weekly meetings, and one or two trips to nearby museums or galleries.

ARTH 5781. Age of Empire: The Mughals, Safavids, and Ottomans. (3 cr.; Student Option;)

Artistic developments under the three most powerful Islamic empires of the 16th through 19th centuries: Ottomans of Turkey; Safavids of Iran; Mughals of India. Roles of religion and state will be considered to understand their artistic production.

ARTH 5787. Visual Cultures in Contact: Cross-Cultural Interaction in the Ancient and Early Medieval Worlds. (3 cr.; Student Option; Fall Even Year)

Evaluate critical perspectives from variety of interdisciplinary conversations. Framework for studying cross-cultural interaction among ancient visual cultures that integrates practical, cognitive, object oriented approaches. Cross-continental movement/selective appropriation of objects/motifs.

ARTH 5930. Junior-Senior Seminar. (3 cr.; A-F or Audit; Periodic Fall & Spring)

Major art-historical theme, artist, period, or genre. Topics specified in Class Schedule. prereq: [Jr or sr] Arth major, instr consent

ARTH 5950. Topics: Art History. (3 cr. [max 9 cr.]; Student Option; Every Fall, Spring & Summer)

Topics specified in Class Schedule.

ARTH 5993. Directed Study. (1-4 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)

TBD prereq: instr consent

ARTH 5994. Directed Research. (1-4 cr.; A-F or Audit; Every Fall, Spring & Summer)

tbd prereq: instr consent

Arts and Cultural Leadership (ACL)

ACL 5100. Topics in Arts and Cultural Leadership. (1-4 cr. [max 24 cr.]; A-F or Audit; Periodic Fall, Spring & Summer)

Topics in Arts and Cultural Leadership.

ACL 5211. Trends and Impacts in Arts and Cultural Leadership and Management. (3 cr. [max 6 cr.]; A-F or Audit; Every Fall)

Through discussion and analysis, research and peer presentation projects, this seminar will investigate and question the theoretical nuances from which nonprofit arts and cultural organizations are built and the practical influences that affect them daily. Leadership in the cultural sector is evolving rapidly; textbook strategies are being re-evaluated and organizations are re-inventing themselves

in creative ways in response to current social and economic conditions. Emphasis is placed on current events, immediate and long-term trends and research into what is happening now. Topics include the role of arts and cultural organizations within the community; past, current and future concepts in organizational structures; and the application of traditional and integrated relationship-based strategies.

ACL 5221. Creative Entrepreneurship and Resource Development. (3 cr.; A-F or Audit; Every Spring)

An entrepreneurial approach to developing resources (including financial, human, and partnership) for arts and culture based enterprises whether using a nonprofit, for-profit or social enterprise business model. The course will investigate and discuss the complexities and nuances of how to determine the appropriate business model and develop both earned and philanthropic income. Students focus on framing and articulating the relevance of the enterprise as well as understanding the perspectives of audiences, customers, funders and donors. The course also explores the role of communications strategies in support of fundraising, and the importance of leadership in acquiring resources to sustain and grow successful organizations. Students develop both a broad understanding of resources as well as detailed strategies for supporting work in arts and culture based enterprises.

ACL 5231. Ethical Dilemmas and Legal Issues for Cultural Leaders. (3 cr.; A-F or Audit; Every Spring)

This course explores topics in ethics, law and leadership. Through interactive sessions, readings, presentations, discussions, papers and guest speakers, student-leaders will develop knowledge, tools and resources for assessment of ethical and legal issues within arts and cultural contexts. The course will engage student-leaders with an overview of relevant topics and a foundation for further exploration of self selected topics. Student-leaders will learn to spot issues and identify when to seek legal guidance, and assess considerations relevant to critical problem solving and informed decision-making.

ACL 5241. Financial Management for Arts Nonprofits, Community Organizations, and Artists. (3 cr.; A-F or Audit; Spring Even Year)

This course introduces students to concepts and applications of financial management and leadership practices with a specific focus on nonprofit arts and cultural organizations. The goal of the course is to develop both theoretical and practical understanding of the central responsibilities of financial management and leadership to equip students to use financial information, identify business models, and employ a financial lens for planning and decisions. Focus will be on the fundamentals of budgeting and accounting, interpretation of financial statements, data, and procedures for operational forecasts, as well as the fiduciary responsibilities of nonprofit boards. This course is designed for individuals working within arts nonprofits or community organizations,

considering a career in the arts, or interested in learning more about nonprofit financial management principles. Individuals interested in financial sustainability as individual artists or cultural leaders will also benefit from this foundation in financial best practices. The goal of the course is to develop both theoretical and practical understanding of the central responsibilities of solid financial management to benefit arts, cultural, and/or community organizations and the sector as a whole. Students will have the opportunity to apply what is learned to a case study organization.

ACL 5251. Courageous Imagination in Action: Art and Culture as Forces and Resources of Change. (3 cr. ; A-F or Audit; Every Fall)

This class is for anyone passionate about the unique capacities embedded in arts and cultural work, concerned about the cascade of challenges facing humanity, and determined to lead with and through the powerful resources of the arts and culture. Fundamental changes in organizations, programs, and resources are needed to meet the complex challenges of our times. A key emphasis of the course is development of a personal mission and purpose by each student as a leader in working with existing organizations and systems and leading changes essential for a sustainable, humane, creative, and thriving future. The course is designed to challenge and support students as they choose a direction and purpose they wish to address ? contacts, examples, resources, local, regional, national, websites, people, and examples will be provided. The course examines existing organizations and systems, those in transformation and the opportunity, need and challenge in creating new forms. Students meet key people in different sectors and stages of change. This is a highly interactive course, with simulations, imaginative work and a variety of visitors, site visits, and explorations of ideas and beliefs that may be challenging. These may include connections with Minnesota State legislature, regional arts councils, City of Minneapolis and/or St Paul, large and small arts and culture organizations in the area. National networks including USDAC, Americans for the Arts, Climate Generation, The Wounded Warrior Project, and others. Students will prepare a presentation that links their personal purpose and mission with the work they seek and the differences they hope to make and support.

ACL 5251. Courageous Imagination in Action: Art and Culture as Forces and Resources of Change. (3 cr. ; A-F only; Every Fall)

This class is for anyone passionate about the unique capacities embedded in arts and cultural work, concerned about the cascade of challenges facing humanity, and determined to lead with and through the powerful resources of the arts and culture. Fundamental changes in organizations, programs, and resources are needed to meet the complex challenges of our times. A key emphasis of the course is development of a personal mission and purpose by each student as a leader in

working with existing organizations and systems and leading changes essential for a sustainable, humane, creative, and thriving future. The course is designed to challenge and support students as they choose a direction and purpose they wish to address ? contacts, examples, resources, local, regional, national, websites, people, and examples will be provided. The course examines existing organizations and systems, those in transformation and the opportunity, need and challenge in creating new forms. Students meet key people in different sectors and stages of change. This is a highly interactive course, with simulations, imaginative work and a variety of visitors, site visits, and explorations of ideas and beliefs that may be challenging. These may include connections with Minnesota State legislature, regional arts councils, City of Minneapolis and/or St Paul, large and small arts and culture organizations in the area. National networks including USDAC, Americans for the Arts, Climate Generation, The Wounded Warrior Project, and others. Students will prepare a presentation that links their personal purpose and mission with the work they seek and the differences they hope to make and support.

ACL 5261. Culture, Place and Equitable Communities: Ways of Living Together in the 21st Century. (3 cr. ; A-F or Audit; Periodic Summer)

The rise of the creative economy, creative cities, the creative class, and creative placemaking are generally considered unique to the 21st century. Are these new phenomena or just new brand identities for the historic role of cities as centers of cultural production and exchange? As contemporary phenomena, they have also been linked to a rise in social and economic inequities. Creativity, culture, and the role of artists are of increasing significance in the ways cities and communities are planned, form, and function. What roles can artists, activists, cultural leaders, urban planners, and other civic leaders play with regard to making cities more equitable and culturally vibrant? This course explores the evolving relationships of arts, culture, and the creative sector with city planning, development, and democratic practices. Students will hear directly from community leaders and undertake their own community change projects.

ACL 5950. Special Topics. (; 1-4 cr. [max 12 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Special topics. prereq: dept consent

ACL 5993. Directed Studies. (; 1-4 cr. [max 15 cr.] ; A-F only; Every Fall, Spring & Summer)

Guided individual reading or study for qualified graduate students. prereq: Grad student, dept consent

Asian & Middle Eastern Studies (AMES)

AMES 1001. Asian Film and Animation. (AH,GP; 3 cr. ; Student Option; Periodic Fall & Spring)

Various film styles within Asian film/animation production. Ways of analyzing film. Work of 20th-century directors in Asia.

AMES 1201. Arrow, Fist, and Sword: Conceptions of the Hero in Asian Cultures. (GP,LITR; 3 cr. ; Student Option; Periodic Fall & Spring)

Concepts of the "hero" in Persian, Indian Chinese, Korean, and Japanese cultures: How did various societies in these countries define the ethos of the "hero" and his relationship to the community? How did versions of the hero change over time, and how was the hero redefined in the context of modern nationalism? What part have traditional gender roles played in defining the hero, and is a "female" hero possible within these traditions? And how has popular film allowed modern Asian societies to reinterpret their traditional conceptions of the hero? Specific explorations: the Persian hero Rostam in *The Book of Kings*; Rama and retellings of the Indian Ramayana; Mulan and the Chinese female warrior; the Korean hero Hong Gildong; and the Japanese story of the forty-seven ronin.

AMES 1601. Clothing Matters: Culture and Fashion in India. (3 cr. ; Student Option No Audit; Periodic Fall & Spring)

This interdisciplinary course demonstrates the importance of dress and adornment practices in the formation of collective identities in India. By exploring past and current trends in literature, art, media and performance, it shows how cultural texts construct norms and practices regarding space, body and gender. It also focuses on ways different social groups and communities, through creative acts of (un)dressing in the public sphere, create a complex relationship between structures of power and aesthetics. In addition to highlighting the significance of gender and material culture in Indian literature, this course traces the history of dress practices to offer new perspectives on class, caste, religion and nationalism. The readings will further highlight historical and political events where clothing and accessories become crucial sites for resisting established social order and registering collective protest. Texts will also be complemented with screenings of films to show the rich and complex intersection of dress practices with discourses of tradition and modernity.

AMES 1806. Modern Arab Cultures and Societies. (AH,GP; 3 cr. ; Student Option No Audit; Periodic Fall & Spring)

What we commonly and monolithically refer to as "The Arab World" in fact consists of 22 individual nation-states, each with their own particular historical trajectory and a combined population of nearly 400 million people encompassing a plethora of religious faiths, political orientations, social formations, and individual identities. This course provides a starting point for comprehending this frequently misunderstood part of the world, the diverse peoples who inhabit it, and the myriad cultures they practice. We will address the various problems we encounter when approaching such an unwieldy concept as "The Arab World," key moments that have shaped modern Arab

cultures and societies, and examples of how cultural production functions in the context of modern Arab history and politics.

AMES 1836. Modern Middle Eastern Literature. (GP,LITR; 3 cr. ; A-F only; Periodic Fall & Spring)

This course introduces students to the diversity of contemporary Middle Eastern cultures, identities, and histories through readings in modern literature. Reading novels, stories, poetry, and memoirs translated from Arabic, Hebrew, Persian, and Turkish, we will follow a number of key concerns shaping Middle Eastern cultural production: legacies of colonialism and the manner they shaped the relationship between classical and modern literary forms, the ethical and aesthetic challenges of bearing testimony to violence, and the manner literature reflects and subverts racial hierarchies, ethnic divisions, and gender dynamics. These themes will be debated in a range of spaces and contexts: the desert, the city, and the ocean as quintessential environments in times of great social and ecological upheavals; migration flows and refugee identities; the alternating banality and grotesqueness of war; and the formation of intimate, personal relationships.

AMES 1915. Objections to 'Members Only': Female Participants in All-Male Classical Music in Japan. (; 3 cr. ; Student Option; Periodic Fall & Spring)

"Membership" is a peculiar thing. While the matter is certainly an issue of critical moment here and now, and to an intense degree at that, at no place nor time in human history is it totally irrelevant. For, just as with many animate beings, humans have lived in a way in which the action of "grouping" is omnipresent. On the level of both theory and practice, the notions and actions of classification of people into categories have been deeply ingrained in how many civilizations have flourished across time and space. The criteria of such classification are not only myriad but also diverse with no single governing principle (e.g., ancestry, birthplace, race and ethnicity, sex and gender, sexuality, social standing such as class and rank, religion, and so on and so forth). Groups thus formed--be they country, nations, clans, circles, communities, men, women, and the like--are also heavily varied and respective definitions and expectations of "members," and "non members" for that matter, are wide-ranging. Using a specific case study from performing arts in Japan (described below), this seminar helps introduce fresh"man" students at the U to critical thinking in the humanities, by encouraging them to grapple with such a significant and formidable topic as membership, which will provide them with a methodological tool and contemplation ability that promises to be useful throughout (and hopefully beyond) their education at the U. Two key elements of such training are "intersection-ness" and "self reflectiveness." Relying on "intersectionality" (i.e., a well-known concept established in the context of black feminism signifying a hub of various interlocking intersections in a system), the former is to remind students of the aforementioned

diverse nature of grouping. The latter is a caution that the seminar is not merely for us to gather information about the performing arts in question, but to critically contemplate the phenomenon with the understanding that we are not any pure, perfect, unrelated observer with an imaginary objective perspective. To these purposes, the seminar utilizes two pedagogical methods: scaffolding (small multiple tasks to achieve a semester-long project) and group activities for stimulation and mutual support. The performing arts in Japan that the seminar uses as a case study is giday? music. The audio component of the four-century-old puppet theater in Japan now known as bunraku, giday? is usually if not always conducted by two musicians: string-music played by an instrumentalist and the entire lines of all characters on stage narrated solo by a single chanter, who also sings descriptive recitation. Bunraku is an all-male theater, and giday? all-male theatrical vocal-music. Female performers have long been playing giday? as stand-alone music, however, almost always under men's names and sometimes in men's clothing. In premodern times (through 1867), when females' were prohibited from participating in performing arts since 1629-proclamations, female giday? players frequently endured such drastic ordeals as bans, property-confiscation, and incarceration imposed by samurai authorities. In modern times (from 1868 to date), these female performers were no longer subject to such physically violent sentence, but epistemological turmoil they faced was no less radical. The seminar will pay attention to these female musicians. In addition, since the instructor knows some contemporary female giday? musicians in person, the seminar might have an opportunity to learn their stories from themselves, possibly using such technology as Zoom (contingent).

AMES 3001. Concepts in Asian and Middle Eastern Studies. (; 3 cr. ; A-F or Audit; Every Fall)

Introduction to questions of modernity in Asia and the Middle East and foundational course for the major and the minor in Asian and Middle Eastern Studies. Reflecting the range of geography covered by the department, it will cover topics related to the Middle East, South Asia, and East Asia, and highlight connections among them. Our primary goal is to become versed in a number of key concepts and issues that are essential to being a successful student in upper-division AMES courses. Furthermore, we will engage with theoretical, literary, and filmic texts concerning various regions of the Asian continent and develop the ability to respond to major questions in Asian and Middle Eastern Studies through the close reading of primary and secondary materials and the practical employment of key terms and concepts. There will be a strong focus on proper definitions and historical contextualization, and on analytical application and interpretation.

AMES 3232W. "Short" Poetry in China and Japan. (WI; 3 cr. ; Student Option; Periodic Fall & Spring)

Short poetic forms of China and Japan. Chinese quatrains and octets. Japanese tanka and haiku. Translations by modern poets. Texts in original languages (with provided glosses). Art of translation. Translators' conceptions of East Asian 'exoticism.'

AMES 3256. Graphic Novels: Conflict, Peace and Protest. (AH,GP; 3 cr. ; Student Option; Periodic Fall & Spring)

This course will examine a particular medium? graphic novel?which is inherently rich in visual, narrative, and linguistic components. The materials chosen for this course are driven by wars and conflicts in the following four regions: East Asia, South Asia, Southeast Asia, and the Middle East. Through these selected works, we will explore histories of political conflicts, state violence, anticipation for peace as well as understandings and praxes of protest in various forms, namely, social movements; mourning; remembrance; art making; and writing. Given the nature of conflict that always goes above and beyond the question of nation-state, this course will also discuss its amplification to the question of migration, refugee crisis, displacement, and multi-generational trauma among diasporic subjects. Located at the intersection of conflict, peace, and protest, this course not only introduces students to historical processes and complexities of these conflicts? both from the national and international points of view?but also challenges students to question the potentials of graphic novels in mediating these histories and discourses around human rights for readers. Finally, this class explores ways in which we can engage with each other via our shared history and vulnerability, and questions whether peace and resolution promised to our generation via the discourse of human rights are, or will ever be, attainable.

AMES 3265W. The Fantastic in East Asia: Ghosts, Foxes, and the Alien. (LITR,WI; 3 cr. ; Student Option; Periodic Fall & Spring)

How the strange/alien is constructed in premodern Chinese/Japanese literature. East Asian theories of the strange and their role in the classical tale, through the works of Pu Songling, Edo-era storytellers, and others. Role of Buddhist cosmology and salvation. prereq: Some coursework in East Asia recommended

AMES 3336. Revolution and Modernity in Chinese Literature and Culture. (GP,LITR; 3 cr. ; Student Option; Periodic Fall & Spring)

Introduction to modern Chinese literature, visual culture, and critical thought from beginning of 20th century to end of Mao era. Examples of literature/culture, parallel readings of Chinese critical essays. Readings are in English translation.

AMES 3337. Contemporary Chinese Literature and Popular Culture. (GP,LITR; 3 cr. ; Student Option; Periodic Fall & Spring)

Contemporary Chinese literature, popular culture. End of Mao era to present. Creative results of China's "opening and reform." Commercialization and globalization of culture. Literature, visual culture, popular music.

AMES 3351. Martial Arts in Chinese Literature and Film. (AH,GP; 3 cr. ; A-F only; Periodic Fall & Spring)

Investigation of the martial arts motif in Chinese literature and its cinematic descendants.

Class materials include ancient stories about sage kings, assassin-retainers, lady knights-errant; recent blockbusters such as "Crouching Tiger, Hidden Dragon," "Hero," and "Kung Fu Hustle;" the careers and stardoms of Bruce Lee, Jet Li, and Jackie Chan; and American animated films featuring martial arts themes, such as "Mulan" and the "Kung Fu Panda" series. While reflecting cultural transformations across history, these examples manifest a consistent poetics of emptiness, due to the genre's thematic preoccupation with resistance and transcendence, as well as its roots in Confucian-Daoist-Buddhist philosophies. In these regards, the martial arts genre, other than being a pop culture phenomenon, offers a meaningful gateway toward rediscovering the Chinese tradition's cosmopolitan potentials.

AMES 3356W. Chinese Film. (AH,WI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)
Survey of Chinese cinema from China (PRC), Taiwan, and Hong Kong. Emphasizes discussion/comparison of global, social, economic, sexual, gender, psychological, and other themes as represented through film.

AMES 3357. Taiwan Film. (3 cr. ; A-F only; Periodic Fall & Spring)
This course examines the history of Taiwan film from the Japanese colonial period to the early 21st century along with the increased (though still quite limited) availability of pre-1980s films on DVD with English subtitles. We will cover topics such as dialect films; Nationalist propaganda; "healthy realism;" connections with the Hong Kong, Hollywood, and mainland Chinese film industries; the aesthetics of New Taiwan Cinema; the imagination of Taiwan as a postcolonial Southeast Asian rather than East Asian or Chinese polity; and the battle for commercial viability in the global film market. Throughout the course, we will closely analyze cinematic form and narrative structure in addition to broader issues of nation, society, politics, and ecology.

AMES 3362. Women Writers in Chinese History. (AH,GP; 3 cr. ; A-F only; Periodic Fall & Spring)
This class surveys the surprisingly diverse and vibrant tradition of women writers in Chinese cultural history, which during its long imperial period (221 B.C.E.-1911 C.E.) was dominated by a male-centered cultural order. The class situates individual women writers within their specific historical settings and larger cultural backdrops, thus introducing students to literary themes, gender dynamics, and conditions of cultural production in Chinese history. The class also addresses complex shifts in female writing and its social presence across the premodern-modern transition. Taught in English and no prerequisites.

AMES 3372. History of Women and Family in China, 1600-2000. (3 cr. ; Student Option; Fall Even, Spring Odd Year)
Marriage/family life, foot binding, cult of women's chastity. Women in nationalist/communist revolutions. Gender relations in post-socialist China. Effect of ideologies

(Confucianism, nationalism, socialism) on women/family life. Differences between ideology and social practice.

AMES 3373. Religion and Society in Imperial China. (HIS; 3 cr. ; Student Option; Periodic Fall & Spring)
Varieties of religious experience in imperial China. Religion as lived practices. Textual traditions. Buddhism, Daoism, Confucianism, relations among them. Western missionary enterprise in China.

AMES 3374. Patterns in Chinese Cultural History. (3 cr. ; Student Option No Audit; Periodic Fall & Spring)
A survey course of Chinese cultural history across its long evolution. It connects historical and cultural knowledge to the Chinese literary and intellectual traditions, and unveils larger trends in the developments of Chinese culture and society during the pre-20th-century period and across the tradition-modern divide. Taught in English and no prerequisites.

AMES 3377. A Thousand Years of Buddhism in China: Beliefs, Practices, and Culture. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Buddhism in China, 4th-15th centuries. Introduction of Buddhism to China. Relevance of Buddhist teaching to indigenous thought (e.g., Taoism, Confucianism). Major "schools": Tiantai, Huayan, Chan/Zen, etc.. Cultural activities of monks, nuns, and lay believers.

AMES 3420. Topics in Japanese Culture. (; 1-3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)
Selected topics in Japanese culture. Topics specified in the Class Schedule.

AMES 3433. Traditional Japanese Literature in Translation. (LITR; 3 cr. ; A-F or Audit; Periodic Fall & Spring)
Survey of texts in different genres, from 8th to early 19th centuries, with attention to issues such as "national" identity, gender/sexuality, authorship, popular culture. No knowledge of Japanese necessary.

AMES 3436. Postwar Japanese Literature in Translation. (GP,LITR; 3 cr. ; Student Option; Periodic Fall & Spring)
This is an introductory survey of modern Japanese literature and its role in the postwar debates around Japanese culture, aesthetics, politics, and environment. Beginning with the occupation of Japan by the US military and ending with the 2020 Tokyo Olympics (postponed by a global pandemic), students will analyze the main movements in postwar Japanese literary production and the core issues featured in this literature. We will explore national genres in Japan, their premodern precursors, and postmodern manifestations. The course has no prerequisite and assumes no prior knowledge of Japanese cultures or experience with literary analysis. All materials, lectures, and discussions are in English.

AMES 3437. The Japanese Novel. (GP,LITR; 3 cr. ; A-F only; Periodic Fall & Spring)
Survey of the principal authors of the period spanning Japan's opening to the West (1860s

to World War II. Writers include Natsume Soseki, Shiga Naoya, Kawabata Yasunari, Edogawa Rampo, Hayashi Fumiko, and Tanizaki Junichiro.

AMES 3441W. Japanese Theater. (AH,WI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)
Japanese performance traditions. Emphasizes noh, kabuki, and bunraku in their literary/cultural contexts. Relationship between these pre-modern traditions and modern theatrical forms (e.g., Takarazuka Revue).

AMES 3456. Japanese Film. (GP; 3 cr. ; Student Option; Periodic Fall & Spring)
Themes, stylistics, and genres of Japanese cinema through work of classic directors (Kurosawa, Mizoguchi, and Ozu) and more recent filmmakers (Itami, Morita). Focuses on representations of femininity/masculinity.

AMES 3457. War and Peace in Japan Through Popular Culture. (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)
War-related issues in Japan. Animation films, comics from 1940s to 1990s. Mobilization of culture for WWII. Conflict between constitutional pacifism/national security. Japan's role in cold war/post-cold war worlds.

AMES 3458. Japanese Animation. (GP; 3 cr. ; A-F only; Periodic Fall & Spring)
This course takes up the technologies, genres, and themes of Japanese animation. By examining the works of important directors alongside media theories and other related writings, the course will cover not only the major genres and recurrent themes of anime, but also the cultural and critical contexts for apprehending anime.

AMES 3467. Science Fiction, Empire, Japan. (3 cr. ; A-F only; Periodic Fall & Spring)
Premised on its historical position as a non-Western colonial empire, this course takes up Japan as a focal point for examining the relations between science fiction and imperialism. Discussions center on the colonial underpinnings of Japanese science fiction and how particular motifs (future war, time travel, posthuman bodies) critically interrogate this history.

AMES 3468. Environment, Technology and Culture in Modern Japan. (ENV; 3 cr. ; Student Option; Periodic Fall & Spring)
Read/view historical, literary, visual texts to discover guiding ideas about nature, environment, technology use in Japan. No prior knowledge of Japan is necessary.

AMES 3471. Introduction to Japanese Religions. (3 cr. ; Student Option; Periodic Fall & Spring)
An introduction to the development of different forms of religious practice in Japan over the past fourteen hundred years. A survey of Japanese religions and their development will be combined with specific examples (past and present) that demonstrate the way that religious belief has manifested itself in various forms of cultural practice.

AMES 3478. Modern Japan, Meiji to the Present (1868-2000). (HIS; 3 cr. ; Student Option; Every Fall & Spring)

Japan's development as industrial/imperial power after Meiji Restoration of 1868. Political developments in Taisho years. Militarization/mobilization for war in 1930s. Japan's war with China, Pacific War with US. American Occupation. Postwar economic recovery, high growth. Changing political/popular culture of 1980s, '90s.

AMES 3520. Topics in Korean Culture. (; 1-3 cr. [max 9 cr.]; A-F only; Periodic Fall & Spring)
Selected topics in Korean culture. Topics specified in the Class Schedule.

AMES 3536. Modern Korean Literature. (GP,LITR; 3 cr. ; Student Option; Periodic Fall & Spring)
Modern Korean literature in English translation from the colonial period until the 1990s. Read literary texts critically, using genre categories, theories of narrative voice, different understandings of modern literary subjectivity, and historical contextualization.

AMES 3556. Korean Film and Media. (AH,GP; 3 cr. ; Student Option; Periodic Fall & Spring)
This course is an introduction to Korean film from the Japanese colonial period (1910-1945) to the present day. We discuss the emergence of the Korean film industry under the conditions of colonial modernity and the various political pressures put on film production in South Korea until the 1990s. We will then turn to the last twenty years, during which South Korean film and television have experienced a boom in popularity in East Asia and globally. Throughout, we will focus on the formal and technical aspects of film, representations of history and historical memory, genre borrowing and genre mixing, and the relationships between art-house and culture industry productions.

AMES 3558. Korean Popular Culture. (AH,GP; 3 cr. ; A-F only; Periodic Fall & Spring)
This course is an introduction to contemporary Korean popular culture, with a focus on television, video, and online media. We will learn how to think critically about a variety of popular culture phenomena, including dramas, variety shows, comedy performances, video games, food-related programs and videos, political satire and commentary, and music videos. By engaging with the academic scholarship on popular culture, we will learn how to analyze the stories, images, and sounds of Korean popular culture, while situating these within their various cultural and social contexts. Topics covered will include the Korean Wave (hallyu), the culture industry, digital platforms and economies, celebrity, fandom, and globalization. Attention will be given both to the local conditions of cultural production and the transnational influences of Korean media on East and Southeast Asia, as well as Europe and the Americas.

AMES 3576. Language & Society of the Two Koreas. (3 cr. ; A-F only; Periodic Fall & Spring)
This course is designed to offer an introduction and contrastive analysis of the language and

society of the two Koreas; the Republic of Korea (better known as South Korea) and the Democratic People's Republic of Korea (better known as North Korea). This course will introduce the growing divide of the past 70 years between North and South Korea in the areas of language, society, and culture.

AMES 3586. Cold War Cultures in Korea. (3 cr. ; A-F only; Periodic Fall & Spring)
In this course we will analyze the Cold War (1945-1989) not only as an era in geopolitics, but also as a historical period marked by specific cultural and artistic forms. We focus on the Korean peninsula, looking closely at the literary and film cultures of both South Korea and North Korea. We discuss how the global conflict between U.S.-centered and Soviet-centered societies affected the politics, culture, and geography of Korea between 1945 and 1989, treating the division of Korea as an exemplary case extending from the origins of the Cold War to the present. We span the Cold War divide to compare the culture and politics of the South and the North through various cultural forms, including anti-communist and socialist realist films, biography and autobiography, fiction, and political discourse. We also discuss the legacy of the Cold War in contemporary culture and in the continued existence of two states on the Korean peninsula. The primary purpose is to be able to analyze post-1945 Korean cultures in both their locality and as significant aspects of the global Cold War era.

AMES 3587. Current Affairs and Everyday Life in Two Koreas. (3 cr. ; Student Option; Periodic Fall & Spring)
This course is designed to offer an in-depth look at current affairs and social, cultural, and economic interactions that are influenced by everyday hierarchical structures in both North and South Korea. This course will specifically deal with issues that affect individuals and small groups in the two Koreas rather than focusing on issues at the state and international level. The course will take macro-level issues such as hierarchical structures that are remnant of the feudal era and examine their impact at the micro-level for people in the two Koreas. The two Koreas share centuries upon centuries of common socio-cultural structures and ways of being that, despite the recent separation, continue to exert a powerful influence on individuals' daily life even though they may inhabit drastically different political and economic states.

AMES 3636. South Asian Women Writers. (3 cr. ; A-F only; Periodic Fall & Spring)
Survey of South Asian women's writing, from early years of nationalist movement to present. Contemporary writing includes works by immigrant writers. Concerns, arguments, and nuances in works of women writing in South Asia and diaspora.

AMES 3637W. Modern Indian Literature. (GP,WI,LITR; 3 cr. ; A-F or Audit; Periodic Fall & Spring)
Survey of 20th century literature from South Asian countries, including India, Pakistan, and Sri Lanka. All readings in English. Focuses

on colonialism, post-colonialism, power, and representation.

AMES 3638. Islam and Modernity in South Asia. (; 3 cr. ; A-F only; Periodic Fall & Spring)
This course explores the multiple genealogical trajectories of Islamic thought in South Asia through the varied lens of its literary traditions. For centuries, literature has remained an important site for the expression of Islamic identity and its interaction with the larger history of the subcontinent. Muslim writers have traversed diverse domains of human experience through multiple genres: while poetry has been a widely celebrated genre for the expression of private love, drama has emerged as a crucial site for public politics and activism. In this course, students will read texts that have circulated across South Asia and interpret them in relation to enduring questions about power, justice, identity, community and love (both human and divine) in Islam. Reading a wide array of works from diverse temporal and spatial locations, this course examines how the aesthetic and discursive world of South Asia provides a terrain on which the Islamic "socius" of the region has come to define itself in a unique manner. In addition, we also investigate how these literary cultures-at different historical junctures-articulated a secular ethos to define Hindu-Muslim relations in the subcontinent. We further discuss questions of genres-epic, romance, drama, novel and lyric-as a way of thinking about the circulation of literary forms across languages, cultures and national spaces in the past and the present.

AMES 3651. Ghosts of India. (GP; 3 cr. ; A-F only; Periodic Fall & Spring)
Writers, filmmakers, and other creative art practitioners from almost every corner of this living world use the figure of the ghost to address questions of ethics, justice, violence, and repression. This course focuses on India's modern ghosts as well as ghosts and spirits from classical Indian literature. In every sphere of our lives, public and private, we are chased by various ghosts that often appear in forms of memory, remembrance, nostalgia, and forgetfulness. Ghosts scare us, enchant us, and capture our imagination. Our intellectual engagement will consist of theorizations around the figure of the ghost and its various conceptual offshoots (hauntology, specter, the uncanny, etc.) as encountered through literary and filmic texts. The course will also connect these ghostly tales with issues of nationalism, gender, communal and ethnic violence, and capitalism.

AMES 3671. Hinduism. (3 cr. ; Student Option; Periodic Fall & Spring)
Development of Hinduism focusing on sectarian trends, modern religious practices, myths/rituals, pilgrimage patterns/ religious festivals. Interrelationship between Indian social structure/Hinduism.

AMES 3672. Buddhism. (GP; 3 cr. ; Student Option; Periodic Summer)
Historical and contemporary account of the Buddhist religion in Asia/world in terms of its rise, development, various schools, practices,

philosophical concepts, and ethics. Current trends in the modern faith and the rise of "socially engaged" Buddhism.

AMES 3673. Survey of India: Languages, Literature, and Film. (GP; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Survey course of Indian languages and literatures that explores the languages of India from genealogical, linguistic, typological, historical and sociological perspectives. Diachronic analysis of the languages of India in relation to some structural features will be also investigated. This course will also provide an overview of literatures of several main South Asian languages with a focus on Hindi - Urdu literatures. We will address the origin of Hindi-Urdu literatures, periodization, and naming of each period. We will also examine the important writers and their representative work, along with the literary trends and influences of each period, including political, social, and cultural situations which helped to shape the writers and their work. Among the representative literary works in Hindi-Urdu, some have been made into films.

AMES 3679. Religion and Society in Modern South Asia. (AH,GP; 3 cr. ; Student Option; Periodic Fall & Spring)

Survey of religious formations in modern South Asia (Hindu, Islamic, Sikh, Buddhist). Transformation of religious practice/thought in modernity. Relation between religion and nationalism. Geopolitical dimensions of religious transformation in South Asia.

AMES 3700. Topics in Southeast Asian Literature. (; 1-3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Selected topics in Southeast Asian literature. Topics specified in the Class Schedule.

AMES 3720. Topics in Southeast Asian Culture. (; 1-3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Selected topics in Southeast Asian culture. Topics specified in the Class Schedule.

AMES 3756. Southeast Asian Cinema. (3 cr. ; Student Option; Periodic Fall & Spring)

This course examines the social life and political functions of cinema and media cultures in Southeast Asia in relation to various contexts in which they emerged and circulate. The course is attentive to the impact of historical processes on film and media culture as well as to how film and media process historical events?colonialism, militarism, religious conflict, economic turmoil. The course will be divided into three different periods. We will, first, explore the period of the early twentieth century where colonialism in the region activates claims around nation and nationalism and we will examine the role modern media plays in these debates by looking at how notions of ?national media? produces ?others? who are at the margin of such development. Second, we will explore polarized ideological conflicts during the Cold War?the period in which Americanization and anti-American sentiment were expressed in media through genres that are now considered propaganda. We will also look at films and graphic literature that overtly document

and critique violence. The final part of the course will focus on contemporary Southeast Asia?the financial crisis of 1996 and many forms of authoritarianism that still impact the discussions, understandings, and practices of human rights in the region.

AMES 3771. History of Southeast Asia. (GP; 3 cr. ; A-F or Audit; Every Fall & Spring)

Origins of civilization/indigenous states. impact of world religions and Western colonialism on gender, social, political, and economic structures. Nationalism. Establishment of Vietnam, Thailand, Indonesia, and the Philippines.

AMES 3772. Hmong Language and Culture Immersion in China. (4 cr. ; A-F only; Periodic Summer)

This instructor-led study abroad course in Kunming, China, focuses on Hmong language and culture in the trans-historical context of China. Students will gain a deeper understanding of the intricate differences within the Hmong linguistic and cultural diaspora through a comparative approach examining the complexity of Hmong dialects and regional cultural shifts. Instructors will work with all student levels, and instruction is oriented towards helping students learn to use the language effectively. All aspects of linguistic performance - speaking, reading, writing and listening - will be addressed. Open to all students interested in Hmong language and culture, regardless of language level.

AMES 3773. Hmong Language and Culture Immersion in Thailand. (GP; 4 cr. ; Student Option No Audit; Periodic Summer)

This is an instructor-led study abroad course in Thailand. Hmong in the United States trace their story of diaspora directly to Thailand as the most recent country of immigration. While many traced their refugee stories to Thailand, before immigrating to the United States and other countries, Thailand is also a country where many Hmong settled. Thailand is a country of many Hmong stories, intertwined with settlement, immigration, social economic struggles and successes, language development, and more. This study abroad course will focus on learning, observing and exploring the Hmong diaspora through language and culture in Thailand. The course will explore the historical, cultural, and linguistic contexts of Hmong settlement and immigration in Thailand as well as compare to contexts of Hmong in the United States.

AMES 3800. Topics in Arab Literature. (; 3 cr. [max 9 cr.] ; A-F only; Periodic Fall & Spring)

Topics specified in Class Schedule.

AMES 3820. Topics in Arab Culture. (; 3 cr. [max 9 cr.] ; A-F only; Periodic Fall & Spring)

Topics specified in Class Schedule.

AMES 3832. The Politics of Arabic Poetry. (GP,LITR; 3 cr. ; A-F only; Periodic Fall & Spring)

This course engages with Arabic poetry in its socio-political context. How have Arab poets from the pre-Islamic era till the present time used their verse as a tool to affirm the structure of their society, or to struggle with it? What

roles did Arabic poetry play at the Abbasid imperial courts? How does Arabic poetry participate in the constitution and promulgation or subversion of political ideologies? And what presence has it had in Arab peoples' struggles for independence or reform, historically and today as part of the Arab Spring?

AMES 3833. Jinn, Ghosts, and Demons in Arabic Literature. (GP,LITR; 3 cr. ; A-F only; Periodic Fall & Spring)

Jinn, also known as genies, are supernatural beings intrinsic to Islamic cosmology and culture: neither human nor divine, of our world but (usually) invisible to us. This course traces the trope of the jinni in Arabic literature: from the place of jinn in the Quran and Islamic tradition, through their role in the composition of the greatest poetry, to their reincarnation in modern works of literature. Following a survey of classic texts and contexts, we will ask why modern authors summon demons and resurrect ghosts, and what political and cultural work these unruly beings are called to perform. More specifically, we will explore the manner in which jinn are latched onto modern debates on personal and collective trauma, memory, madness, relations between East and West (or North and South), political and state violence, gender relations and hierarchies, and virtual realities.

AMES 3837. Orienting Hebrew Literature. (GP,LITR; 3 cr. ; A-F only; Periodic Fall & Spring)

An introductory survey of Modern Hebrew Literature and its journey from Eastern Europe through Ottoman/British Palestine to the State of Israel. The class centers on the manner in which Hebrew literature has envisioned the Middle East or ?the Orient,? reflecting, manipulating, or challenging orientalist paradigms. The first part of the course focuses on Hebrew literature written by Eastern European writers, their fantasies of the East as well as their engagements with orientalist or anti-Semite prejudices. The second part examines Hebrew literature?s attempts to ?nativize? in Palestine. Finally, we will read a series of texts by Ashkenazi, Mizrahi, and Palestinian Israeli writers that complicate any attempt to position Hebrew within an Orient/Occident dichotomy. No prior familiarity with Hebrew literature is necessary. All texts will be read in English.

AMES 3856W. Palestinian Literature and Film. (GP,WI; 3 cr. ; A-F only; Periodic Fall & Spring)

This course examines modern literature and film of the Palestinian people both for artistic significance and interactions with the broader historical and political situations confronted by Palestinians. We will ask how cultural production, namely literature and film, interacts with, responds to, and even anticipates historical and political events. At the same time, we will problematize a strictly historicist and political reading of literary and cinematic texts, which reduces such artistic works to mere sociological documents, overlooking their creative and artistic achievements. Ultimately, this leads us to a number of questions: what is the relationship between history/politics

and art? Can artistic texts transcend the historical and political contexts in which they are produced? How has artistic production functioned within the context of Palestinian statelessness, exile, and anti-colonial struggle? All texts covered in the course will be in English translation, however those able to read texts in the original Arabic are encouraged to do so.

AMES 3867. Orientalism and the Arab World. (AH,DSJ; 3 cr. ; A-F only; Periodic Fall & Spring)

This course explores the various manners in which the Arab World? is constructed and re/presented in American and European discourses. Reading through scholarly writings, literature, visual arts, and popular media, this course illuminates the manner in which the idea of a monolithic Arab World? and quintessential Arab? subject are constructed and re/produced for western consumption. Crucially, this course also examines the manner in which this re/production of the Arab World/Subject? is integral to the construction of western identity itself? serving as a foil to western self-conceptualization. The concept of orientalism was introduced into western scholarship by Edward Said through his seminal 1978 work, *Orientalism*, often credited as a foundational text in the field of postcolonial studies. In the first part of the course, we will closely read *Orientalism* and some of the influential critical engagements with Said's book. We will also discuss how orientalist discourse has been subsumed under the debates on the Clash of Civilizations? and The War on Terror? in the 21st century. The second part of the course will look at orientalist representations in a variety of mediums, from literature and visual art to video games. In the final part of the course, we will try to inventory the traces? of Orientalism on the Oriental subject, or examine the manner Arab artists and writers have engaged with orientalism's legacies.

AMES 3871. Islam: Religion and Culture. (3 cr. ; Student Option; Every Fall)

This course is a brief survey of the religion and civilization of Islam. It introduces students to 1) Islamic history from its inception in the seventh century CE to the present, with emphasis on the life of the Prophet Muhammad and the early Caliphate; 2) The authoritative texts of Islam, i.e. the Quran and Prophetic traditions (Hadith); 3) The institutions and discourses characteristic of Islamic civilization; and 4) The transformation of Muslim life and thought in the modern period. By taking this course, students become familiar with the chief ideas, characters, narratives, rites, localities, and movements associated with Islam. prereq: Soph or jr or sr

AMES 3872. The Cultures of the Silk Road.

(3 cr. ; Student Option; Every Fall & Spring)
Past/present state of cultures that flourished in Central Asia (present-day CA republics, Iran, Afghanistan) after Alexander the Great. Decline with opening of sea routes.

AMES 3877. The Arab Renaissance: Narrating Modernity. (AH,GP; 3 cr. ; A-F only; Periodic Fall & Spring)

The Nah?a, a word meaning renaissance, awakening, or simply the act of standing up, is the name Arab writers and intellectuals of the 19th c. gave their own historical period. What does it mean to view oneself as living through a revival? How does this view shape the contours of the past, or of the future? This class will address these questions through a survey of the political, intellectual, social, and cultural aspects of Arab modernity. We will examine how Arab thinkers of the late 19th and early 20th century produced new genres, identities, and communal affiliations to narrate their experience of modernity, which they often coded as the encounter with the West. Our readings, all in English translation, will cover the first confrontations (and love affairs) with European powers, the self-professed urgency of projects of reforming language, literature, and cultural institutions, the growing schism between religious and secular thought, and the attempts to articulate indigenous alternatives to Western-style modernity.

AMES 3886. Petrofictions: Oil Wars, Wealth, and Waste in the Middle East. (AH; 3 cr. ; A-F only; Periodic Fall & Spring)

In 1992, the novelist Amitav Ghosh wondered why the "oil-encounter," the most significant, culture-altering development of the twentieth century, has not been narrativized. Twenty years later, in *The Great Derangement*, he concluded that our prevalent narrative forms are inadequate to narrate the slow catastrophe of climate change, simply because they are so implicated, even complicit, in the extractive logics of petromodernity. This course explores our contemporary modernity of oil dependence through critical engagement with Middle Eastern cultural production. It postulates that to think about oil is not solely to think about derricks or spectacular spills or barrel prices, but about the basic narratives, fictions, and ideologies that underline our daily lives; that reading fictions (conceived broadly) is both a method and resource to map and critique ways in which the world's resources are unevenly produced, extracted, and exploited on a global-local scale; and that humanistic inquiry can challenge the common assumption that existing energy systems are inevitably necessary in modern life. Throughout the semester, the students will engage in critical readings of novels, films, and visual art that emerge from and react to the networked reality of an oil-addicted world. They will critically analyze the narrative forms and visual vocabularies through which the petro-industry has been depicted, as well as learn about the violent history of oil extraction and its environmental effects. Finally, they will consider how creative works allow us to imagine and promote alternative and more sustainable energy futures.

AMES 3900. Topics in Asian Literature. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Topics specified in Class Schedule.

AMES 3920. Topics in Asian Culture. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Topics specified in Class Schedule.

AMES 3993. Directed Study. (1-4 cr. [max 16 cr.] ; Student Option; Every Fall & Spring)
Individual reading/study, with guidance of a faculty member, on topics not covered in regular courses. Prereq-instr consent, dept consent, college consent.

AMES 4901W. Capstone Project in Asian & Middle Eastern Studies. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

The capstone project in the department of Asian and Middle Eastern Studies is meant to demonstrate the cumulative language, critical thinking, and analysis skills developed by students over the course of their undergraduate studies. It consists of a thesis of at least 6000 words, in which students must synthesize research in primary language sources (i.e. texts, films, or other forms of cultural production in the original language of student's declared subplan) with secondary research. prereq: AMES major, sr

AMES 5220. Pedagogy of Asian Languages and Literatures. (; 3 cr. [max 9 cr.] ; A-F only; Every Fall & Spring)

Second language acquisition theory, methods, testing, and technology applicable to the teaching of less commonly taught languages.

AMES 5351. Chinese New Media. (3 cr. ; A-F only; Periodic Fall & Spring)

This course explores new media and intermediality from specific moments in the history of modern China. The new visibility of the late Qing Dynasty offers examples of how new forms of visual culture became both reflexive and constitutive of modernity. Later, silent cinema of the Republican era both drew upon and defined itself against existing Chinese dramatic forms, particularly opera. In the 1930s, the arrival of sound in cinema provided a space for phonographic modernity to be expressed through film. In the People's Republic, the productive interplay between traditional art forms and cinema entered a new era, culminating in the cinematic adaptations of the model plays? of the Cultural Revolution. Finally, recent years have seen the explosive growth of digital cinema, computer animation, internet culture, and gaming communities.

AMES 5358. Realism, Revolution, and the Moving Image. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Cinema associated with socialist realism as a global, transnational phenomenon at the heart of the aesthetics of the 20th-century's communist movement. The work of revolutionary filmmakers from China, Soviet Union, North Korea, Cuba, Eastern Europe, and Africa informs our exploration of socialist realism. Formalized by Maxim Gorky and other Soviet artists, theorists, and cultural officials in the early 1930s, socialist realism would become the official literary and artistic style of Communist revolutionary movements and resulting states throughout the world. Certain consistencies of style and theme spread to various sites across histories and geographies, yet much variation also was evident and will be explored in this class. Rejecting the dismissal of socialist realism as mere propaganda, we will take seriously

its theorization and its aesthetic innovations, as well as its relationships with classical Hollywood narration, melodrama, and the psychoanalytic concept of sublimation. Through an examination of socialist realism's variations and limits, we will grapple with larger questions of modernity, authority, and the function of art in modern societies.

AMES 5359. Early Shanghai Film Culture. (3 cr. ; Student Option; Periodic Fall & Spring) Shanghai film culture, from earliest extant films of 1920s to end of Republican Era in 1949. Influences on early Chinese film, from traditional Chinese drama to contemporary Hollywood productions. Effects of leftist politics on commercial cinema. Chinese star system, material film culture.

AMES 5374. The Monkey King and Transcultural China: Chinese Myth, Legend, and Ideology. (; 3 cr. ; Student Option No Audit; Periodic Fall & Spring) Early Chinese myths/legends/historical narratives about the Monkey King. Cultural formations from later periods, including contemporary popular culture and Asian American literature. Construction of China/Chinese in 20th Century seen through the Monkey as a figure of otherness and in-betweenness in relation to globalization and cross-cultural identity.

AMES 5420. Topics in Japanese Culture. (; 3 cr. [max 9 cr.] ; A-F only; Periodic Fall & Spring) Topics specified in course schedule.

AMES 5446. Kabuki: A Pop, Queer, and Classical Theater in Japan. (3 cr. ; A-F only; Periodic Fall & Spring) Kabuki, an all-male theater of "song (ka)/dance (bu)/acting (ki)" that came into being in the 17th century, still boasts popularity in Japan. This course explores kabuki in several contexts: historical, theatrical, literary, and theoretical. It aims to historicize this performing art in its four-hundred-year dynamic trajectory against the static understanding that it is a national, high culture. No less importantly, we inquire into theoretical implications of subject matter, such as citationality, gender construction, and the like. Furthermore, this course attends to what is usually marginalized and overlooked in kabuki historiography: *koshibai* (unlicensed small troupes of kabuki); *onna yakusha* (women kabuki actors who mastered the acting techniques established by male kabuki actors—including the technique of female impersonation). Open to anyone with an interest, no previous knowledge of Japanese studies, theater studies, or Japanese is required. All of the readings will be available in English. Audio-visual materials will be used whenever available and appropriate.

AMES 5486. Images of "Japan". (3 cr. ; A-F only; Periodic Fall & Spring) This course examines non-Japanese texts that deploy the imagination of "Japan" in their narratives. Discussions will take up such focal points as: ethnographic cinema, the politics of travel and translation, the intersections of race and gender, the cultural politics of alternate

histories, and the ramifications of techno-orientalist discourse.

AMES 5556. Korean Film and Media. (3 cr. ; Student Option; Periodic Fall & Spring) This course is an introduction to Korean film from the Japanese colonial period (1910-1945) to the present day. We discuss the emergence of the Korean film industry under the conditions of colonial modernity and the various political pressures put on film production in South Korea until the 1990s. We will then turn to the last twenty years, during which South Korean film and television have experienced a boom in popularity in East Asia and globally. Throughout, we will focus on the formal and technical aspects of film, representations of history and historical memory, genre borrowing and genre mixing, and the relationships between art-house and culture industry productions.

AMES 5620. Topics in South Asian Culture. (; 3 cr. ; A-F only; Periodic Fall & Spring) Topics specified in Class Schedule.

AMES 5636. South Asian Women Writers. (; 3 cr. ; Student Option; Periodic Fall & Spring) Survey of South Asian women's writing, from early years of nationalist movement to present. Contemporary writing includes works by immigrant writers. Concerns, arguments, and nuances in works of women writing in South Asia and diaspora.

AMES 5720. Topics in Southeast Asian Culture. (; 1-3 cr. ; Student Option; Periodic Fall & Spring) Selected topics in Southeast Asian culture. Topics specified in the Class Schedule.

AMES 5820. Topics in Arab Culture. (; 3 cr. [max 9 cr.] ; A-F only; Periodic Fall & Spring) Topics specified in Class Schedule.

AMES 5837. Arab Prison Writing. (3 cr. ; Student Option; Periodic Fall & Spring) From colonial-era prisons to post-colonial regimes' widespread use of detention to neo-colonial spaces of confinement such as Guantanamo and Abu Ghraib, incarceration and its threat have been prominent features of modern Arab life spawning a distinct genre: prison writing. This course surveys novels and memoirs of this genre to examine the various forms imprisonment and incarceration take in Arab literature and the often surprising ways in which they are represented.

AMES 5866. Gender and Sexuality in Modern Arabic Literature. (3 cr. ; Student Option; Periodic Fall & Spring) Survey of modern Arabic literature's key role in the articulation, construction, and subversion of gendered subjectivities. Explores the construction of masculine and feminine subjectivities, as well as the blurring of the dichotomy between the two. Also explores how homoerotic desire is presented in modern Arabic novels. Engages the complex interplay between the gender politics of literary texts, and the broader historical and political contexts from which they emerge. All texts covered in this course will be in English translation, however those able to read texts in the original Arabic are encouraged to do so.

AMES 5877. The Arab Renaissance: Narrating Modernity. (3 cr. ; Student Option; Periodic Fall & Spring) The Nah'aa, a word meaning renaissance, awakening, or simply the act of standing up, is the name Arab writers and intellectuals of the 19th c. gave their own historical period. What does it mean to view oneself as living through a revival? How does this view shape the contours of the past, or of the future? This class will address these questions through a survey of the political, intellectual, social, and cultural aspects of Arab modernity. We will examine how Arab thinkers of the late 19th and early 20th century produced new genres, identities, and communal affiliations to narrate their experience of modernity, which they often coded as "the encounter with the West." Our readings, all in English translation, will cover the first confrontations (and love affairs) with European powers, the self-professed urgency of projects of reforming language, literature, and cultural institutions, the growing schism between religious and secular thought, and the attempts to articulate indigenous alternatives to Western-style modernity.

AMES 5886. Petrofictions: Oil Wars, Wealth, and Waste in the Middle East. (3 cr. ; A-F only; Periodic Fall & Spring) In 1992, the novelist Amitav Ghosh wondered why the "oil-encounter," the most significant, culture-altering development of the twentieth century, has not been narrativized. Twenty years later, in *The Great Derangement*, he concluded that our prevalent narrative forms are inadequate to narrate the slow catastrophe of climate change, simply because they are so implicated, even complicit, in the extractive logics of petromodernity. This course explores our contemporary modernity of oil dependence through critical engagement with Middle Eastern cultural production. It postulates that to think about oil is not solely to think about derricks or spectacular spills or barrel prices, but about the basic narratives, fictions, and ideologies that underline our daily lives; that reading fictions (conceived broadly) is both a method and resource to map and critique ways in which the world's resources are unevenly produced, extracted, and exploited on a global-local scale; and that humanistic inquiry can challenge the common assumption that existing energy systems are inevitably necessary in modern life. Throughout the semester, the students will engage in critical readings of novels, films, and visual art that emerge from and react to the networked reality of an oil-addicted world. They will critically analyze the narrative forms and visual vocabularies through which the petro-industry has been depicted, as well as learn about the violent history of oil extraction and its environmental effects. Finally, they will consider how creative works allow us to imagine and promote alternative and more sustainable energy futures.

AMES 5920. Topics in Asian Culture. (; 3 cr. [max 12 cr.] ; A-F only; Periodic Fall & Spring) Topics specified in Class Schedule.

AMES 5993. Directed Study. (1-4 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Individual reading/study, with guidance of a faculty member, on topics not covered in regular courses. Prereq-instr consent, dept consent, college consent.

Asian American Studies (AAS)

AAS 1101. Imagining Asian America.

(DSJ,SOCS; 3 cr. ; Student Option; Every Fall) Issues in Asian American Studies. Historical/recent aspects of the diverse/multifaceted vision of "Asian America," using histories, films, memoirs, and other texts as illustrations.

AAS 3001. Contemporary Perspectives on Asian America.

(DSJ; 3 cr. ; Student Option; Every Fall) Interdisciplinary overview of Asian American identities. Post-1965 migration/community. History, cultural productions, and concerns of Americans of Chinese, Japanese, Korean, South Asian, Filipino, and Southeast Asian ancestry.

AAS 3211W. Race & Racism in the U.S..

(DSJ,WI; 3 cr. ; A-F or Audit; Every Fall & Spring) We live in a society steeped in racial understandings that are often invisible?some that are hard to see, and others that we work hard not to see. This course will focus on race relations in today's society with a historical overview of the experiences of various racial and ethnic groups in order to help explain their present-day social status. This course is designed to help students begin to develop their own informed perspectives on American racial ?problems? by introducing them to the ways that sociologists deal with race, ethnicity, race relations and racism. We will expand our understanding of racial and ethnic dynamics by exploring the experiences of specific groups in the U.S. and how race/ethnicity intersects with sources of stratification such as class, nationality, and gender. The course will conclude by re-considering ideas about assimilation, pluralism, and multiculturalism. Throughout, our goal will be to consider race both as a source of identity and social differentiation as well as a system of privilege, power and inequality affecting everyone in the society albeit in different ways.

AAS 3251W. Sociological Perspectives on Race, Class, and Gender.

(DSJ,WI,SOCS; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer) In the midst of social unrest, it is important for us to understand social inequality. In this course we will analyze the impact of three major forms of inequality in the United States: race, class, and gender. Through taking an intersectional approach at these topics, we will examine the ways these social forces work institutionally, conceptually, and in terms of our everyday realities. We will focus on these inequalities as intertwined and deeply embedded in the history of the country. Along with race, class, and gender we will focus on other axes of inequality including sexuality, citizenship, and dis/ability. We will analyze the meanings and values attached to these social categories, and the ways in which these social constructions help rationalize, justify, and reproduce social inequality.

AAS 3271. Learning in the Asian American Community.

(; 3 cr. [max 8 cr.] ; Student Option; Periodic Fall & Spring) This course is intended to give students a general introduction to participatory learning through engagement with Asian American community organizations and/or leaders. The course is based within Asian American studies, an interdisciplinary field of inquiry that examines how histories of immigration, exclusion, racialization, and citizenship have shaped Asian American communities and identities. In turn, Asian American studies asks how Asian Americans, configured as immigrants, refugees, "forever foreigners," and "model minorities," impact how American nation, empire, rights, and belonging are constructed. Working with community partners, students will have the opportunity to learn several different community-based research skills: newspaper article search, archival research and/or archival organization, interviewing skills, and audio/video production. Students also have the option to complete service learning with an organization throughout the semester; with this option, students will write a short reflection statement on their service learning as their final project. prereq: AAS and CRES minors must register A-F.

AAS 3301. Asian America Through Arts and Culture.

(AH,DSJ; 3 cr. ; Student Option; Spring Even Year) The course focuses on the close analysis and interpretation of individual works by a range of modern and contemporary artists. Students will analyze, critique, and interpret these works in light of the historical and social contexts in which they were produced, their creation and uses of aesthetic form, and their impact on individuals and communities. Discussion, writing assignments, and oral presentations will focus on different ways of encountering and evaluating artistic work; for instance, students will write critical analyses and production reviews as well as dialogue more informally through weekly journal entries and online discussion forums. We will examine what it means to define artists and their work as being "Asian American" and explore how other categories of identity such as gender, sexuality, or class intersect with race. We will study how art works not only as individual creativity but also as communal and social practice; for instance, we look at the history of theaters, such as East-West Players or Pan Asian Repertory Theatre, that have sustained Asian Americans as actors, playwrights, and designers.

AAS 3303W. Writing Differences: Literature by U.S. Women of Color.

(DSJ,WI,LITR; 3 cr. ; Student Option; Fall Odd Year) Interpret/analyze poetry, fiction, drama of U.S. women minority writers. Relationship of writer's history, ethnicity, race, class, gender to her writings.

AAS 3311. Asian American Theater.

(3 cr. ; Student Option; Periodic Fall & Spring) Through submerging students in both theater history and practice, this class brings students

closer to the history, experiences, and politics of Asian Americans. Why are Asian American stories needed and how do we tell them? What are the artistic and social agendas driving the making of Asian American theater? How have the styles of performance shifted? While we will be actively working on readings and original theater projects, you don't need to be a theater expert to enjoy this class. Topics will include reading plays by Frank Chin, David Henry Hwang, Wakako Yamauchi, Naomi Iizuka, and others; looking at the history of Asian American theater companies; discussing creative approaches to casting, acting, directing, and design; and building collaborations among companies, audiences, and communities.

AAS 3341. Asian American Images.

(AH,DSJ; 3 cr. ; Student Option; Periodic Fall & Spring)

From 19th-century anti-Chinese political cartoons to Harold and Kumar, visual representations of Asians in the United States have long influenced how Asian Americans are seen and treated. What are some of the ways that photography, graphic arts, and digital culture have pictured Asian Americans as aliens, citizens, immigrants, workers, family and community members, entertainers, and artists? Course topics will relate visual images to particular historical moments, including the early exclusion period and the "yellow peril" stereotype; WWII Japanese American incarceration and the drawings of Min? Okubo, and photo-journalism documenting U.S. military involvement in Southeast Asia and its aftermath. How do photographic and other images work to counter historical amnesia, heal traumatic loss, and document social injustice? Other weeks of the class will explore the ways that individuals, families, and communities use photographs, video, and other visual media to preserve a sense of connection and belonging. We will also look at how contemporary Asian American photographers such as Tseng Kwong Chi, Nikki Lee, and Wing Young Huie experiment with visual images to raise questions of racial and national identity, social inequality, gender, sexuality, and political agency. The course also includes a digital storytelling project that encourages students to create video images and sound reflecting Asian American immigration stories from local communities.

AAS 3351. Asian Americans and Popular Culture.

(AH,DSJ; 3 cr. ; Student Option; Periodic Fall & Spring) Over the past few decades, Asian Americans have become increasingly visible both as the subjects and producers of popular culture in the United States. This course will explore how this new recognition of Asian Americans in popular literature, cinema, television, and entertainment is related both to longer histories of Asian immigration and racial exclusion and to post-1960s efforts to forward racial awareness, community activism, and social justice. Our first unit will look at how particular stereotypes such as the yellow peril or the wartime enemy encouraged anti-Asian feeling and violence and legal restrictions on immigration and naturalization. We will

then examine how throughout history, Asian immigrants and their descendants used song, dance, theater, writing, and other forms of popular culture to express personal desires and foster collective ties. Our final unit concentrates on contemporary popular culture and its relationship to the changing identities of Asian Americans. How do Asian Americans influence the current essays, films, and videos that are consumed by millions today? How are increasingly pan-ethnic, interracial, multiracial, transnational, and global experiences reflected in popular culture?

AAS 3361. Asian Americans and Food. (3 cr. ; Student Option; Periodic Fall)

Asian Americans have always been intimately connected to food practices and institutions in the American imagination. Food is the medium through which Asian American cultural difference—including their status as “perpetual foreigners” or their “model minority character”—are typically expressed and disseminated. Historically, Asian migration to the United States was fueled by labor needs particularly in the agricultural sector. In addition, Asian labor has been stereotypically linked to food service and preparation such as the ubiquitous Chinese take-out place and more recently, the sushi and Korean fusion joints. This course is an introduction to the interdisciplinary study of food to better understand the historical, social, and cultural aspects of Asian American food preparation, distribution and consumption. Students will investigate the politics and poetics of Asian American foodways by examining social habits, and rituals around food in restaurants, homes and other public venues. The course texts include ethnographic essays, fictional works, memoirs, magazines, and television shows.

AAS 3409W. Asian American Women's Cultural Production. (AH,WI,DSJ; 3 cr. ; Student Option; Every Fall)

Diversity of cultures designated “Asian American.” Understanding women’s lives in historical, cultural, economic, and racial contexts.

AAS 3483. Hmong History Across the Globe. (; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

Hmong interaction with lowland Southeast Asian states (Laos, Vietnam) and Western colonial powers (French, American) since 19th century. Changes to religious, social, political, and gender institutions. Aspirations for political autonomy.

AAS 3486. Hmong Refugees from the Secret War: Becoming Americans. (3 cr. ; Student Option; Spring Odd Year)

Socio-economic, political, gender, cultural/religious changes in Hmong American community during last three decades. How Hmong are racialized in American society. Impact to first/second generations.

AAS 3503. Asian American Identities, Families, & Communities. (SOCS,DSJ; 3 cr. ; A-F or Audit; Periodic Spring)

This course provides a sociological overview of Asian American identities, families and communities. To place these experiences

within a broader historical, structural, and cultural context the course will begin with a brief introduction to the history of Asians and Asian Americans in the United States and sociological theories about incorporation and racial stratification. We will then examine the diversity of Asian American communities and families, highlighting ethnic, gender, and class variations. Other topics of focus include racialization and discrimination, education, ethnic enclaves, family and intergenerational relationships, identity, media, culture, and politics and social action. Throughout the course we will consider the ways in which society affects individuals, and how in turn, individuals affect society. Students will have an option to do community-engaged learning or another course project.

AAS 3601W. War and Empire: Asian American Perspectives. (GP,WI; 3 cr. ; Student Option; Periodic Spring)

This course examines the reach of war and empire in Asian America since the turn of the twentieth century. Starting with US wars in the Philippines (1898-1910) and the formation of the colonial state, the course will track the ascendancy of US empire in Asia and paths toward wars against imperialist Japan (1941-1945), in Korea (1950-53), and in Vietnam (1955-1975). The course will address the relevance of the unending Global War on Terrorism (2001-) in contemporary Asian America. Together, the course explores how these wars have shaped and continue to inform the lives and memories of Asian immigrants and refugees, their children, and other Asian Americans.

AAS 3862. American Immigration History.

(DSJ,HIS; 3 cr. ; A-F or Audit; Every Spring) Global migrations to U.S. from Europe, Asia, Latin America, and Africa, from early 19th century to present. Causes/cultures of migration. Migrant communities, work, and families. Xenophobia, assimilation/integration, citizenship, ethnicity, race relations. Debates over immigration. Place of immigration in America's national identity.

AAS 3875W. Comparative Race and Ethnicity in U.S. History. (DSJ,WI,HIS; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This writing-intensive course examines the racial history of modern America. The focus is placed on how American Indians, African Americans, and immigrants from Europe, Asia, and Latin America struggle over identity, place, and meanings of these categories in society where racial hierarchy not only determined every aspect of how they lived, but also functioned as a lever to reconstitute a new nation and empire in the aftermath of the Civil War. We are interested in studying how these diverse groups experienced racialization not in the same way but in various and distinct ways in relation to each other.

AAS 3877. Asian American History, 1850 to Present. (DSJ,HIS; 3 cr. ; Student Option; Every Fall & Spring)

Asian American history and contemporary issues, from 1850 to present. Immigration, labor, anti-Asian movements, women/families,

impact of World War Two, new immigrant/refugee communities, civil rights, Asian American identity/culture.

AAS 3920. Topics in Asian American Studies. (; 2-4 cr. [max 8 cr.]; Student Option; Every Fall & Spring)
Topics specified in Class Schedule.

AAS 3993. Directed Studies in Asian American Studies. (; 1-9 cr. ; Student Option; Every Fall, Spring & Summer)
Guided individual reading or study. prereq: instr consent

AAS 4231. Color of Public Policy: African Americans, American Indians, Asian Americans & Chicanos in the U.S.. (3 cr. ; Student Option; Periodic Fall)

Structural or institutional conditions through which people of color have been marginalized in public policy. Critical evaluation of social theory in addressing the problem of contemporary communities of color in the United States.

AAS 4232. American Drama by Writers of Color. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Selected works by Asian American, African American, American Indian, Latino, and Chicano playwrights. How racial/ethnic differences are integral to shaping different visions of American drama. History of minority/ethnic theaters, politics of casting, mainstreaming of the minority playwright.

AAS 4311. Asian American Literature and Drama. (DSJ,LITR; 3 cr. ; A-F or Audit; Fall Odd Year)

Literary/dramatic works by Asian American writers. Historical past of Asian America through perspective of writers such as Sui Sin Far and Carlos Bulosan. Contemporary artists such as Frank Chin, Maxine Hong Kingston, David Henry Hwang, and Han Ong. Political/historical background of Asian American artists, their aesthetic choices.

AAS 5993. Directed Readings. (; 1-4 cr. [max 8 cr.]; Student Option; Periodic Fall)
Directed reading—must be set up with individual instructor.

Astronomy (AST)

AST 1001. Exploring the Universe. (ENV,PHYS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

The human place in the Universe. Study of Earth, other planets, sun, stars, galaxies. Background and fragility of life on Earth. Scale, origin, history of universe and our relationship to it.

AST 1011H. Exploring the Universe, Honors. (ENV,PHYS; 4 cr. ; A-F only; Every Fall & Spring)

Human place in universe. Earth, other planets, sun, stars, galaxies. Background/fragility of life on Earth. Scale, origin, history of universe, our relationship to it. Honors version of 1001. prereq: High school trigonometry, [high school physics or chemistry]

AST 2001. Fundamental Astrophysics. (; 4 cr. ; Student Option; Every Fall & Spring)

Physical principles and study of solar system, stars, galaxy, and universe. How observations/conclusions are made. prereq: [One yr calculus, PHYS 1302] or instr consent

AST 2993. Directed Studies. (1-5 cr. [max 10 cr.]; Student Option; Every Fall & Spring) Independent, directed study in observational and theoretical astrophysics. Arranged with faculty member. prereq: 1 yr calculus, Phys 1302, instr consent

AST 4001. Astrophysics I. (; 4 cr. ; A-F or Audit; Periodic Fall) Astrophysics of stars and stellar populations. Stellar formation, evolution, interiors/atmospheres. Stellar populations, galactic distribution of stars. prereq: 2001, Phys 2601

AST 4002. Astrophysics II. (; 4 cr. ; A-F or Audit; Every Spring) Astrophysics of galaxies and the universe. Diffuse matter, galactic structure, and evolution. Clusters of galaxies. Introductory cosmology, evolution of the universe. prereq: 2001, Phys 2601

AST 4031. Interpretation and Analysis of Astrophysical Data. (4 cr. ; A-F only; Every Spring) Introduction to analysis techniques with applications to modern astrophysics. Methods to interpret/analyze large data sets from experiments. Principles/methods of analysis, with applications to current research. For senior undergraduate/graduate students in Physics/Astronomy. prereq: [Math 2243 or 2373 or equivalent], [Math 2263 or 2374 or equivalent], Ast 2001 or instr consent

AST 4041. Computational Methods in the Physical Sciences. (; 4 cr. ; Student Option; Periodic Fall & Spring) Introduction to using computer programs to solve problems in physical sciences. Selected numerical methods, mapping problems onto computational algorithms. Arranged lab. prereq: PHYS 3041

AST 4299H. Senior Honors Astrophysics Research Seminar. (; 1 cr. ; Student Option; Every Fall & Spring) Based on department's research seminar. prereq: upper div honors student in IT or CLA, inst consent

AST 4993. Directed Studies. (1-5 cr. [max 10 cr.]; Student Option; Every Fall & Spring) Independent, directed study in observational and theoretical astrophysics. Arranged with faculty member. prereq: 2001, instr consent

AST 4994W. Directed Research. (WI; 2-5 cr. ; A-F only; Every Fall & Spring) Independent research in observational or theoretical astrophysics. Senior Thesis for undergraduate astrophysics majors. Arranged with faculty member.

AST 5012. The Interstellar Medium. (; 4 cr. ; Student Option; Periodic Fall & Spring) Survey of physical processes in the interstellar medium. Dynamic processes, excitation processes, emission and absorption by gas and dust. Hot bubbles, HII regions, molecular clouds. prereq: 2001, Phys 2601 or instr consent

AST 5022. Relativity, Cosmology, and the Universe. (; 4 cr. ; Student Option; Periodic Fall & Spring)

Large-scale structure/history of universe. Introduction to Newtonian/relativistic world models. Physics of early universe, cosmological tests, formation of galaxies. prereq: [2001, Phys 2601] or instr consent

AST 5031. Interpretation and Analysis of Astrophysical Data. (4 cr. ; A-F only; Every Spring)

Introduction to analysis techniques with applications to modern astrophysics. Methods to interpret/analyze large data sets from experiments. Principles/methods of analysis, with applications to current research. For graduate students in Physics/Astronomy

AST 5201. Methods of Experimental Astrophysics. (; 4 cr. ; Student Option; Spring Even Year)

Contemporary astronomical techniques and instrumentation. Emphasizes data reduction and analysis, including image processing. Students make astronomical observations at O'Brien Observatory and use department's computing facilities for data analysis. Image processing packages include IRAF, AIPS, IDL, MIRA. prereq: Upper div CSE or grad or instr consent

AST 5731. Bayesian Astrostatistics. (4 cr. ; A-F only; Every Fall)

This course will introduce Bayesian methods for interpreting and analyzing large data sets from astrophysical experiments. These methods will be demonstrated using astrophysics real-world data sets and a focus on modern statistical software, such as R and python. Prerequisites: MATH 2263 and MATH 2243, or equivalent; or instructor consent Suggested: statistical course at the level of AST 4031, AST 5031, STAT 3021, or STAT 5021

Biochemistry (BIOC)

BIOC 1010. Human Health and Disease. (; 3 cr. ; Student Option; Every Fall & Spring)

Introduction to molecular basis of common human diseases. Human genome, cellular/molecular biology, biochemical reactions, organ relationships, whole body physiology. Inherited Diseases, metabolic diseases. Aging. Methods to diagnose, treat, and prevent disease. Gene therapy, regenerative medicine, drug-based interventions.

BIOC 2011. Biochemistry for the Agricultural and Health Sciences. (3 cr. ; Student Option; Every Fall & Spring)

Survey of organic chemistry and biochemistry outlining structure and metabolism of biomolecules, metabolic regulation, principles of molecular biology. prereq: Chem 1015, Bio 1009

BIOC 3021. Biochemistry. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Fundamentals of biochemistry. Structure/function of nucleic acids, proteins, lipids, carbohydrates. Enzymes. Metabolism. DNA replication and repair, transcription, protein synthesis. Recommended prerequisites:

Introductory biology (BIOL 1009 or BIOL 2003 or equivalent), organic chemistry (CHEM 2301 or CHEM 2081/2085 or equivalent). Note: CBS students should take BIOC 3022 not 3021.

BIOC 3022. Biochemistry for Life Scientists. (3 cr. [max 6 cr.]; Student Option; Every Fall & Spring)

This course provides an introduction to biochemistry including discussion of the structure and functions of biomolecules (proteins, carbohydrates, lipids, and nucleic acids), central metabolic pathways, and the mechanisms of enzyme action. This course is intended for students in the College of Biological Sciences. Students from other colleges should register for BIOC 3021. prereq: CHEM 2301 or CHEM 2081/2085 or equivalent

BIOC 4025W. Laboratory in Biochemistry. (WI; 2 cr. ; Student Option; Every Fall & Spring) Theory, principles, and use of fundamental techniques in modern biochemistry labs. prereq: 3021, 3022, or 4331 or equiv

BIOC 4125. Laboratory in Molecular Biology and Biotechnology. (; 3 cr. ; A-F or Audit; Every Spring & Summer)

This molecular biology laboratory course is designed to give students hands-on experience performing common techniques used in modern molecular biology, as well as the background information needed to understand what kind of information can be obtained by using them. Because of the dual nature of this course, a portion of the laboratory time will be spent on lectures explaining the theory behind the techniques being used as well as practical aspects of experimental design. In addition, readings will be assigned that explain the history and principles behind some of the techniques used. Basic recombinant DNA techniques: methods for growing, isolating, and purifying recombinant DNA and cloning vectors, DNA sequencing and sequence analysis, gene expression, Polymerase Chain Reaction (PCR), other current techniques. prereq: Biol 3015 or Biol 3020 or Biol 3025 or Bioc 3021 or Bioc 3022 or Bioc 4331 or Biol 4003 or instructor consent

BIOC 4225. Laboratory in NMR Techniques. (; 1 cr. ; S-N only; Every Summer)

Practical aspects of nuclear magnetic resonance (NMR) spectrometry. Hands-on experience with 500/600 MHz instruments. Sample preparation/handling, contamination sources, tube/probe options, experiment selection, experimental procedures, software, data processing. prereq: 4331; 4521 recommended; intended for biochemistry majors

BIOC 4325. Laboratory in Mass Spectrometry. (; 1 cr. ; S-N only; Every Spring)

Hands-on experience with techniques/instruments. Sample preparation/handling, 2-dimensional gels, MS-MS, MALDI-TOF, electrospray/LC-MS, experiment selection/procedures, software, data processing. prereq: 4332, 4521

BIOC 4331. Biochemistry I: Structure, Catalysis, and Metabolism in Biological

Systems. (; 4 cr. ; Student Option; Every Fall & Spring)

Advanced survey of structure/catalysis, metabolism/bioenergetics. prereq: (BIOL 1009 or 2003 or equiv) AND (Chem 2302 or CHEM 2081/2085 or equiv)

BIOC 4332. Biochemistry II: Molecular Mechanisms of Signal Transduction and Gene Expression. (; 4 cr. ; Student Option; Every Fall & Spring)

Advanced survey of molecular biology. Mechanisms of gene action/biological regulation. prereq: BioC 4331 or Bioc 3201 or BioC 3022

BIOC 4351. Protein Engineering. (3 cr. ; A-F only; Every Fall)

Key properties of enzymes/molecular basis, computer modeling strategies, mutagenesis strategies to create protein variants, expression/screening of protein variants. Evaluate research papers, identify unsolved practical/theoretical problems, plan protein engineering experiment. prereq: 4331 or instr consent

BIOC 4521. Introduction to Physical Biochemistry. (3 cr. ; Student Option; Every Fall & Spring)

Physical chemical principles, their applications in biochemistry. Thermodynamics, kinetics, spectroscopy, solution dynamics as applied to biochemical reactions/ biopolymers. prereq: 4331 recommended, (Chem 1081 or 1061 and 1065) AND (Physics 1221 or 1201W or 1301W) required

BIOC 4793W. Directed Studies: Writing Intensive. (WI; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Writing Intensive Directed Studies is an individual-study, literature-based investigation in which the student is mentored directly by a faculty member. One main feature of this course is that the student will receive writing instruction and the written output of the course will be revised during the semester. The project needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, how writing instruction will take place, a timeline for when student writing will be handed in and how it will be assessed, methodology to be used by the student, and how assessment of learning will be conducted by the mentor. Additional oversight is established for this course near the end of the semester the written output is submitted to the DUGS for the major. The DUGS is responsible to determine that the writing meets standards set by the CBS Education Policy Committee for quality of writing, appropriate citation of literature, well-constructed figures, tables, and legends (if present), appropriate use and interpretation of statistics (if present), conclusions that are supported by evidence, and well-formatted references. This course is graded S/N and approval of the DUGS is required before a grade of S can be given by the faculty mentor. prereq: department consent,

instructor consent, no more than 7 credits of 4793W, 4794W, 4993, 4994 counts towards CBS major requirements.

BIOC 4794W. Directed Research: Writing Intensive. (WI; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Writing Intensive Directed Research is an individual-study, laboratory or field research experience in which the student is mentored directly by a faculty member. This course is intended for students who already have initiated a research project in the lab of the mentor and already have results. In this course the student will receive writing instruction.

The written output usually is in the form of a scientific paper describing the results of the student's project. Written output of the course must be revised during the semester and a schedule for writing, assessment and revision needs to be in place at the beginning of the semester. The project needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the Director of Undergraduate Studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, how writing instruction will take place, a timeline for when student writing will be handed in and how it will be assessed, methodology to be used by the student, and how assessment of learning will be conducted by the mentor. Additional oversight is established for this course - near the end of the semester the written output is submitted to the DUGS for the major. The DUGS is responsible to determine that the writing meets standards set by the CBS Education Policy Committee for quality of writing, appropriate citation of literature, well-constructed figures, tables, and legends (if present), appropriate use and interpretation of statistics (if present), conclusions that are supported by evidence, and well-formatted references. The DUGS can call for a final revision before a grade is given. This course is graded S/N and approval of the DUGS is required before a grade of S can be given by the faculty mentor. prereq: department consent, instructor consent, no more than 7 credits of 4793W, 4794W, 4993, 4994 counts towards CBS major requirements.

BIOC 4993. Directed Studies. (; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Directed Studies is an individual-study, literature-based investigation in which the student is mentored directly by a faculty member. The topic for the course needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. prereq: department consent, instructor consent, no more than 7 credits of 4793W, 4794W, 4993, 4994 counts towards CBS major requirements.

BIOC 4994. Directed Research. (; 1-7 cr. [max 42 cr.] ; S-N only; Every Fall, Spring & Summer)

Directed Research is an individual-study, laboratory or field investigation course. The research topic needs to be agreed on by both the student and the faculty mentor and explained in a Research/Directed Studies contract. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. prereq: department consent, instructor consent, no more than 7 credits of 4793W, 4794W, 4993, 4994 counts towards CBS major requirements.

BIOC 5002. Critical Evaluation of Biochemistry Research. (1 cr. ; S-N only; Every Fall & Spring)

BioC 5002 guides advanced undergraduates and new graduate students as they learn how to design experiments and to critically evaluate a wide variety of cutting-edge research projects, both as readers and as researchers. Introductory lectures include peer review, experimental design, critical thinking and the psychology of judgment and decision-making. This is followed by a series of guest speakers who will guide students as they develop their skills in evaluation of current research papers.

BIOC 5216. Current Topics in Signal Transduction. (; 2 cr. ; A-F only; Every Spring)

Mechanisms by which biological signals evoke biochemical responses.

BIOC 5225. Graduate Laboratory in NMR Techniques. (; 1 cr. ; S-N only; Every Spring)

Practical aspects of nuclear magnetic resonance (NMR) spectrometry. Hands-on experience with 500/600 MHz instruments. Sample preparation/handling, contamination sources, tube/probe options, experiment selection, experimental procedures, software, data processing. prereq: 8001 or instr consent

BIOC 5309. Biocatalysis and Biodegradation. (3 cr. ; Student Option; Every Spring)

Fundamentals of microbial enzymes/ metabolism as pertaining to biodegradation of environmental pollutants/biosynthesis for making commodity chemicals. Practical examples. Guest speakers from industry.

BIOC 5351. Protein Engineering. (3 cr. ; A-F or Audit; Every Fall)

Key properties of enzymes/molecular basis, computer modeling strategies, mutagenesis strategies to create protein variants, expression/screening of protein variants. Evaluate research papers, identify unsolved practical/theoretical problems, plan protein engineering experiment.

BIOC 5352. Biotechnology and Bioengineering for Biochemists. (; 3 cr. ; A-F or Audit; Periodic Spring)

Protein biotechnology. Microorganisms used as hosts for protein expression, protein expression, and engineering methods. Production of enzymes of industrial interest.

Applications of protein biotechnology in bioelectronics. Formulation of therapeutic biopharmaceuticals. Recommended prerequisites: Biochemistry (BIOC 3021 or 3022 or 4331) and Microbiology MICB 3301

BIOC 5361. Microbial Genomics and Bioinformatics. (; 3 cr. ; Student Option; Every Fall & Spring)

Introduction to genomics. Emphasizes microbial genomics. Sequencing methods, sequence analysis, genomics databases, genome mapping, prokaryotic horizontal gene transfer, genomics in biotechnology, intellectual property issues. Hands-on introduction to UNIX shell scripting, genomic data analysis using R and Excel in a computer lab setting. prereq: College-level courses in [organic chemistry, biochemistry, microbiology]

BIOC 5444. Muscle. (; 3 cr. ; Student Option; Every Spring)

Muscle molecular structure/function and disease. Muscle regulation, ion transport, and force generation. Muscular dystrophy and heart disease. prereq: 3021 or BIOC 3021 or 4331 or BIOC 4331 or PHSL 3061 or instr consent

BIOC 5528. Spectroscopy and Kinetics. (; 4 cr. ; Student Option; Every Spring)

Biochemical dynamics from perspectives of kinetics and spectroscopy. Influence of structure, molecular interactions, and chemical transformations on biochemical reactions. Focuses on computational, spectroscopic, and physical methods. Steady-state and transient kinetics. Optical and magnetic resonance spectroscopies. prereq: Intro physical chemistry or equiv; intro biochemistry recommended

BIOC 5535. Introduction to Modern Structural Biology -- Diffraction. (2 cr. ; A-F or Audit; Every Fall)

Theory and practice in the determination of three-dimensional structures of macromolecules using x-ray and neutron diffraction and electron microscopy. prereq: (Introductory biochemistry, introductory physics, college calculus) or physical chemistry or instr consent

BIOC 5536. Introduction to Modern Structural Biology - Nuclear Magnetic Resonance. (2 cr. ; Student Option; Every Fall)

Theory and practice in the determination of three-dimensional structures of macromolecules using NMR. Recommended prerequisite courses: (Introductory biochemistry, introductory physics, college calculus) or physical chemistry

BIOC 5960. Biophysical Spectroscopy. (; 2 cr. [max 4 cr.] ; A-F only; Every Spring) In-depth study of topics in biochemistry. prereq: [[3021 or equiv], CHEM 2301] or instr consent or grad

Bioethics, Center for (BTHX)

BTHX 5000. Topics in Bioethics. (; 1-4 cr. [max 8 cr.] ; Student Option; Periodic Fall & Spring)

Bioethics topics of contemporary interest. Topics specified in Class Schedule.

BTHX 5010. Bioethics Proseminar. (; 2 cr. ; A-F only; Every Fall)

Introduction to topics in bioethics. prereq: Bioethics grad student or grad minor

BTHX 5100. Introduction to Clinical Ethics. (; 3 cr. ; Student Option; Every Fall & Spring)

Most frequent ethical problems faced by clinicians, patients/families, and ethics consultants. Forgoing life sustaining treatment, decisional capacity, informed consent, treatment refusals, death/dying, pediatric ethics, reproductive issues, research ethics, psychiatric illness. Real cases.

BTHX 5110. Ethical Issues in Pediatrics. (; 2 cr. ; Student Option; Fall Odd Year)

Bioethics concerns the identification, analysis, and resolution of ethical problems that arise in planning for the care of patients in biomedical research, and in relation to the natural world. This course deals with ethical problems that occur frequently in pediatrics settings, in clinical and public health venues, in research and in the environment. The course emphasizes the ethical responsibilities of laypersons, health professionals, researchers and policy makers in planning for and resolving bioethics issues in pediatrics, including the prenatal and perinatal period. Issues addressed include reproductive issues, death and dying, forgoing life-sustaining treatment, conflicts and war, research with children and pregnant women, genetics, public and global health, social justice and other topics.

BTHX 5120. Dying in Contemporary Medical Culture. (2 cr. ; Student Option; Every Fall)

Examines practices of dying and death in contemporary U.S. culture, moral problems associated with these practices, possible solutions, and practical applications. Readings will consist of cultural critiques, bioethics literature, and empirical research.

BTHX 5210. Ethics of Human Subjects Research. (; 3 cr. ; Student Option; Fall Even Year)

Issues in ethics of human subjects research. prereq: Grad student or instr consent

BTHX 5220. Standards for Research with Human Participants: A Lecture Series for Researchers. (1 cr. ; Student Option; Fall Even Year)

This series of lectures presents various legal and regulatory standards that apply to research using human participants. Some are of general interest (e.g., Informed Consent); others will interest more specialized researchers (e.g., International Research).

BTHX 5300. Foundations of Bioethics. (3 cr. ; Student Option; Every Spring)

Overview of major contemporary frameworks used to approach ethical issues in bioethics. prereq: Grad student or instr consent

BTHX 5325. Biomedical Ethics. (; 3 cr. ; Student Option; Every Fall)

This course, delivered entirely online, examines issues in bioethics spanning clinical ethics, public health ethics, and research ethics. The course also introduces conceptual frameworks and methods that can be used to analyze these

issues. prereq: Jr or sr or grad student or instr consent

BTHX 5400. Intro Ethics in Hlth Policy. (3 cr. ; Student Option; Spring Even Year)

Topics vary to reflect issues of current significance. Relates to law/politics as appropriate but focuses on moral analyses of policy issues. prereq: Grad student or professional student or instr consent

BTHX 5411. Health Law and Policy. (; 3 cr. ; A-F or Audit; Spring Even Year)

Organization of health care delivery. Physician-patient relationship. informed consent. Quality control. Responses to harm and error, including through medical malpractice litigation. Access. Proposals for reform. prereq: Grad student or instr consent

BTHX 5453. Law, Biomedicine, and Bioethics. (; 3 cr. ; A-F only; Spring Even Year)

Law/bioethics as means of controlling important biomedical developments. Relationship of law and bioethics. Role of law/bioethics in governing biomedical research, reproductive decisionmaking, assisted reproduction, genetic testing/screening, genetic manipulation, and cloning. Definition of death. Use of life-sustaining treatment. Organ transplantation. prereq: Grad student or instr consent

BTHX 5510. Gender and the Politics of Health. (3 cr. ; Student Option; Periodic Fall & Spring)

Significance of gender to health and health care. Feminist analysis regarding moral/political importance of gender, possibly including contemporary western medicine? s understanding of the body, childbirth, and reproductive technologies; cosmetic surgery; chronic illness; disability; participation in research; gender and classification of disease. Care work, paid/non-paid. Readings from feminist theory, history, social science, bioethics, and moral philosophy.

BTHX 5520. Social Justice and Bioethics. (3 cr. ; Student Option; Fall Even Year)

This course explores matters of social justice related to health. Readings from multiple disciplinary perspectives ground examination of how to understand social justice in this context. Class sessions will predominantly focus on specific practical issues such as health disparities, the politics of inclusion and exclusion in clinical research, resource allocation in resource poor settings, and health professional roles during war. Discussions incorporate consideration of these issues? institutional and broader social contexts. This course is appropriate for a wide audience including students from the health professions, philosophy, social science, and law.

BTHX 5530. Investigative Journalism and Bioethics. (3 cr. ; Student Option; Periodic Fall & Spring)

This seminar will explore the links between bioethics and journalism, examining classic and contemporary works of investigative health journalism, works of literary non-fiction related to medicine and health, and investigative work by bioethicists. It will also examine the art of muckraking, non-profit investigative journalism,

the public relations industry, the decline of print journalism and the rise of digital media, and how these developments are shaping the relationship between bioethicists and the press.

BTHX 5540. Bioethics, Psychiatry & Psychology. (3 cr. ; A-F only; Periodic Fall & Spring)

Explore philosophical and ethical issues in psychiatry and psychology. Potential topics include the moral responsibility of psychopaths for their actions, false memories of Satanic ritual abuse, insanity pleas, the sociology of institutionalization, clinical trials of psychiatric drugs, cosmetic psychopharmacology, recent work in experimental philosophy, and classic experiments in social psychology.

BTHX 5610. Research & Publication Seminar. (1 cr. ; A-F only; Every Fall)

Publication strategy/venues. Authorship issues/ethics in publication. Manuscript formatting/letters of submission. Peer review. prereq: [Junior or senior or grad student], bioethics grad majors must register A-F

BTHX 5620. Social Context of Health and Illness. (; 3 cr. ; Student Option; Spring Even Year)

Social context in which contemporary meanings of health and illness are understood by providers/patients. Ethical implications. Readings from history, social science, literature, and first-person accounts. prereq: Grad student or instr consent

BTHX 5630. Bioethics Colloquium. (1 cr. [max 2 cr.] ; S-N only; Every Fall & Spring)

This course features presentations from a variety of departments and programs across campus that deal in some way with ethics as a theoretical and/or applied concept. Students will attend these presentations; engage with scholars thinking about ethics from multiple perspectives; and be able to bring these perspectives to bear upon their own research. The course is thus an opportunity to explore ethics as it might be conceptualized or practiced in the social sciences, law, public policy, global health, and many other arenas, and in turn to think about how these disparate frameworks and practices can be usefully put into conversation with bioethics, and with their own projects.

BTHX 5650. Disability Ethics. (3 cr. ; A-F only; Spring Odd Year)

This course is an examination of ethical issues pertaining to disability, with an emphasis on discussion and consideration of widely contrasting perspectives. Issues discussed include physician-assisted suicide, euthanasia, selective abortion, cochlear implant technology, sterilization, special versus inclusive education, Universal Design/Universal Instructional Design, disability accommodations, and built and social environments, examined within social, legal, policy, and cultural environments. Assignments include, readings, viewings, journaling, field projects, and research papers.

BTHX 5710. Ethical Issues in Global Health. (3 cr. ; Student Option; Fall Even Year)

This course examines ethical issues related to global health. Topics may include religion, morality, public policy, and the connection

between health and human rights. Open to juniors, seniors, graduate and professional students.

BTHX 5800. Animal Ethics. (3 cr. ; Student Option; Periodic Fall & Spring)

Human relationships with animals are changing and this course offers a venue for exploring some of the ethical issues in these evolving relationships. The course will discuss the differences between animal ethics and animal welfare and examine the morality and ethics of human-animal interactions in various contexts. These include cultural and historical views of animals; animals as companions; the use of animals in scientific research, entertainment, and service work; euthanasia; animal production and sustainability; and conservation issues.

BTHX 5900. Independent Study in Bioethics. (; 1-4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Students propose area for study with faculty guidance, write proposal which includes outcome objectives and work plan. Faculty member directs student's work and evaluates project. prereq: instr consent

Biology (BIOL)

BIOL 1001. Introductory Biology: Evolutionary and Ecological Perspectives. (BIOL; 4 cr. ; Student Option; Every Fall & Spring)

A one-semester exploration of the genetic, evolutionary, and ecological processes that govern biological diversity from populations to ecosystems. We explore how these processes influence human evolution, health, population growth, and conservation. We also consider how the scientific method informs our understanding of biological processes. Lab. This course is oriented towards non-majors and does not fulfill prerequisites for allied health grad programs.

BIOL 1001H. Introductory Biology I: Evolutionary and Ecological Perspectives. (BIOL; 4 cr. ; A-F only; Every Fall)

A one-semester exploration of the genetic, evolutionary, and ecological processes that govern biological diversity from populations to ecosystems. We explore how these processes influence human evolution, health, population growth, and conservation. We also consider how the scientific method informs our understanding of biological processes. Lab. This course is oriented towards non-majors and does not fulfill prerequisites for allied health grad programs.

BIOL 1003. Evolution and Biology of Sex. (BIOL; 4 cr. ; Student Option; Every Fall & Spring)

This course is designed as a one-semester exploration of biology from the standpoint of the evolution and biology of sex. It emphasizes scientific processes, evolution, sexual behavior, reproductive biology, and diversity with respect to sexual orientation, reproductive strategies, and gender identity. Lab activities complement these topics. This course does not fulfill prerequisites for allied health grad programs.

BIOL 1009. General Biology. (BIOL; 4 cr. ; Student Option; Every Fall, Spring & Summer) A comprehensive introduction to biology - includes molecular structure of living things, cell processes, energy utilization, genetic information and inheritance, mechanisms of evolution, biological diversity, and ecology. Includes lab. This comprehensive course serves as a prerequisite and requirement in many majors.

BIOL 1009H. Honors: General Biology. (BIOL; 4 cr. ; A-F only; Every Spring)

A comprehensive introduction to biology - includes molecular structure of living things, cell processes, energy utilization, genetic information and inheritance, mechanisms of evolution, biological diversity, and ecology. Includes lab. This comprehensive course serves as a prerequisite and requirement in many majors.

BIOL 1012. Human Biology: Concepts and Current Ethical Issues. (BIOL,CIV; 4 cr. ; Student Option; Every Fall & Spring)

One semester exploration of human anatomy and physiology within the context of ethics; topics such as human genetic diversity, organs and tissues, disease and reproduction. Weekly policy debates. Active learning format. Animal dissections required. Suitable for students in any major. Does not fulfill prerequisites for allied health grad programs. This course explores several interdisciplinary questions, each of which addresses biology through an ethical and societal lens. In ?What makes humans unique?? we will consider the evolution of human traits, how the concept of race relates to human genetic diversity, and the fallibility of human memories. In ?How does blood and organ donation work?? we will examine how our bodies can recognize and respond to foreign materials, how vaccines work, and who should have access to life saving tissue and organ transplants. In ?How do stress, diet and exercise affect health?? we will consider disparities in access to adequate nutrition, exposure to stress, and exercise, and how these affect our bodies and our mental health. Lastly, in ?How does a unique individual develop from a single cell? we will examine how a single cell develops into a fully functional human being, and how similar processes lead to cancer. We will also consider the role of genes and hormones in human reproduction and the development of reproductive structures in embryos, while explicitly addressing the ethics of the distinctions between the concepts of sex characteristics, sex assigned at birth, and gender. We will learn how a cell can become cancerous, as well as how a cell develops into a fully functioning human being. Additionally, we will consider the role of hormones in the development of male, female, and intersex organs, while being explicit about the differences between gender, sexual orientation, and sex assigned at birth. In lecture, instructors and teaching assistants will support students as they evaluate data and work through concepts in teams. Students will also dedicate significant time to the consideration of ethical questions in human biology, and work with teammates to organize

and present a position on a policy related to an ethics question. In lab, students will further explore human anatomy and physiology, connecting structure and function through several dissections and activities. Students will read and share scientific papers, make observations, design experiments and analyze data. Students will work in teams to complete a multi-week project on the physiology of stress. We will continue our exploration of ethics topics in lab, where we will discuss and apply ethics in human subjects research and research on non-human animals. About 75% of the course grade will be based on four traditional lecture exams and a final lab exam. The remainder of the course grade is comprised of open notes quizzes, in class team assignments, individual assignments, and team projects. Course grading is based on mastery of concepts and skills, and students are encouraged to collaborate in understanding course material.

BIOL 1015. Human Physiology, Technology, and Medical Devices. (BIOL,TS; 4 cr. ; Student Option; Every Fall & Spring)

Course is organized around homeostasis, information flow, and other concepts in physiology. For non-biology majors who wish to explore interests in health care or medical device engineering. Active learning format. Labs focus on data collection and simple organ dissections. Does not fulfill prerequisites for most biomedical graduate programs.

BIOL 1020. Biology Colloquium. (; 1 cr. [max 2 cr.]; S-N or Audit; Every Fall & Spring)

Introduction to the diverse fields of biology through seminars, lab tours, trips to Itasca Biological Station, and interaction with other biology students and faculty. Course may be repeated once.

BIOL 1052. Environmental Biology: Science and Solutions. (ENV; 3 cr. ; Student Option; Every Fall)

This course explores the science behind environmental topics. It delves into the interface of science and policy, environmental decision-making and ethics. Topics include biodiversity, environmental toxicology, food production, and global climate change. Students looking to fulfill the liberal education requirement-Biological Sciences with Lab in this topic should take Biology 1055.

BIOL 1055. Environmental Biology: Science and Solutions with Laboratory. (BIOL,ENV; 4 cr. ; Student Option; Every Fall & Spring)

Explores science behind environmental topics. Delves into the interface of science and policy, environmental decision-making and ethics. Topics include biodiversity, env. toxicology, food production, and climate change. In lab students conduct the work of biologists, proposing hypotheses, conducting experiments, and analyzing/interpreting data. This course is intended to engage non-biology majors in the work of biology, studying current biological knowledge through evidence-based discussions of what is currently known, and by addressing science that is unknown to the students (and, at times to the biological community) through the generation and testing of hypotheses, collection and analysis of

data, and practice of making data-informed conclusions.

BIOL 1093. Biology Colloquium: Directed Study. (; 1 cr. ; S-N or Audit; Every Fall & Spring)

Individual study or research undertaken by a student concurrently enrolled in Biol 1020 with oversight by a faculty sponsor. prereq: 1020 and concurrent registration is required (or allowed) in 1020

BIOL 1101. Genetics and Society. (CIV; 3 cr. ; Student Option; Every Spring)

Principles of heredity and their social and cultural implications. prereq: Credit will not be granted if credit has been received for: BIOL 3020, Biol 4003, GCD 3022. No CBS Major Juniors or Seniors.

BIOL 1301. Dean's Scholar: Introduction to Leadership. (; 1 cr. ; S-N only; Every Fall)

Leadership theory/concepts. Personal views on leadership. Characteristics for effective leadership. Course uses experiential teaching methods, self-reflection. prereq: Dean's Scholar

BIOL 1805. Nature of Life: Introducing New Students to the Biological Sciences. (; 0.5 cr. ; S-N or Audit; Every Fall & Spring)

Building on incoming student summer programming to get started in the Biological Sciences in CBS. Providing transition programming, academic success tools, college learning, and guidance as a foundation for success in the biological sciences. Introduction to the College of Biological Sciences community and opportunities through class content, guild activities, and peer mentoring. prereq: Fr in College of Biological Sciences

BIOL 1806. Nature of Life, Part Two. (0.5 cr. ; S-N only; Every Spring)

Second semester of Nature of Life with focus on building intentional pathway in CBS/student success/engagement. prereq: 1805

BIOL 1904. Innovation and Imagination in Ireland. (GP; 3 cr. [max 6 cr.]; A-F only; Every Spring)

Sundials, color photography, stethoscopes, iPhones. Our world is continually shaped by great ideas. This class will explore components of education, culture, and business management that cultivate creativity and innovation. We will study current examples of success and failure. As a class we will move beyond our natural constraints and travel abroad over spring break to Dublin to understand the rich Irish history of innovation across disciplines, including art, science, and technology. Dublin is the emerging "heart of technology in Europe" and home to a slew of start-ups and to proven juggernauts such as Google, Facebook, and Amazon. Learn why and how this shift from an agricultural-based economy has occurred. This course involves a study abroad component to Ireland during Spring Break 2022. Please note that you must also apply and confirm your spot for this seminar through the Learning Abroad Center. Application deadline is: December 1, 2021. For more information, visit: <https://umabroad.umn.edu/programs/europe/innovation-imagination-ireland> or contact

Amy at garw0005@umn.edu. Class Link: <https://umabroad.umn.edu/programs/europe/innovation-imagination-ireland>

BIOL 1912. Photographing the University Community. (; 2 cr. ; A-F only; Every Fall)

This seminar will provide students and faculty an opportunity to explore the art of photojournalism and/or documentary photography. Students and faculty will take photographs on the University campus or the surrounding neighborhoods and then each person will assemble their photographs into a coherent essay. The seminar will include social themes, and will have a strong writing component, as well as the obvious focus on photography.

BIOL 1913. Understanding the Evolution-Creationism Controversy. (; 1 cr. ; A-F only; Every Fall)

This seminar has two goals: 1) to help you succeed at the University of Minnesota, and 2) to help you develop your own understanding and appreciation of the evolution-creationism controversy. We will discuss the many aspects of the evolution-creationism controversy, including its history, legacy, relevance, and key people. We will also discuss a variety of issues related to the controversy, including those involving court decisions, public opinion, racism, politics, etc. Many people are emotional and opinionated about the evolution-creationism controversy. Although this seminar is not focused on opinions, we will talk about why so many people feel strongly about this issue, and why the controversy persists. You will be interested in, and probably surprised by, what you learn. Each week we will also talk about concerns and/or questions you have about life at the University. Although I can't fix your parking tickets, I can offer advice about what you'll need to do to succeed here.

BIOL 1915. Genomics in Your Current and Future Life. (; 1 cr. ; A-F only; Every Fall & Spring)

Our understanding of DNA and genomes has infiltrated every aspect of society including medicine (diagnosis and susceptibilities to disease as well as developing new gene-based therapies, including gene therapy), CSI, ethics, GMOs for sustainable agriculture, and even designing our kids genomes. Class lectures and all reading material will be available online. Students will share their thoughts on a variety of controversial issues both online. In class, we will use the on-line blogs and lecture material as a starting points to discuss further various aspects of different applications of modern precision genetic technologies. The fundamental goal of the class is to encourage students to develop their processes of thinking about, and discussing in a small group, current complex and controversial issues. No final papers and no final exam.

BIOL 1917. Experimental Evolution. (; 3 cr. ; A-F only; Every Fall)

Life originated over four billion years ago. Since that time, evolution has shaped living systems, generating tremendous biological diversity. Experimental evolution is a dynamic approach to investigating life, examining how and why

biological systems change over evolutionary time. We will focus on how experimental evolution is done, what we have already learned, and the bright future for new research. Topics will include adaptive radiation, infectious diseases, the genetic basis of phenotypes, speciation, and the evolution of multicellularity. Readings will be primary literature and review articles, to be discussed every meeting. Toward the end of the semester, students will propose their own experimental evolution study based upon the readings, class discussions, and meetings with faculty.

BIOL 1921. The Nexus Between Art and Biology. (; 2 cr. ; A-F only; Every Fall)

This seminar will explore the many and diverse interactions between art and biology. The topics covered range from the portrayal of biology in classic art, to the use of artistic venues for studying and remediating environmental problems, to the utility of photography, painting, sculpture, and other art forms to explore levels of biology ranging from molecular and cellular structures to landscapes. The course includes hands-on creation of artistic biological objects. Topics will be explored using recorded media and presentations by students, the instructor, and invited speakers to cover novel topics at the art/biology interface.

BIOL 1925. Biological Wonder to Scientific Discovery. (; 1 cr. ; A-F only; Every Spring)

?In the field of observation, chance favors only the prepared mind.? Louis Pasteur
When exploring the beauty and wonder of the natural world, scientists must unleash their creative side. For example, if you are a scientist and have a history of experiments that have been conducted, the lessons from those past experiments may help you to succeed in the new experiment. This is especially true if you keep an open mind when you get an unexpected result. The primary literature, small group activities and class discussion will be used in this course to explore how biological wonders have turned into scientific discoveries. Molecular biology will be emphasized, but all biological science topics are open for discussion.

BIOL 1928. Inventing Nature: The Art and Science of Natural History. (; 2 cr. ; A-F only; Every Spring)

Natural history is often presented as a series of dry facts about the world. But how were these facts arrived at, what kind of data are they based on, and who decided they were important? In this seminar, we will learn about the invention of modern natural history. We will collect specimens, practice scientific illustration, and visit real collections. We will explore the exploitative history of Western naturalists and how modern natural history can be expanded to include alternative knowledge systems. Finally, we will learn how natural history collections provide crucial data on how we have impacted the world, especially via climate change.

BIOL 1929. Drawn to Nature: Observing the World Around Us. (; 1 cr. ; S-N only; Every Fall)

Keeping a nature journal is one way to hone your skills of observation, enjoy the natural world around you, and relax. In this seminar we will explore nature through the practice of keeping a nature journal. Lessons will include the history of sketchbooks in exploration, approaches for starting your own journal, what materials to use, and how to get outside and start. There will be little reading, but all students are expected to participate and share their work weekly. Class will include field trips to the College of Biological Science Plant Conservatory and the Landscape Arboretum. No prior experience in art is required.

BIOL 1930. What Can Jellyfish Tell Us about Human Eyes? The Evolution of Animal Sensory Systems. (; 1 cr. ; S-N only; Every Fall)

If we tracked our ancestors back 750 million years ago, we'd see an animal who's offspring would later become humans and jellyfish. This animal would already have most of the same gene families that we do today. Genomic content, embryonic development, cell physiology, and animal behavior are fundamentally similar in all animals, with minor tweaks at the right moment resulting in organisms as different as a worm or a bird. This course will explore how evolution builds a trait, focusing on some of the best studied traits that can be compared across animals: visual systems. We will touch on how the fields of genomics, embryology, neurophysiology, and animal behavior are intertwined in sensory systems, and how they have helped us learn about Biology more broadly. We will explore examples from different animals, especially overlooked invertebrates, and understand how their study can help human health and society. Class will primarily be discussion and low-stakes presentations based on both assigned and student-chosen readings from scientific literature, pop sci. articles, and news sources.

BIOL 1942. The History, Science, and Politics of Genetics and Reproduction. (TS; 3 cr. ; A-F only; Every Fall)

In this seminar, students will read, discuss, debate, and generally engage with a myriad of issues surrounding the science of genetics and the application of revolutionary technologies to human reproduction. Students will explore topics and controversies relating to the past, present, and future of human sexual activity and human reproduction, and how reproductive technologies (such as in vitro fertilization) have helped shape our modern society. Through the use of both fiction and non-fiction literature, students will learn the details of current scientific breakthroughs such as "designer babies." This seminar aims to engage students in an exploration of their personal beliefs about the roles of science, the government, and also religious institutions on human reproductive rights.

BIOL 1951. Foundations of Biology Lecture I for Biological Sciences Majors. (BIOL; 4 cr. ; A-F only; Every Fall & Spring)

Core biological concepts, from biomolecules to ecosystems. Emphasizes evolution, organismal diversity, and genetics within context of

problem solving/applications. Students must take both BIOL 1951 and BIOL 1961 to be awarded the Biological Sciences LE. This course is required for all CBS majors

BIOL 1951H. Foundations of Biology Lecture I for Biological Sciences Majors.

(BIOL; 4 cr. ; A-F only; Every Fall & Spring)
Core biological concepts, from biomolecules to ecosystems. Emphasizes evolution, organismal diversity, and genetics within context of problem solving/applications. Students must take both BIOL 1951H and BIOL 1961 to be awarded the Biological Sciences LE. This course is required for all CBS honors students

BIOL 1961. Foundations of Biology Lab I for Biological Sciences Majors. (BIOL; 2 cr. ; A-F only; Every Fall & Spring)

Core biological concepts, from biomolecules to ecosystems. Emphasizes evolution, organismal diversity, and genetics within context of problem solving/applications. Students must take both BIOL 1951 and BIOL 1961 to be awarded the Biological Sciences LE. This course is required for all CBS majors

BIOL 2001. Career Planning for Biologists. (1 cr. ; S-N or Audit; Every Fall & Spring)

Course structured to provide career planning and exploration guidance based on individual's specific goals. Option to focus coursework on identifying career interests, exploring career options in the biological sciences, preparing for job or internship applications, or organizing graduate school application materials. Provides career coaching on topics related to resume writing, interviewing and professional relationship building, and introduces resources to engage in effective career exploration and planning in the biological sciences.

BIOL 2003. Foundations of Biology for Biological Sciences Majors, Part II. (; 3 cr. ; A-F only; Every Fall & Spring)

Second of two courses. Biological concepts, from biomolecules to ecosystems. Ecology/biochemistry concepts within problem solving/application.

BIOL 2003H. Foundations of Biology for Biological Sciences Majors, Part II. (; 3 cr. ; A-F only; Every Fall & Spring)

Second of two courses. Biological concepts, from biomolecules to ecosystems. Ecology/biochemistry concepts within problem solving/application.

BIOL 2005. Animal Diversity Laboratory. (; 2 cr. ; Student Option; Every Fall, Spring & Summer)

Dissection, direct observation of representatives of major animal groups.

BIOL 2007. Marine Animal Diversity Laboratory. (1 cr. [max 2 cr.] ; A-F only; Every Fall & Spring)

Survey of marine animal diversity. Understanding major animal groups, how they relate to one another, how they differ in structure, how each group achieves survival/reproduction in diverse environments. Lab includes dissections, including vertebrates, such as fish. Prereq/coreq: Biol 2005/Biol 2012/Biol 3012

BIOL 2101. Brewing: The Biology, History, and Practice. (3 cr. ; A-F only; Periodic Fall & Spring)

Rigorous look at the history of brewing, microbiology, biochemistry, and biological concepts associated with brewing, such as competition, and practical aspects of modern brewing. This lecture/laboratory hybrid course will teach students the components used in brewing and how they contribute to the final product as well as the process of brewing using hands on laboratory. Textbook is online and will be posted on the Canvas site. prereq: BIOL 1001 or 1009 or 1951 or 2002 or 2003 or 2004 Students must be 21 by the first day of class to register, we will check IDs on the first day of class. There are three required field trips. For the field trips students meet in McNeal Hall at 1:00pm and return approximately at 5pm to McNeal Hall.

BIOL 2301. Dean's Scholar: Critical Service Learning. (; 2 cr. ; S-N only; Every Fall & Spring)

Importance of service in leadership. How personal experiences influence perspectives on social issues. Techniques for group work. Service project with community organization related to biological sciences. prereq: 1301, CBS Dean's Scholar

BIOL 2800. Understanding the Environment: Ecology for Educators. (5 cr. ; A-F only; Every Summer)

Ecology/earth systems science content, concepts, and investigation skills that environmental educators, science communicators, and natural history interpreters should be proficient in when addressing respective audiences about science, environmental issues, and nature studies.

BIOL 2905. Nature of Life, Part III. (; 0.5 cr. ; S-N only; Every Fall)

Reflect on aspirations, personal characteristics, experiences. Resources/practical tools to reach educational/professional goals. Special focus on developing personal/professional goals, articulating personal experiences in light of aspirations. prereq: 1805, 1806

BIOL 2906. Nature of Life, Part IV. (0.5 cr. ; S-N only; Every Spring)

Reflect on aspirations, personal characteristics, experiences. Resources/practical tools to reach educational/professional goals. Special focus on developing personal/professional goals, articulating personal experiences in light of aspirations. prereq: 2905

BIOL 2960H. Exploring Research in the Biological Sciences. (; 1 cr. ; A-F only; Every Fall)

Explore areas of biological research. Learn where/how to access research papers. Prepare in-depth review paper. prereq: CBS, Honors program, soph, dept consent

BIOL 2996. Directed Introduction to Research. (1 cr. [max 2 cr.] ; S-N only; Every Fall & Spring)

Directed Introduction to Research is an introduction to laboratory or field biological research for students with no prior experience, normally first- and second-year students.

The University directed studies contract will be used to describe the training experience which could include attending lab meetings, reading and discussing research papers from the lab, learning basic lab and field techniques, assays, and approaches used by the research group, and learning to keep a lab or field notebook. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course and how the assessment of learning will be conducted. Lab or field training can be led by graduate students or postdocs in the research group but one-on-one meetings with the PI should be included. The course is one credit and the student and PI agree that 45 hours of work will be done. There will be one group meeting per semester per major for all of the students enrolled in 2996 to discuss the research experience with the Director of Undergraduate Research for the major and a panel of more experienced undergraduate researchers. The goal of that meeting is community building and to introduce students to opportunities for further research experience. The grading option is S/N, similar to all directed studies/research courses in CBS. This course can be repeated, if it is done with a different mentor, for a total of two credits. One credit of this course can be counted as a degree requirement for each CBS major.

BIOL 3001. Nature of Science and Research. (1 cr. ; S-N only; Every Fall)

Explore how to read/use research papers. Role of research ethics. Financial, legal, regulatory oversight on research/other topics. **This course is for new CBS transfer students from other institutions. prereq: College-level biology

BIOL 3004. Foundations of Biology for Biological Sciences Majors, Part II Laboratory. (3 cr. ; A-F only; Every Fall & Spring)

This course follows BIOL 1961 and is required for all CBS majors. Students design and perform research projects that will require an additional 4-to-6 hours per week of work outside of class; times to be arranged. Each section is devoted to a single research area; check the section details to see which sections correspond to each research area. Research projects in zebrafish environmental toxicology and zebrafish microbiome sections will require in-person work in the BIOL 3004 laboratory. Only students with previous command line coding experience should enroll for a computational microbiology section. All projects involve applying quantitative skills, scientific method, and modern biological tools to real-world questions. prereq: Foundations of Biology Lab I: BIOL 1961, 1961H, 2002, or 2002H AND CHEM 1021, 1061, 1071H, or 1081. Credit will not be granted if credit has been received for: BIOL 3004H.

BIOL 3012. Animal Diversity and Evolution. (4 cr. ; Student Option; Every Fall & Spring)

This course is a survey of animal diversity, with an emphasis on understanding the major animal groups, how they are related to one another, how they differ in structure, and how each group achieves survival and reproduction

in the diverse environments of the Earth. We will place particular emphasis on major evolutionary transitions that animals have made through their history, including the origins of multicellularity, the achievement of motion, invasion of terrestrial habitats, and the achievement of flight. We will also emphasize the science behind our contemporary understanding of animals, from multiple perspectives ? behavioral, evolutionary, physiological, and ecological. Lab requires dissection, including mammals. prereq: BIOL 1001/1001H, or BIOL 1009/1009H, or BIOL 1951/1951H

BIOL 3015. Molecular Biology. (; 2 cr. ; Student Option; Every Fall, Spring & Summer)

All areas of biology have been transformed by the recent advances in molecular biology technology. Every life scientist, whether they study viruses or crashes of elephants, uses DNA cloning, sequencing, and genomic analysis. This technology has also impacted all aspects of health care by generating highly specific diagnostic tools and personalized treatments. The purpose of this course is to give students a solid foundation in the principles and tools of molecular biology. Biol 3015 will introduce concepts and techniques for understanding gene expression and the flow of genetic information. We will discuss the structure of nucleic acids and proteins, the replication and repair of DNA, transcription and its regulation, and translation. Students will also learn about current technologies used in molecular biology including cloning, PCR, DNA sequencing, mass spectrometry, DNA microarrays, proteomics, bioinformatics, and whole genome analysis. Credit will not be granted if credit has been received for: BIOL 3025

BIOL 3025. Molecular Biology and Society. (TS; 3 cr. ; Student Option; Every Fall & Spring)

An in-depth analysis of molecular biology topics and methods related to the Central Dogma of modern biology. This course is open to both CBS majors and non-CBS majors. Prerequisites include Biol2003/2003H or [Biol1009/1009H AND Chem1061/1061H].

BIOL 3051. Genome Editing and Engineering. (TS; 3 cr. ; Student Option; Every Spring)

Allowing researchers to modify genetic information in nearly any organism's genome, genome editing, and engineering technologies have been widely used in all areas of biology. These technologies have evolved rapidly in recent years and not only hold the promise to revolutionize medical and agricultural fields, but also make profound impacts on our society. The purpose of the course is to give students a comprehensive overview of principles, development and applications of genetic engineering and genome editing technologies in both prokaryotes and eukaryotes. This course will introduce concepts and history of genome engineering in both prokaryotes and eukaryotes. We will discuss the mechanisms and applications of both techniques using examples in bacteria and plant genome and metabolic pathway engineering. Students will also have hands-on experience to design

CRISPR and modify bacterial and plant genomes. In addition, this course will contribute to students' liberal education by discussing the consequences of these technologies for society and technological development, including the ethics of altering genomes, consequences on ecosystems, and the benefits, drawbacks, and limitations of these technologies. Recommended prerequisites: Introductory biology such as Biol 1951 and 2003, Biol 1009 or BMEN 2501

BIOL 3209. Understanding the Evolution-Creationism Controversy. (CIV; 3 cr. ; A-F only; Every Fall & Spring)

Aspects of evolution-creationism controversy, including its history, legacy, relevance, and key people. Court decisions, public opinion, and related issues (e.g., racism, politics). prereq: BIOL 1001, 1009, 1951 or 2002, or equiv

BIOL 3211. Physiology of Humans and Other Animals. (3 cr. ; Student Option; Every Fall & Spring)

Study of the various solutions to common physiological problems faced by humans, other vertebrates, and invertebrates. Core concepts in physiology including flow down gradients, homeostasis, cell-cell communication, interdependence of body systems, cell membrane dynamics, and mathematical modeling of physiological processes. Active learning format. prereq: [1009 or 2003], [CHEM 1062/1066 or 1082/1086], [2005 is recommended]

BIOL 3272. Applied Biostatistics. (; 4 cr. ; A-F only; Every Fall & Spring)

Conceptual basis of statistical analysis. Statistical analysis of biological data. Data visualization, descriptive statistics, significance tests, experimental design, linear model, simple/multiple regression, general linear model. Lectures, computer lab. prereq: High school algebra; BIOL 2003 recommended

BIOL 3272H. Applied Biostatistics. (; 4 cr. ; A-F only; Every Fall & Spring)

Conceptual basis of statistical analysis. Statistical analysis of biological data. Data visualization, descriptive statistics, significance tests, experimental design, linear model, simple/multiple regression, general linear model. Lectures, computer lab. prereq: High school algebra; BIOL 2003 recommended.

BIOL 3302. Dean's Scholar: Leadership Capstone Experience. (1 cr. ; S-N only; Every Fall & Spring)

In BIOL 3302, students will actively refine their perspectives about leadership, through examining their past experiences, their previous and future growth as a leader, and their personal effectiveness across situations and contexts. They will explore emotional and social awareness, vulnerability, feedback, perspective taking, critical thinking, empathy, and effective communication through conversation, written narratives, and creative expression. prereq: 1301, 2301, CBS dean's scholar

BIOL 3303. Dean's Scholar: Peer Leadership Development. (; 1 cr. ; S-N only; Every Fall)

This course teaches theoretical frameworks, principles, and practices of effective peer

leadership. As a Dean's Scholars Peer Mentor, you are in a peer leadership role that requires you to serve as a support, resource, connection, and bridge between first year students and their campus experience. This course will teach you in-depth, academic frameworks about the theory behind peer leadership; how it impacts the college student experience, why it works, and tools and practices that distinguish role modeling from exceptional peer leadership. The course also offers a learning laboratory for you to reflect and synthesize various aspects of your student leadership experience with a community of fellow leaders.

BIOL 3503. Biology of Aging. (2 cr. ; A-F only; Periodic Fall)

Age-related changes in individuals/populations. Evolution of senescence. Genes that influence aging. Interventions. Prospects for an aging human society. prereq: 1002 or 1009 or 2003 or equiv

BIOL 3600. Directed Instruction. (; 1-2 cr. [max 6 cr.]; S-N or Audit; Every Fall & Spring) Students assist with biology colloquium. prereq: 1020, upper div, application, instr consent; up to 4 cr may apply to major

BIOL 3610. Internship: Professional Experience in Biological Sciences. (1-6 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Matches student's academic or career goals with opportunities in industry, non-profit organizations, and government agencies. Prereq-Acceptance into CBS Internship Program, internship workshop, college consent.

BIOL 3700. Undergraduate Seminar. (; 1-3 cr. [max 9 cr.]; Student Option; Every Fall & Spring)

Faculty members lead students in discussions on topics of interest.

BIOL 3905. Beyond the Nobel Prize: Examining the Evolution of Swedish Innovation. (GP; 3 cr. ; A-F only; Every Spring)

This course is open to undergraduates from all disciplines and will appeal to students with a broad interest creativity and innovation. Students will examine innovation across a variety of disciplines and consider how solutions to problems facing society require creativity, collaboration, and new ways of thinking. In particular, we will explore personal creativity, as well as how environments can foster innovation, particularly in the Swedish context by traveling to Stockholm over spring break. We examine the reasons behind Sweden's ranking (#2 in 2017) on the Global Innovation Index, as well as the Nobel Prize, international awards bestowed by Swedish institutions that recognize significant academic, cultural and scientific advances. In addition, as a learning abroad seminar, students will learn about their own level of and strategies to increase their intercultural competence, and engage in a practical experience of navigating another culture in an intentional and reflective way.

BIOL 3960H. Communicating in the Biological Sciences. (; 1 cr. ; A-F only; Every Fall)

Oral reports on topics of current interest to biologists. Progress reports on lab and field research by students.

BIOL 4003. Genetics. (; 3 cr. ; Student Option; Every Fall, Spring & Summer) Genetic information, its transmission from parents to offspring, its expression in cells/organisms, and its course in populations. prereq: Biol 2003/2003H or BioC 3021 or BioC 4331 or grad

BIOL 4004. Cell Biology. (; 3 cr. ; Student Option; Every Fall, Spring & Summer) Processes fundamental to cells. Emphasizes eukaryotic cells. Assembly/function of membranes/organelles. Cell division, cell form/movement, intercellular communication, transport, secretion pathways. Cancer cells, differentiated cells. prereq: Completion of Biol 4003 is preferred, Biol2003/2003H or Biol4003 or grad

BIOL 4201. Teaching in the Biology Laboratory. (; 1 cr. [max 2 cr.]; S-N only; Every Fall & Spring) Pedagogical underpinnings for teaching in lab. prereq: Student who is teaching in CBS lab course

BIOL 4321W. Deconstructing Research: Writing about Biological Research for Non-scientists. (WI; 2 cr. ; Student Option; Every Spring)

Deconstructing Biology Research is designed to help majors in the College of Biological Sciences improve their skills in selecting primary research papers, understanding the experimental approaches taken by the authors of those papers, and evaluating the results and conclusions. Students will then share that knowledge by writing effective deconstructions that explain the research approaches and results for different audiences, including the public at large.

BIOL 4590. Coral Reef Ecology. (2 cr. ; A-F only; Every Fall)

Contemporary issues in tropical reef ecology from diverse perspectives. Option of two-credit seminar during fall semester plus additional two-credit field option (BIOL 4596) to involve SCUBA diving/snorkeling on tropical reef. prereq: Introductory biology course with lab

BIOL 4793W. Directed Studies: Writing Intensive. (WI; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Writing Intensive Directed Studies is an individual-study, literature-based investigation in which the student is mentored directly by a faculty member. One main feature of this course is that the student will receive writing instruction and the written output of the course will be revised during the semester. The project needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, how writing instruction will take place, a timeline for when student writing will be handed in and how it will be assessed,

methodology to be used by the student, and how assessment of learning will be conducted by the mentor. Additional oversight is established for this course near the end of the semester the written output is submitted to the DUGS for the major. The DUGS is responsible to determine that the writing meets standards set by the CBS Education Policy Committee for quality of writing, appropriate citation of literature, well-constructed figures, tables, and legends (if present), appropriate use and interpretation of statistics (if present), conclusions that are supported by evidence, and well-formatted references. This course is graded S/N and approval of the DUGS is required before a grade of S can be given by the faculty mentor. prereq: department consent, instructor consent, no more than 7 credits of 4793W, 4794W, 4993, 4994 counts towards CBS major requirements.

BIOL 4794W. Directed Research: Writing Intensive. (WI; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Writing Intensive Directed Research is an individual-study, laboratory or field research experience in which the student is mentored directly by a faculty member. This course is intended for students who already have initiated a research project in the lab of the mentor and already have results. In this course the student will receive writing instruction. The written output usually is in the form of a scientific paper describing the results of the student's project. Written output of the course must be revised during the semester and a schedule for writing, assessment and revision needs to be in place at the beginning of the semester. The project needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the Director of Undergraduate Studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, how writing instruction will take place, a timeline for when student writing will be handed in and how it will be assessed, methodology to be used by the student, and how assessment of learning will be conducted by the mentor. Additional oversight is established for this course - near the end of the semester the written output is submitted to the DUGS for the major. The DUGS is responsible to determine that the writing meets standards set by the CBS Education Policy Committee for quality of writing, appropriate citation of literature, well-constructed figures, tables, and legends (if present), appropriate use and interpretation of statistics (if present), conclusions that are supported by evidence, and well-formatted references. The DUGS can call for a final revision before a grade is given. This course is graded S/N and approval of the DUGS is required before a grade of S can be given by the faculty mentor. prereq: department consent, instructor consent, no more than 7 credits of 4793W, 4794W, 4993, 4994 counts towards CBS major requirements.

BIOL 4950. Special Topics in Biology. (; 1-4 cr. [max 12 cr.] ; S-N only; Periodic Spring)

In-depth study of special topic in life sciences.

BIOL 4960H. Thesis Writing in the Biological Sciences: Developing the Literature Review. (; 1 cr. ; A-F only; Every Fall)

In the Fall semester of the two-semester capstone thesis support course, CBS honors students will develop and refine the literature review introduction component of the honors thesis. The course will focus on conceptualizing the gap in knowledge, drafting the literature review, and revising in response to peer and outside reader feedback. We will use the literature to unpack the conventions of authentic scientific writing so that students can begin to draft other sections of their thesis (methods, results narrative, publication ready figures, legends) By the end of the term, students will have developed and peer-workshopped at least one draft module of each data-related thesis section and they will have a revised version of the thesis introduction/literature review to deliver to their faculty research mentor for feedback before the start of the Spring term. Students should be in a research lab and have started their research project before the start of the semester. Students who have not yet fulfilled an upper division WI course in the biological sciences should wait until the Spring (final) semester to register for their major's version of WI directed research or WI directed studies (for example, MicB 4794W or 4793W). The completed and approved thesis will count for the WI.

BIOL 4961H. Thesis Writing in the Biological Sciences: Conveying and Contextualizing Results. (; 1 cr. ; A-F only; Every Spring)

In this second semester of the CBS thesis support course, honors students will continue work initiated Biol 4960H to develop/draft/revise results/methods/discussion sections of their honors thesis. In addition, they will prepare and present a professional research poster at the University of Minnesota Undergraduate Research Symposium in April. The complete thesis will be assessed by two or three faculty readers against standards outlined in CBS Thesis Assessment Rubric. Students who have not yet fulfilled an upper division WI course in the biological sciences should concurrently register for their major's version of WI directed research or WI directed studies (for example, MicB 4794W or 4793W). The completed and approved thesis will count for the WI.

BIOL 4993. Directed Studies. (; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Directed Studies is an individual-study, literature-based investigation in which the student is mentored directly by a faculty member. The topic for the course needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. prereq: department consent,

instructor consent, no more than 7 credits of 4793W, 4794W, 4993, 4994 counts towards CBS major requirements.

BIOL 4994. Directed Research. (; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Directed Research is an individual-study, laboratory or field investigation course. The research topic needs to be agreed on by both the student and the faculty mentor and explained in a Research/Directed Studies contract. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. prereq: department consent, instructor consent, no more than 7 credits of 4793W, 4794W, 4993, 4994 counts towards CBS major requirements.

BIOL 5272. Applied Biostatistics. (; 4 cr. ; A-F only; Every Fall & Spring)

Conceptual basis of statistical analysis. Statistical analysis of biological data. Data visualization, descriptive statistics, significance tests, experimental design, linear model, simple/multiple regression, general linear model. Lectures, computer lab. prereq: High school algebra; BIOL 2003 recommended.

BIOL 5309. Molecular Ecology And Ecological Genomics. (; 3 cr. ; Student Option; Fall Even Year)

Application of molecular tools (PCR, sequencing, AFLP, SNPs, QTL) and analyses of molecular data for understanding ecological/evolutionary processes. Strengths/weaknesses of techniques/analyses. Questions molecular tools are used to answer. prereq: BIOL 3407 or BIOL 3409 or BIOL 4003

BIOL 5701. Science Communication: A Primer for Scientists. (; 2 cr. [max 3 cr.] ; Student Option; Every Fall, Spring & Summer)

Are you interested in honing your skills as a communicator? This class will help you improve your skills and gain confidence through practice and feedback. At the end of the course, you will have two finished pieces that you can use for fellowship applications or to publish. Topics covered include, translating technical concepts and avoiding jargon, understanding your audience and employing storytelling to engage them, identifying what makes science newsworthy, exploring concepts in inclusive science communication, and writing science stories and a three-minute thesis talk. The skills and practice from this course will help you in your future writing, presentations, and networking whether you want a career in academia, industry, nonprofit, government, or beyond. In addition to gaining a solid foundation in science communication, you will hear from guest speakers and experts about careers translating science.

BIOL 5910. Special Topics in Biology for Teachers. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Spring & Summer)

Courses developed for K-12 teachers depending on topics or subtopics which might include any of the following: plant

biology, animal biology, genetics, cell biology, biochemistry, microbiology. prereq: BA or BS in science or science education or elementary education or K-12 licensed teacher

BIOL 5950. Special Topics. (; 1-4 cr. [max 8 cr.]; Student Option; Periodic Fall, Spring & Summer)
In-depth study of special topic in life sciences.

Biology, Society, and Environ (BSE)

BSE 2001. An Introduction to Biology, Society, and Environment. (; 2 cr. ; A-F only; Every Fall & Spring)

The BSE major is built on the idea that problems of biology, health, and the environment emerge at the intersection of natural and human systems. Understanding these problems and their solutions, and building skill sets to address them, requires experience in the biological and natural sciences as well as in the social sciences and humanities. In this introduction to the BSE major, you'll explore the interconnectedness of biology, society, and environment through a series of "case study" modules that include lectures, videos, readings, and discussions. You'll also complete some very practical exercises to help you consider how you might develop your own unique path through the BSE major, in ways that are relevant to your personal and/or professional interests and goals. Must be completed prior to senior year.

BSE 2001H. Introduction to Biology, Society, and Environment - Honors. (; 2 cr. ; A-F only; Every Fall)

The BSE major is built on the idea that problems of biology, health, and the environment emerge at the intersection of natural and human systems. Understanding these problems and their solutions, and building skill sets to address them, requires experience in the biological and natural sciences as well as in the social sciences and humanities. In this introduction to the BSE major, you'll explore the interconnectedness of biology, society, and environment through a series of "case study" modules that include lectures, videos, readings, and discussions. You'll also complete some very practical exercises to help you consider how you might develop your own unique path through the BSE major, in ways that are relevant to your personal and/or professional interests and goals. Must be completed prior to senior year.

BSE 3991. Biology, Society and Environment Capstone. (; 1 cr. ; S-N only; Every Fall & Spring)

This course will help you reflect on your path through the BSE major, assess the knowledge and skills you developed during your degree program, and articulate how your knowledge and skills support your personal and professional interests and goals. BSE 3991 is open to second-semester Junior and Senior BSE majors.

BSE 3991H. BSE Capstone Honors. (; 1 cr. ; A-F only; Every Spring)

This course will help you reflect on your path through the BSE major, assess the knowledge and skills you developed during your degree program, and articulate how your knowledge and skills support your personal and professional interests and goals. BSE 3991 is open to second-semester Junior and Senior BSE majors.

BSE 3994. Directed Research in Biology, Society, and Environment. (1-8 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer)

Students work with a faculty supervisor on an Individual guided research project.

BSE 3996. Senior Project Directed Research. (3-4 cr. [max 8 cr.]; A-F only; Every Fall, Spring & Summer)

Individual guided research course taken in fulfillment of BSE senior project requirement. Prereq-instr consent, dept consent, college consent.

BSE 3997. Senior Project. (2 cr. [max 4 cr.]; A-F only; Every Fall, Spring & Summer)

Senior Project add-on credit. Must be taken concurrently with "BSE Core" or "BSE Theme Elective" course related to area of specialization. Prereq-instr consent, dept consent, college consent.

Biomedical Engineering (BMEN)

BMEN 1601. Biomedical Engineering Undergraduate Seminar I. (1 cr. ; A-F only; Every Fall)

Introduction to biomedical engineering from academic/industrial perspectives. Survey of current/emerging areas. prereq: CSE student or instructor approval.

BMEN 1602. Biomedical Engineering Undergraduate Seminar II. (1 cr. ; A-F only; Every Spring)

Continuation of 1601. Emphasizes biomedical engineering design and numerical analysis. prereq: CSE student or instructor approval.

BMEN 2101. Biomedical Thermodynamics and Kinetics. (; 3 cr. ; A-F only; Every Spring)

Introduction to thermodynamics and kinetics, framed in the context of biomedical technologies and applications. Topics include principles of probability, extremum principles and equilibria, entropy & the Boltzmann distribution law, thermodynamic driving forces, solutions & mixtures, solvation & transfer of molecules between phases, phase transitions, biological rate processes, noncovalent binding interactions, binding equilibria and kinetics, enzyme kinetics, gene expression, protein trafficking, and network dynamics. Prerequisites BMEN 2501, CHEM 1022, MATH 2373, concurrent registration is required (or allowed) in MATH 2374

BMEN 2151. Introductory Medical Device Prototyping. (3 cr. ; A-F only; Every Spring)

Engineering drawing with SolidWorks; CAM and 3D FDM printing; Lathe, mill, and other shop instruction; Biomaterials & biocompatibility; Digital and analog electronics, SPICE and test equipment; Programming in C; and Microcontrollers, sensors and actuators.

BMEN 2401. Programming for Biomedical Engineers. (; 2 cr. ; A-F only; Every Fall)

Introduction to structured programming in biomedical engineering. Development of programming skills/logic relevant for numerical methods used for analyzing biomedical signals and solving algebraic/differential equations using Matlab. Programming logic/structured programming, introduction to scientific computation motivated by signal representations. Weekly lecture, computer lab modules. prereq: CSE student, PHYS 1302W, and MATH 2373 or MATH 2374

BMEN 2501. Cellular and Molecular Biology for Biomedical Engineers. (BIOL; 4 cr. ; A-F or Audit; Every Fall)

Fundamentals of cellular/molecular biology. Chemistry of proteins, lipids, and nucleic acids. Applications to biomedical engineering. Function/dynamics of intracellular structures and differentiated animal cells. Application of physical/chemical fundamentals to modeling cellular/subcellular processes. Lecture/lab. prereq: concurrent registration is required (or allowed) in CHEM 1022, concurrent registration is required (or allowed) in MATH 1372, concurrent registration is required (or allowed) in PHYS 1302, CSE student

BMEN 3011. Biomechanics. (3 cr. ; A-F or Audit; Every Fall)

Statics, dynamics, deformable body mechanics applied to biological/biomedical problems. Mechanical properties of biological/commonly used biomedical engineering materials. Techniques for numerical solution of biomechanics problems. Lecture/Discussion. prereq: BME Upper Div or dept consent

BMEN 3015. Biomechanics Lab. (1 cr. ; A-F or Audit; Periodic Fall)

Lab accompanies BMEN 3011 Biomechanics. prereq: [BME UD or dept consent], concurrent registration is required (or allowed) in 3011

BMEN 3111. Biomedical Transport Processes. (3 cr. ; A-F or Audit; Every Spring)

Principles of momentum, heat, mass transfer illustrated with applications in physiological processes. Fluid mechanics, heat condition, mass diffusion, convection. Lecture. prereq: [3011, 3015], [BMEN upper div or dept consent]

BMEN 3115. Biomedical Transport Processes Lab. (1 cr. ; A-F or Audit; Every Spring)

Lab accompanies BMEN 3111 Biomedical Transport Processes. prereq: [3011, concurrent registration is required (or allowed) in 3111], [BMEN upper div or dept consent]

BMEN 3151. Medical Device Practicum. (1 cr. ; A-F only; Every Summer)

BMEN 3151 "Medical Device Practicum" allows students to use the skills they learned in BMEN 2151 "Introductory Medical Device Prototyping" for making an actual medical device prototype. Weekly seminars introduce advanced medical device topics that will be fundamental to senior design. Students will become acquainted with the following topics: Design opportunities in medicine, conceiving and vetting a medical device, FDA regulations and guidance,

intellectual property, commercialization licensing and entrepreneurship, and building a medical device prototype.

BMEN 3211. Bioelectricity and Bioinstrumentation. (3 cr. ; A-F or Audit; Every Fall)

Principles of electrical phenomena, instruments relevant to biomedical applications. Lecture/discussion. prereq: BME Upper Div or dept consent

BMEN 3215. Bioelectricity and Bioinstrumentation Lab. (1 cr. ; A-F or Audit; Periodic Fall)

Lab accompanies BMEn 3211 Bioelectricity/Bioinstrumentation. prereq: [BMEN Upper Div or dept consent], concurrent registration is required (or allowed) in 3211

BMEN 3311. Biomaterials. (3 cr. ; A-F or Audit; Every Spring)

Principles of biomaterials. Organic chemistry/biochemistry of natural/artificial biomaterials. Physical characterization/mechanical testing. Biomedical applications. Lecture/discussion. prereq: 2101, [BMEn Upper Div or dept consent]

BMEN 3315. Biomaterials Lab. (1 cr. ; A-F or Audit; Every Spring)

Lab accompanies BMEn 3311 Biomaterials. prereq: [2101, concurrent registration is required (or allowed) in 3311], [BMEN Upper Div or dept consent]

BMEN 3411. Biomedical Systems Analysis. (3 cr. ; A-F or Audit; Every Spring)

Quantitative analysis of physiological/biological systems. First/second order systems, linear time-invariant systems, systems classification/identification. Linear control theory/controller synthesis. Electrical, mechanical, thermal, chemical/biomedical control systems. prereq: 3211, [BME Upper Div or dept consent]

BMEN 3415. Biomedical Systems Analysis Lab. (1 cr. ; A-F or Audit; Every Spring)

Lab accompanies BMEn 3411 Biomedical Systems Analysis. prereq: [3211, concurrent registration is required (or allowed) in 3411], [BME Upper Div or dept consent]

BMEN 3601. Biomedical Engineering Careers and Practice in the Med Tech Industry. (1 cr. ; A-F only; Every Fall)

Local industry speakers describe various job roles available to BBME graduates at graduation. Input from Career Center on internship/job searching/interviewing. Exposure to other aspects of the medical devices industry (e.g. failure mode analysis, tolerancing, reading/critiquing clinical literature, etc).

BMEN 4001W. Biomedical Engineering Design I. (WI; 3 cr. ; A-F or Audit; Every Fall)

Design/analysis of biomedical devices/technologies. Students work in teams on open ended design project, present completed work at design show. prereq: 2501, 3001, 3101, 3201, 3301, 3701

BMEN 4002W. Biomedical Engineering Design II. (WI; 3 cr. ; A-F or Audit; Every Spring)

Continuation of 4001W. prereq: 4001W

BMEN 4011. CAD/CAE of Bioelectrical Devices. (1 cr. ; A-F or Audit; Every Fall)

Simulation, analysis, design of industry common Bioelectrical Devices with using CAD software. Altium Designer CAD/LT Spice. prereq: [3211, 3215] or instr consent

BMEN 4013. CAD of Biomechanical/transport Devices. (1 cr. ; A-F or Audit; Every Fall)

Introduction to CAD modeling/analysis for medical device engineers using SOLIDWORKS CAD platform. Emphasis on practical applications of CAD for engineers using real-world examples from actual industry projects. prereq: BME Upper Division or instr consent

BMEN 4015. CAE of Biomechanical/Transport Devices. (1 cr. ; A-F or Audit; Every Fall)

Computational modeling and simulation of biomechanical and biotransport devices using COMSOL Multiphysics software. prereq: 3011, 3015, 3111, 3115

BMEN 4793. Directed Study. (; 1-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Directed study under faculty supervision. prereq: instr consent, dept consent

BMEN 4794. Directed Research. (; 1-4 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Independent laboratory research under faculty supervision. prereq: instr consent, dept consent

BMEN 4794H. Directed Research Honors. (; 1-4 cr. [max 24 cr.] ; A-F only; Every Fall, Spring & Summer)

Independent laboratory research under faculty supervision. prereq: BME UD, UHP student, instr consent, dept consent

BMEN 4896. Industrial Assignment I: Co-op Program. (; 2 cr. ; A-F only; Every Summer)

Industrial assignment in co-op program. Industrial work assignment in engineering intern program. Evaluation based on student's formal written report covering semester's work assignment. Please visit the Engineering Co-op Program's website for the full syllabus and course information: <http://co-op.umn.edu> prereq: BMEn upper div, completion of required courses in BMEn prog through spring sem of 3rd yr, registered in co-op prog prereq: BMEn upper div, completion of required courses in BMEn prog through spring sem of 3rd yr, registered in co-op prog

BMEN 4996W. Industrial Assignment II: Co-op Program. (WI; 4 cr. ; A-F only; Every Fall & Spring)

Industrial assignment in co-op program. Solution of system design problems that require developing criteria, evaluating alternatives, and generating a preliminary design. Final report emphasizes design communication and describes design decision process, analysis, and final recommendations. Please visit the Engineering Co-op Program's website for the full syllabus and further course information: <http://co-op.umn.edu> prereq: 4896, registered in co-op prog

BMEN 5001. Advanced Biomaterials. (; 3 cr. ; A-F or Audit; Every Fall)

Commonly used biomaterials. Chemical/physical aspects. Practical examples from such areas as cardiovascular/orthopedic applications, drug delivery, and cell encapsulation. Methods used for chemical analysis and for physical characterization of biomaterials. Effect of additives, stabilizers, processing conditions, and sterilization methods. prereq: 3301 or MatS 3011 or grad student or instr consent

BMEN 5031. Engineering Extracellular Matrices. (3 cr. ; A-F only; Every Fall)

This class explores the complex set of fibrous and linking proteins of tissues, namely the extracellular matrix (ECM). The ECM is crucial not only for maintaining the structure of tissues but also for guiding and maintaining cellular functions and fate processes. The purpose of the course is to become acquainted with ECM proteins and to investigate how control or manipulation of ECM proteins impacts on cell and tissue function with an emphasis on impacts for regenerative medicine. In the course of this study, we will apply fundamentals of physics, chemistry, and mathematics to make predictions, solve problems and optimize outcomes related to ECM engineering. Required prerequisites: Upper Division Undergraduate or Graduate level student standing in CSE. Recommended prerequisites: BMEn 2501, 3011/3015, 3111/3115, 3311/3315, or equivalents (introductory cell/molecular biology, biomaterials, biotransport, biomechanics).

BMEN 5041. Tissue Engineering. (; 3 cr. ; Student Option; Every Spring)

Fundamentals of wound healing and tissue repair; characterization of cell-matrix interactions; case study of engineered tissues, including skin, bone marrow, liver, vessel, and cartilage; regulation of biomaterials and engineered tissues. prereq: CSE upper div or grad student or med student or instr consent

BMEN 5101. Advanced Bioelectricity and Instrumentation. (; 3 cr. ; Student Option; Periodic Spring)

Instrumentation, computer systems, and processing requirements for clinical physiological signals. Electrode characteristics, signal processing, and interpretation of physiological events by ECG, EEG, and EMG. Measurement of respiration and blood volume/flow. prereq: [CSE upper div, grad student] or instructor consent

BMEN 5111. Biomedical Ultrasound. (; 3 cr. ; Student Option; Every Spring)

Introduction to biomedical ultrasound, including physics of ultrasound, transducer technology, medical ultrasound imaging, photoacoustic imaging, applications of non-linear acoustics, and high-intensity ultrasound. prereq: [[PHYS 1302 or equiv], [MATH 2374 or equiv]] or instr consent

BMEN 5151. Introduction to BioMEMS and Medical Microdevices. (; 2 cr. ; A-F or Audit; Every Spring)

Design/microfabrication of sensors, actuators, drug delivery systems, microfluidic devices, and DNA/protein microarrays. Packaging,

biocompatibility, ISO 10993 standards. Applications in medicine, research, and homeland security. prereq: CSE sr or grad student or medical student

BMEN 5201. Advanced Biomechanics. (3 cr. ; Student Option; Periodic Fall & Spring) Introduction to biomechanics of musculoskeletal system. Anatomy, tissue material properties. Kinematics, dynamics, and control of joint/limb movement. Analysis of forces/motions within joints. Application to injury, disease. Treatment of specific joints, design of orthopedic devices/implants. prereq: [[3001 or equiv], [CSE upper div or grad student]] or instr consent

BMEN 5311. Advanced Biomedical Transport Processes. (3 cr. ; Student Option; Every Spring) Fluid flow and mass transfer in the body, bioreactors, and medical devices. Pulsatile flows. Flows around curved and deformable vessels. Boundary layer flows. Blood rheology. Interstitial (porous media) flows. Oxygenation. Cell migration. Student critiques of published papers.

BMEN 5321. Microfluidics in Biology and Medicine. (3 cr. ; A-F or Audit; Every Fall) Fundamentals of microfluidics. Fluid mechanics/transport phenomena in microscale systems. Pressure/surface driven flows. Capillary forces, electrokinetics, hydraulic circuit analysis. Finite element modeling for microfluidic systems. Design/fabrication methods for microfluidic devices. prereq: [3111, AEM 4201, ChEn 4005, [ME 3331 or ME 3332 or CSE grad student or instr consent]

BMEN 5351. Cell Engineering. (3 cr. ; Student Option; Periodic Fall & Spring) Engineering approaches to cell-related phenomena important to cell/tissue engineering. Receptor/ligand binding. Trafficking/signaling processes. Applications to cell proliferation, adhesion, and motility. Cell-matrix interactions. prereq: [2401, [2501 or concurrent registration is required (or allowed) in 5501], [MATH 2243 or MATH 2373]] or CSE upper div or grad student or instr consent

BMEN 5361. 3D Bioprinting. (2 cr. ; A-F only; Every Spring) 3D Bioprinting has recently emerged as a new biofabrication technology that merges many engineering fields (eg. BME, MechE, ChemE) with other disciplines such as Materials Science, Stem Cell Biology, Physiology, Surgery and Pharmacology. This course serves as an introduction to the field and how its disciplines interface, while providing the student with knowledge of many of the most common bioprinting methods and applications being developed today through lectures by experts in the field (academia and industry) as well as hands-on lab exercises in the UMN 3D Bioprinting Facility.

BMEN 5401. Advanced Biomedical Imaging. (3 cr. ; A-F or Audit; Every Fall) Functional biomedical imaging modalities. Principles/applications of technologies that offer high spatial/temporal resolution. Bioelectromagnetic and magnetic resonance

imaging. Other modalities. prereq: CSE upper div or grad student or instr consent

BMEN 5411. Neural Engineering. (3 cr. ; Student Option; Every Fall) Theoretical basis. Signal processing techniques. Modeling of nervous system, its response to stimulation. Electrode design, neural modeling, cochlear implants, deep brain stimulation. Prosthetic limbs, micturition control, prosthetic vision. Brain machine interface, seizure prediction, optical imaging of nervous system, place cell recordings in hippocampus. prereq: 3401 recommended

BMEN 5412. Neuromodulation. (3 cr. ; A-F or Audit; Every Fall) Fundamentals of bioengineering approaches to modulate the nervous system, including bioelectricity, biomagnetism, and optogenetics. Computational modeling, design, and physiological mechanisms of neuromodulation technologies. Clinical exposure to managing neurological disorders with neuromodulation technology.

BMEN 5413. Neural Decoding and Interfacing. (3 cr. ; A-F or Audit; Every Spring) Neural interface technologies currently in use in patients as well as the biophysical, neural coding, and hardware features relating to their implementation in humans. Practical and ethical considerations for implanting these devices into humans. prereq: CSE upper division student, CSE graduate student, or instructor approval. recommended: BMEN 3411

BMEN 5421. Introduction to Biomedical Optics. (3 cr. ; A-F or Audit; Periodic Spring) Biomedical optical imaging/sensing principles, laser-tissue interaction, detector design, noise analysis, interferometry, spectroscopy. Optical coherence tomography, polarization, birefringence, flow measurement, fluorescence, nonlinear microscopy. Tours of labs. prereq: CSE sr or grad student

BMEN 5501. Biology for Biomedical Engineers. (3 cr. ; Student Option; Periodic Fall & Spring) Concepts of cell/tissue structure/function. Basic principles of cell biology. Tissue engineering, artificial organs. prereq: Engineering upper div or grad student

BMEN 5601. Cardiovascular Devices. (1 cr. ; A-F or Audit; Every Spring) Design of cardiovascular devices with experts from local medtech companies. Discussion of clinical need, the generic design (emphasizing use of engineering principles), typical testing and validation methods, and major limitations of the available devices. Design, analysis, and testing of these and related devices. prereq: BMEN 3011, 3111, 3211, or equivalents with instr consent

BMEN 5701. Cancer Bioengineering. (3 cr. ; A-F or Audit; Every Fall) Cancer-specific cell, molecular/genetics events. Quantitative applications of bioinformatics/systems biology, optical imaging, cell/matrix mechanics. Drug transport (with some examination of design of novel therapeutics).

prereq: [Upper division CSE undergraduate, CSE graduate student] or instr consent

BMEN 5910. Special Topics in Biomedical Engineering. (3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring) Special topics in biomedical engineering.

BMEN 5920. Special Topics in Biomedical Engineering. (1-3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring) Special topics in biomedical engineering.

Bioproducts and Biosystems Eng (BBE)

BBE 1001. Bioproducts and Biosystems Engineering Orientation. (1 cr. ; S-N or Audit; Every Fall) Academic programs/careers related to bioproducts and biosystems engineering. Required field trip.

BBE 1002. Biorenewable Resources. (TS; 3 cr. ; Student Option; Every Fall & Spring) In this course you will gain a basic understanding of what biorenewable resources are and the benefits and challenges that biorenewable materials provide. You will learn how to evaluate the environmental impact of various material choices and the technical and economic implications of these options.

BBE 2001. Mechanics and Structural Design. (4 cr. ; A-F or Audit; Every Fall) Fundamental treatment of statics, dynamics, and principles of structural design. Techniques for individual components, including trusses, beams, and columns. Using conventional lumber products, engineered wood products, and steel. Lab. Prerequisite: Math 1272 or Math 1372 or Math 1572H and Phys 1101W or Phys 1301W or Phys 1401V)

BBE 2003. Computer Applications in Bioproducts and Biosystems Engineering. (3 cr. ; A-F or Audit; Every Fall) Applications of computational methods for solving practical problems in Bioproducts and Biosystems Engineering. Applications of computer software, for instance, Matlab, R, and Excel, in assisting engineering calculations and designs in Bioproducts and Biosystems Engineering. Prereq: (Math 1271 or Math 1371, Math 1272 or Math 1372, Concurrent registration in [(Math 2243 or 2373) OR {Math 2263 or 2374}]) CSE lower division or CSE Upper Division BBE Majors or CFANS Pre-BBE (Premajor) or instructor consent.

BBE 2201. Renewable Energy and the Environment. (TS; 3 cr. ; Student Option; Every Fall, Spring & Summer) There is a growing sense of national and global urgency regarding carbon and climate change with particular emphasis on our energy system. Unfortunately, the answers are not simple. In this course, students explore our wide range of traditional and renewable energy sources and how these options impact our environment and society. Students are also exposed to the complex and compelling ethical issues raised by global, national, and local changes in how we produce and use energy. This course informs and engages students to be thoughtful,

rather than passive consumers of energy. Students gain the knowledge necessary to be articulate in career, community, and personal arenas regarding renewable energy resources. In addition, students develop the ability to evaluate and respond to present and future technological changes that impact their energy use in the workplace, at home, and in the community. This course was designed and offered as an online course since 2011. For more details on the course please look at the syllabus and some comments from previous students by going to bbe2201.cfans.umn.edu

BBE 3002. Introduction to Engineering Design. (3 cr. ; A-F only; Every Fall)

Identify, formulate, develop/complete open-ended designs in bioproducts & biosystems engineering at the conceptual level; engineering economics principles, safety/health considerations, and ethics for design project. Written, graphical, and oral presentations. prereq: BBE 2003, Chem 1061, Math 2243 or Math 2373, BBE or Pre-BBE student or instr consent

BBE 3012. Transport in Biological Processes I. (4 cr. ; A-F only; Every Fall)

Introduction to fluid mechanics. Fluid statics/kinematics. Differential/finite control volume analysis with continuity, momentum, energy equations. Bernoulli/Euler Equation. Dimensional analysis. Potential flow. Non-Newtonian Fluids. Applications to biological fluids/biological systems. prereq: BBE 1001 or concurrent registration and BBE 2001 and BBE 3033 and Math 2243 or Math 2373 or Math 2574H and Math 2263 or Math 2374 or Math 2573H and Phys 1302W or Phys 1402V

BBE 3013. Engineering Principles of Molecular and Cellular Processes. (3 cr. ; A-F or Audit; Every Fall)

Applied engineering principles in biological processes. Classification of microbes of industrial importance. Parameters for cellular control. Modeling of cell growth/metabolism, enzymatic catalysis, bioreactor design, product recovery operations design. Case studies. prereq: BBE 1001 or concurrent reg and BIOL 1009 and CHEM 1062 or equiv and CHEM 1066 or equiv and MATH 1372 or equiv and BIOC 2011 or CHEM 2301, or instructor consent

BBE 3023. Ecological Engineering Principles. (3 cr. ; Student Option; Every Fall)

Physical, thermal, texture, strength, moisture properties of soil. Saturated/unsaturated moisture movement. Quantitative descriptions of mass/energy flux/storage in ecosystems. Distribution of vegetation in landscapes. Engineering/management impacts on soil-water-plant systems. prereq: BIOL 1009, [3012 or concurrent registration is required (or allowed) in 3012] or instr consent

BBE 3033. Material and Energy Balances in Biological Systems. (3 cr. ; A-F or Audit; Every Spring)

Basic principles of materials and energy balances, their applications in biological systems. prereq: [CHEM 1062 or equiv], [CHEM 1066, or equiv], [MATH 1372 or equiv], [PHYS 1302W or equiv]

BBE 3043. Biological and Environmental Thermodynamics. (3 cr. ; A-F or Audit; Every Spring)

Laws of thermodynamics for energy, environmental and biological sciences. First/second laws of thermodynamics in representing phase change, biochemical reactions, metabolic cycles, and photosynthesis. prereq: BIOL 1009, [CHEM 1061 or equiv], [CHEM 1065, or equiv], [MATH 1372 or equiv], [PHYS 1302 or equiv]

BBE 3093. Directed Studies. (1-5 cr. ; Student Option; Every Fall, Spring & Summer)

Independent study of topic(s) involving physical principles as applied to agricultural production and land resources. prereq: instr consent

BBE 3201. Sustainability of Food Systems: A Life Cycle Perspective. (GP; 3 cr. ; A-F only; Every Fall & Spring)

Consequences of global food system. Diversity in food systems. Current topics in food sustainability.

BBE 3394. Directed Research. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

BBE 3396. Industry Assignment. (1 cr. ; A-F or Audit; Every Fall & Spring)

Students participating in industrial or experiential learning assignment. Evaluation based on formal final report; coordinated with faculty and industry advisor.

BBE 3480. Special Topics. (1-4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Topics specified in Class Schedule.

BBE 4001. Chemistry of Biomass and Biomass Conversion to Fuels and Products. (ENV; 4 cr. ; A-F or Audit; Every Fall)

Chemistry of biomass and its sustainable utilization for biofuels and bioproducts, including bio-based materials. Chemicals/energy and their environmental implications within the context of chemical principles and associated reactions underlying the structure, properties, processing, and performance of plant materials. prereq: CHEM 2301 or instr consent

BBE 4013. Transport in Biological Processes II. (3 cr. ; A-F or Audit; Every Spring)

Application of thermodynamics, fluid flow, heat/mass transfer to design problems. Biological processes/materials at cell, organism, system level. Agricultural, environmental, food, bioprocess applications. Solution of equations involving computer programming assignments. prereq: 3012, 3043, [upper div CSE or instr consent]

BBE 4023W. Process Control and Instrumentation. (WI; 3 cr. ; A-F or Audit; Every Fall)

Measurement of motion, force, pressure, flow, temperature, size, shape, color, texture, rheology, moisture, water mobility, fat, and pH. Linking physical and biological control systems. prereq: Upper div CSE or grad student

BBE 4301. Applied Surface and Colloid Science. (3 cr. ; Student Option; Every Fall)

Introduction to surface/colloid science concepts. Surface tension, wetting, adsorption, capillarity. Formation/stability of sols, emulsions, and foams. Water solubility. Partition coefficients of organic species. Properties of both surfactants and water soluble polymers. Focuses on interdisciplinary applications. prereq: 3043 or BMEN 2101 or CHEN 3101 or CHEM 4501 or instr consent

BBE 4302. Biodegradation of Bioproducts. (3 cr. ; Student Option; Every Spring)

Organisms of importance to bio-based products. Deterioration, control, bioprocesses for benefit. prereq: 1002 or instr consent

BBE 4303. Introduction to Bio-based Materials Science. (3 cr. ; A-F or Audit; Every Spring)

Principles of materials science, their application to bio-based materials. prereq: 2001 or instr consent

BBE 4305. Pulp and Paper Technology. (3 cr. ; Student Option; Every Spring)

Pulping processes, fiber refining/processing, paper manufacturing, fiber/paper properties, recycling. Water requirements, effluent treatment. Chemical/mechanical pulping, pulp preparation, secondary fiber, de-inking, wet end additives. Lab problems/exercises, lectures. Online course. prereq: Junior or senior or instr consent

BBE 4333. Off-road Vehicle Design. (4 cr. ; A-F or Audit; Every Spring)

Mechanics involved in designing/testing off-road vehicle. Vehicle mechanics, traction, and performance. Complexity/modeling of vehicle interaction with soil, muskeg, and snow. prereq: [[2001, 4303] or [AEM 2021, AEM 3031], [3012 or CECE 3502 or concurrent registration is required (or allowed) in CECE 3502], upper div CSE] or instr consent

BBE 4401. Bioproducts Separation and Purification Processes. (3 cr. ; A-F or Audit; Every Fall)

Unit operations of bioproducts engineering/manufacture; separations and purification processes.

BBE 4402. Bio-based Products Engineering Lab II. (2 cr. ; A-F or Audit; Every Fall)

Unit operations laboratory exercises in bio-based products engineering/manufacture. prereq: BBE 2003 and BBE 4013, [jr or sr or instr consent]

BBE 4403. Bio-based Products Engineering Lab I. (2 cr. ; A-F or Audit; Every Spring)

Lab exercises in bio-based products engineering. prereq: BBE 4001

BBE 4404. Biopolymers and Biocomposites Engineering. (3 cr. ; A-F or Audit; Every Fall)

Structure/properties of biopolymers. Engineering of composites from these biopolymers or plant-based materials. prereq: [BBE/CSE upper division] or instr consent

BBE 4502W. BBE Capstone Design. (WI; 4 cr. ; A-F or Audit; Every Spring)
Students develop, select, formulate, and complete an open-ended, comprehensive engineering process/product design project. This course should be taken during the last spring semester before graduation. prereq: BBE 3002 and BBE 3012 and BBE 4013 and or concurrent with BBE 4013 and CSE Upper Division.

BBE 4523. Ecological Engineering Design. (; 3 cr. ; A-F or Audit; Every Spring)
Application of ecological engineering to design of remediation systems. Artificial ecosystems, ecosystem/wetland restoration, constructed wetlands. Biological engineering for slope stability. Waste treatment. Restoring ecological service of watersheds. prereq: BBE 3012 and CSE upper division or instr consent

BBE 4533. Sustainable Waste Management Engineering. (; 3 cr. ; A-F or Audit; Every Spring)
Sources/characteristics of agricultural wastes. Livestock, food processing, domestic wastes. Physical, biological, chemical, rheological, microbiological properties. Effects on environment. Collection, storage, treatment (aerobic/anaerobic), use/disposal. Land application. prereq: 3023, upper div CSE

BBE 4535. Assessment and Diagnosis of Impaired Waters. (; 3 cr. ; A-F only; Every Fall)
Assessing impaired waters and developing TMDL for conventional pollutants. Preparing/communicating legal, social, and policy aspects. TMDL analysis of real-world impaired waters problem. Field trip to impaired waters site. prereq: BBE 3012 and Upper division in CSE or CFANS or CBS student or instr consent

BBE 4608. Environmental and Industrial Microbiology. (3 cr. ; A-F only; Every Fall)
Use of organisms in remediation of waste and pollution problems related to bio-based product industries. Types, characteristics, identification of useful microorganisms. Applications of microbes to benefit industrial processes of wood and fiber. prereq: [BIOL 1001 or BIOL 1009], CHEM 1011

BBE 4713. Biological Process Engineering. (; 3 cr. ; A-F or Audit; Every Spring)
Material/energy balances. Homogeneous reactions of bioprocess engineering/biological systems. Fermentation engineering, reactor design. Filtration, centrifugation, separation, absorption, extraction, chromatography. Biorefining. Conversion of biomass. prereq: [3033, [4013 or concurrent registration is required (or allowed) in 4013], upper div CSE] or instr consent

BBE 4723. Food Process Engineering. (; 3 cr. ; A-F or Audit; Every Spring)
Material/energy balance, fluid dynamics, heat/mass transfer in refrigeration, freezing, psychometrics, dehydration, evaporation, non-thermal processing, and separation.

Development control for production of food products. prereq: [[4013 or concurrent registration is required (or allowed) in 4013], upper div CSE] or instr consent

BBE 4733. Renewable Energy Technologies. (TS; 3 cr. ; A-F or Audit; Every Spring)
Energy security. Environmental, economic, societal impacts. Current/emerging technologies for production/use, characteristics of renewable energy, key methods for efficient production. Current/probable future. Impact on sustainable development. prereq: Junior or senior

BBE 4743. Nanobioengineering & Nanobiotechnology. (3 cr. ; Student Option; Every Spring)
This course will educate on the interdisciplinary areas of bionanotechnology/nanobiotechnology and nanobioengineering, including engineering principles and inherent technological applications. Prereq: Upper division in CSE or juniors and seniors in physical sciences, biological sciences and engineering (including CBS and CFANS) or equivalent or instructor consent.

BBE 4744. Engineering Principles for Biological Scientists. (; 4 cr. ; A-F or Audit; Every Fall)
Material/energy balances applied to processing systems. Principles of fluid flow, thermodynamics, heat, mass transfer applied to food and bioprocess unit operations such as pumping, heat exchange, refrigeration/freezing, drying, evaporation, and separation. prereq: [Math 1142 or Math 1271], Phys 1101; intended for non engineering students

BBE 4753. Air Quality and Pollution Control Engineering. (3 cr. ; A-F or Audit; Every Spring)
Air quality and pollution control engineering systems. Air pollutant sources, emissions transformations, dispersion, fate and impacts. Introduction to air quality and pollution laws, regulations and permits. Control technologies including energy conservation, cyclones, electrostatic precipitators, fabric filters, absorbers, adsorbers, incinerators and biofilters. prereqs: BBE 3012, 3043, upper division CSE, graduate student or instructor consent. Credit will not be granted if credit has been received for CEGE 5561

BBE 4900. Intern Reports. (; 2 cr. [max 4 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Students participating in industrial or experiential learning assignment. Evaluation based on formal final report; coordinated with faculty and industry advisor. prereq: [CSE or CFANS] student in BBE, instr consent

BBE 5001. Chemistry of Biomass and Biomass Conversion to Fuels and Products. (; 4 cr. ; A-F or Audit; Every Fall)
Chemistry of biomass. Sustainable utilization for biofuels/bioprocesses. Bio-based materials, chemicals, energy. Environmental implications. Chemical principles/reactions underlying the structure, properties, processing, and performance of plant materials. prereq: Grad student or instr consent

BBE 5023. Process Control and Instrumentation. (; 3 cr. ; Student Option; Every Fall)
Fundamental principles in system dynamics/control. Emphasizes process systems and problems faced by process engineers. prereq: Grad student or instr consent

BBE 5093. Directed Study. (; 1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

BBE 5094. Directed Research. (; 1-5 cr. ; Student Option; Every Fall, Spring & Summer)
Advanced individual-study project. Application of engineering principles to specific problem. prereq: instr consent

BBE 5301. Applied Surface and Colloid Science. (; 3 cr. ; Student Option; Every Fall)
Introduction to surface/colloid science concepts. Surface tension, wetting, adsorption, capillarity. Formation/stability of sols, emulsions, and foams. Water solubility. Partition coefficients of organic species. Properties of both surfactants and water soluble polymers. Focuses on interdisciplinary applications.

BBE 5302. Biodegradation of Bioproducts. (; 3 cr. ; Student Option; Every Spring)
Organisms and their importance to bio-based products: deterioration, control, bioprocesses for benefit. prereq: Grad student or instr consent

BBE 5303. Introduction to Bio-based Materials Science. (; 3 cr. ; Student Option; Every Spring)
Principles of materials science, their application to bio-based materials. Project required. prereq: Grad student or instr consent

BBE 5305. Pulp and Paper Technology. (; 3 cr. ; Student Option; Every Spring)
Pulping processes, fiber refining/processing, paper manufacturing, fiber/paper properties, paper recycling. Water requirements, effluent treatment. Chemical/mechanical pulping, pulp preparation, secondary fiber, de-inking, wet end additives. Lab problems/exercises supplemented by lectures. Online course.

BBE 5333. Off-road Vehicle Design. (4 cr. ; A-F only; Every Spring)
Mechanics involved in designing/testing off-road vehicles. Vehicle mechanics, traction, performance. Complexity/modeling of vehicle interaction with soil, muskeg, snow. Case study or literature review. Develop paper for publication. prereq: [[2001, 4303] or [AEM 2021, AEM 3031], [3012 or concurrent registration is required (or allowed) in 3012

or CEGE 3502 or concurrent registration is required (or allowed) in CEGE 3502], upper div CSE] or instr consent

BBE 5401. Bioproducts Separation and Purification Processes. (; 3 cr. ; A-F or Audit; Every Fall)

Unit operations of bioproducts engineering/manufacture. Project required. prereq: Grad student or instr consent

BBE 5402. Bio-based Products Engineering Lab II. (; 2 cr. ; A-F or Audit; Every Fall)

Unit operations laboratory exercises in bio-based products engineering/manufacture.

BBE 5403. Bio-based Products Engineering Lab I. (2 cr. ; A-F or Audit; Every Spring)

Laboratory exercises in bio-based products engineering. prereq: Grad student or instr consent

BBE 5404. Biopolymers and Biocomposites Engineering. (; 3 cr. ; A-F or Audit; Every Fall)

Structure/properties of biopolymers. Engineering of composites from biopolymers/plant-based materials. prereq: grad student or instr consent

BBE 5480. Special Topics. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Topics specified in Class Schedule.

BBE 5513. Watershed Engineering. (; 3 cr. ; A-F or Audit; Every Fall)

Application of engineering principles to managing surface runoff from agricultural, range, and urban watersheds. Design of facilities and selection of land use practices for controlling surface runoff to mitigate problems of flooding and degradation of surface-water quality. prereq: 3023, upper div CSE or grad student

BBE 5523. Ecological Engineering Design. (; 3 cr. ; A-F only; Every Spring)

Application of ecological engineering to design of remediation systems. Artificial ecosystems, ecosystem/wetland restoration, constructed wetlands, biological engineering for slope stability, waste treatments. Restoring ecological service of watersheds. prereq: Graduate student or instr consent

BBE 5535. Assessment and Diagnosis of Impaired Waters. (; 3 cr. ; A-F only; Every Fall)

Assessing impaired waters and developing TMDL for conventional pollutants. Preparing/communicating legal, social and policy aspects. TMDL analysis of real-world impaired waters problem. Field trip to impaired waters site. prereq: Grad student or instr consent

BBE 5608. Environmental and Industrial Microbiology. (; 3 cr. ; A-F only; Every Fall)

Use of microbes/enzymes to detoxify contaminants in field or in containment facilities. Contaminants, sources, fates. Biological organisms, pathways, catalysts utilized in bioremediation. Site inspection practices, bioremediation technologies, application in real-world situations. prereq: [BIOL 1001 or BIOL 1009], CHEM 1011

BBE 5713. Biological Process Engineering. (; 3 cr. ; A-F only; Every Spring)

Material/energy balances. Homogeneous reactions of bioprocess engineering and biological systems. Fermentation engineering, reactor design fundamentals. Filtration, centrifugation, separation, absorption, extraction, chromatography. Biorefining. Conversion of biomass into bioenergy, biochemicals, and biomaterials. prereq: [3033, [4013 or concurrent registration is required (or allowed) in 4013], or instr consent

BBE 5723. Food Process Engineering. (; 3 cr. ; A-F or Audit; Every Spring)

Food processing engineering. Applications of material balance, energy balance, fluid dynamics, and heat/mass transfer to refrigeration, freezing, psychometrics, dehydration, evaporation, non-thermal processing, and separation. Development/control for food products. prereq: [[4013 or concurrent registration is required (or allowed) in 4013], or instr consent

BBE 5733. Renewable Energy Technologies. (; 3 cr. ; A-F or Audit; Every Spring)

Energy security and its environmental, economic and societal impacts. Current and emerging technologies for production and use, characteristics of renewable energy, key methods for efficient production, current and probable future, and impact on sustainable development. prereq: Grad student or instr consent

BBE 5743. Nanobioengineering & Nanobiotechnology. (3 cr. ; Student Option; Every Spring)

This course will educate on the interdisciplinary areas of bionanotechnology/nanobiotechnology and nanobioengineering, including engineering principles and inherent technological applications. prereq: Instructor consent

BBE 5753. Air Quality and Pollution Control Engineering. (3 cr. ; A-F or Audit; Every Spring)

Air quality and pollution control engineering systems. Air pollutant sources, emissions transformations, dispersion, fate and impacts. Introduction to air quality and pollution laws, regulations and permits. Control technologies including energy conservation, cyclones, electrostatic precipitators, fabric filters, absorbers, adsorbers, incinerators and biofilters. Course Prerequisites Graduate student or instructor consent Credit will not be granted if credit has been received for CEGE 5561

Business Administration (BA)

BA 1011. Leading Self & Teams. (; 2 cr. [max 3 cr.] ; A-F only; Every Fall & Spring)

This course guides Carlson students through a self-reflective journey as they learn about interpersonal competencies and the role of these competencies in their own leadership style and when leading teams. As leadership and teamwork are an essential component in the Carlson education and more broadly in the business community, this class provides the foundational skills necessary for future success. The course is structured into two

parts: understanding individual perspectives and understanding team dynamics. The course begins by providing students with a theoretical foundation on interpersonal differences that influence how people lead and interact in teams. Specifically, we explore differences in personality, identity, values, opinions, and cultures and the role they play when interacting with others. The focus of the course is providing students with essential skills to uncover, appreciate and navigate differences to create a solid foundation upon which to develop their own leadership skills and work together as a team. The second half of the course will focus on understanding team dynamics. This class provides students with a unique learning opportunity to learn how teams work while simultaneously working in their teams. In doing so, they will witness the direct application of course material to their own learning teams while completing their team project. Students will learn the science behind how teams are structured, team roles, processes within teams and what leads to effective teams. Specifically, the topics examined will include team decision making, conflict resolution, power, influence, analyzing team dynamics, and providing team feedback. At the end of this course, students will have a deeper understanding of themselves and will master skills for working in and leading teams. prereq: Carlson School of Management student

BA 1021. Design Your Life. (1 cr. ; S-N only; Every Fall & Spring)

Design Your Life is a class about customizing your college experience to get the most out of it. Using a process rooted in Design Thinking, the course equips students with tools to design and prototype a college experience that best aligns with who they are and what they hope to get from college. Students will explore the purpose of college, reflect on personal values and strengths, learn about educational and career opportunities, and create a prototype of their college experience. Through in-class activities and out of class assignments, students will also learn and practice professional and personal leadership skills Prerequisite: Carlson School student

BA 1990. Topics in Business. (; 1-4 cr. [max 12 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Topics vary.

BA 2005. Business Ethics, Corporate Responsibility & Sustainability. (CIV; 3 cr. ; A-F only; Every Fall & Spring)

This course seeks to give you the vocabulary necessary to describe and explain the ethical issues you will learn to identify through lectures, readings, and case studies. It will provide you with a decision-making framework that you can use to disentangle the most complicated scenarios, which will then allow you to use critical thinking and analysis to arrive at a decision on how you would respond as an individual in an ethically-defensible manner. This course will also anticipate your future career growth into positions of management and leadership, and will help give you the tools to manage people, money, and

business affairs both effectively and ethically. Mgmt 1005 was previously offered as BA 2005

BA 2005H. Business Ethics, Corporate Responsibility and Sustainability. (CIV; 3 cr. ; A-F only; Every Spring)

This course seeks to give you the vocabulary necessary to describe and explain the ethical issues you will learn to identify through lectures, readings, and case studies. You will be provided with a decision-making framework that you can use to disentangle the most complicated scenarios, which will then allow you to use critical thinking and analysis to arrive at a decision on how you would respond as an individual in an ethically-defensible manner. This course will also anticipate your future career growth into positions of management and leadership, and will help give you the tools to manage people, money, and business affairs both effectively and ethically. BA2005H was previously offered as MGMT1005H prereq: Honors student

BA 2021. Design Your Career. (; 1 cr. ; S-N only; Every Fall & Spring)

The focus of this course is to increase your awareness, knowledge, and skills associated with the career and job search process. The course includes major/career exploration and discovery, as well as the tactical pieces of a job search. You will learn how to write a professional resume and cover letter and will learn how to navigate the interview process. You will be exposed to a variety of individuals who will give you different perspectives on the process, including recruiters from local organizations, alumni, and other business professionals. This development will increase your ability to undertake a successful career and job search in your succeeding years. (Credit will not be granted if credit was received for BA 3000.?) prereq: Carlson School undergraduate student

BA 2051. Modeling Business Scenarios in Excel. (; 2 cr. ; A-F only; Every Fall & Spring)

The title of the course says it all. You will build and use Excel-models to analyze real-world business problems. You are introduced to basic skills for analyzing data and presenting recommendations to management. In this class you will work extensively with Microsoft Excel and will be better prepared to use it in internships and upper division classes. Excel is a critical business tool. As business students, your familiarity and proficiency in Excel will aid you in upper-level classes and ultimately greatly improve your career prospects. We will learn the tension between parsimony and relevance. You will use models to answer many what-ifs. Most importantly, we hope to instill a disciplined method of structured and rigorous thinking.

BA 2062. Powerful Problem Solving. (2 cr. ; A-F only; Every Fall & Spring)

One of the key distinguishing characteristics of effective leaders is the ability to parse through the overwhelming number of inputs we all receive to understand what needs to be done. What problem are we trying to solve? is a crucial question that too often goes unaddressed in the rush to just fix it?

Powerful Problem Solving will expose students to a clear problem solving framework and process, a variety of perspectives on how to approach problems, as well as individual and group activities and assignments to inform and sharpen skills.

BA 2551. Business Statistics in R. (MATH; 4 cr. ; A-F or Audit; Every Fall & Spring)

The purpose of the course is to develop skills for improving data-driven decision-making using statistical techniques in the powerful statistical software environment R. As an introductory statistics course, the content will include three main areas of statistics: Descriptive Statistics, Statistical Inference, and Analysis of Relationships with Scatterplots, Correlation and Linear Regression. Developing statistical literacy is increasingly important in understanding data and engaging in the complex business world. BA 2551 focuses on statistical reasoning and how to implement statistical methods in a business context using R. Topics include (but are not limited to) descriptive statistics, statistical inference, variability, sampling, distributions, correlation analysis, confidence intervals, hypothesis testing, graphical summaries of data, and introduction to linear regression. Through weekly in-class lab sessions and critical thinking assignments related to statistics in business, the course will train students to become informed consumers of numerical information and provide foundational skills in R to compute statistical procedures in future courses. We use existing packages in R as a tool to enable us to solve business problems that can leverage mathematical and statistical thinking. prereq: [Math 1031 or equiv]

BA 2990. Topics in Business. (; 1-4 cr. [max 12 cr.] ; Student Option; Periodic Fall, Spring & Summer)
Topics vary.

BA 3001. Race, Power, and Justice in Business. (DSJ; 3 cr. ; A-F only; Every Fall & Spring)

The United States is a diverse nation founded on the principle of equality, and yet has roots in slavery, indigenous genocide, colonialism, and dispossession. These roots shaped economic relations and business practices that continue today. Rather than seeing business as ahistorical organizations in which bundles of functional practices seek economic efficiency and respond to idealized market conditions, this course considers the socially-embedded nature of business in which racial and other structural inequalities are inherent in the development and contemporary practice of business. This includes questioning standard assumptions of free markets, meritocracy, and equal opportunity by considering alternative models of social relations and discrimination, and evidence on systemic economic injustice that reflect power differences, the contested nature of race, and the intersection of race, class, and other marginalized identities. This course also reveals ways in which business practices reflect hidden power dynamics and stereotypes. This deeper understanding of how race, power, and justice issues are

fundamental to business and management is intended to provide students with a richer lens to more critically examine business practices while considering ways to address power hierarchies and promote social justice in the context of business. This includes a consideration of alternative business practices as well as how corporations can advance diversity, equity, and inclusion (DEI). To complete the progression from macro-level structural and historical issues and then mid-level organization practices, the course concludes with an individual-level focus that considers how individuals navigate social identity differences at work, the impact of personal bias, and how to be an ally to advance justice and DEI. The course culminates with personal development plans in which students will demonstrate their belief in their own agency by devising plans for addressing their own biases and for identifying specific actions they can use to address power hierarchies and promote social justice. By providing a common experience for all Carlson School undergraduate students, this course also provides a shared vocabulary and diversity of perspectives to facilitate a shared sense of responsibility to build and maintain community as well as fostering openness to ongoing, respectful conversations on race, identity, power, and injustice. prereq: BA 1011 recommended

BA 3033W. Business Communication. (WI; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

This course teaches strategies and skills to communicate with confidence, clarity, and impact in business settings. Students develop their abilities in critical thinking (analyzing data, audience, purpose, and context) and craft (honing skills in storytelling, persuasion, writing, diction, tone, presence, data visualization, and visual design). They learn to navigate ambiguity, evaluate the needs of internal and external stakeholders, and communicate solutions to complex business problems. The course is performance- and project-based. Students produce professional-level memos, emails, and research-based proposal decks. They deliver multiple presentations (individual and team) and learn to communicate effectively with data. Students will meet with the instructor in small groups outside of class time for one scheduled lab session. The course culminates in the Case Study Competition where student teams apply their knowledge to address a real challenge from one of our industry partners. prereq: First Year Writing, Carlson School junior or senior.

BA 3051. Data-Driven Business Decisions. (3 cr. ; A-F only; Every Fall & Spring)

This course focuses on applying statistical techniques to make evidence-based recommendations for business decisions. Topics include (but are not limited to) linear regression, logistic regression, multiple regression, A/B testing, time-series data, and optimization. Students will work with data sets and practice applying these skills to make data-based recommendations across different areas of business. This course explicitly builds on

the Business Statistics in R and the Modeling Business Decisions in Excel courses. The Data-Driven Business Decisions course uses both Excel and R. Prereqs: Modeling Business Scenarios in Excel and Business Statistics in R

BA 3062. Impact Lab Project. (2 cr. ; A-F only; Every Fall & Spring)

This research project course centers on working with an organization to solve a real business challenge with an impact. The purpose of the Impact Lab Project is to apply the skills learned in the BA 2062 Powerful Problem Solving course to a real business problem. Students will be provided with a business problem faced by an organization that is partnering with the class. Using the skills learned in the powerful problem solving course, along with the knowledge gained in the business fundamentals courses, students will define the problem, disaggregate the issues, conduct appropriate research, generate data-driven solutions, critically evaluate alternatives, and present their final recommendations to the client partner. Faculty in the class will serve as coaches as students work on the projects. Prerequisite: BA 2062

BA 3551. Business Analytics. (3 cr. ; A-F only; Every Fall & Spring)

In a world of ever growing information sources, any student of business should be equipped with the ability to prepare and analyze data to produce actionable insights. Equally important is the capacity to understand such analysis and to present it to key stakeholders. This course offers an introduction to data processing and data mining for business applications. Prereqs: Modeling Business Scenarios in Excel (BA 2051) and Business Statistics in R (BA 2551)

BA 3900. Topics. (; 1-4 cr. [max 16 cr.] ; Student Option; Periodic Fall, Spring & Summer)
Topics in business vary.

BA 3993. Directed Study. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Student-initiated project or directed study to be completed with a faculty member. prereq: Instructor consent

BA 3996. Internship Seminar. (; 1 cr. [max 6 cr.] ; S-N only; Every Fall, Spring & Summer)
This course helps students integrate internship experiences with relevant assignments to create helpful next steps toward their career learning and development. prereq: Approved internship, instructor consent

BA 4501. Carlson Growth Equity Fund. (; 2-4 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)

Students integrate finance skills by managing an institutional equity portfolio. Sustainable finance, financial modeling, portfolio management, and presentations to clients / investment professionals are all critical skills developed in this course. The course meets concurrently with MBA 6501. prereq: approved application

BA 4502. Carlson Fixed Income Fund. (; 2-4 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)

Students integrate finance skills by managing an institutional bond portfolio. Sustainable finance, financial modeling, portfolio management, and presentations to clients / investment professionals are all critical skills developed in this course. The course meets concurrently with MBA 6502. prereq: approved application

BA 4503. Carlson Ventures Enterprise. (; 2-4 cr. [max 12 cr.] ; Student Option No Audit; Every Fall & Spring)

Carlson Ventures Enterprise (CVE) is intended for highly-motivated entrepreneurially minded graduate and undergraduate students who seek opportunities to develop creative problem solving and critical analysis skills to aid in better identifying, creating, and evaluating any new business opportunity, whether a start-up, social venture or innovation initiative inside a Fortune 500 company. CVE?s comprehensive curriculum includes the best practices, frameworks, and tools used in entrepreneurial and innovative pursuits. In a teach-then-apply environment, students manage client based projects solving real-world problems in real time, whether helping an entrepreneur develop their new business or an established organization evaluate opportunities for growth. CVE fits with multiple degree plans, in multiple schools at the University, as either a requirement, an elective or a capstone. This course will meet with MBA 6503. Registration for this course is by permission only. prereq: approved application

BA 4504. Carlson Consulting Enterprise. (; 1-4 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)

Connects cutting-edge ideas/technologies from classroom to real problems presented by clients. Students work collaboratively with clients to integrate strategy/technology. How to lead complex change initiatives. The class will meet concurrently with MBA 6504. prereq: approved application

BA 4505. Brand Enterprise. (; 2-4 cr. [max 12 cr.] ; Student Option No Audit; Every Fall & Spring)

Experiential learning program combining academic classroom sessions and "real world" projects where students assist client companies/organizations with strategic marketing/brand challenges. Projects are team based and focused on strategic and analytical components, applying theory, and industry best practices. Working collaboratively in real world environment. Critical thinking, problem solving, applied marketing skills, project management, strategic communication, and presentation skills. This course meets concurrently with MBA 6505. prereq: approved application

BA 4992V. Honors Thesis Seminar. (WI; 3 cr. ; A-F only; Every Fall)

This course provides a foundation for how to conduct individually-pursued research with a focus on writing and methods. While it is designed to support Carlson School students writing their honors thesis, students do not need to continue with a thesis to successfully complete the course. In order to both develop your individual thesis as well as learn research

methods and writing techniques over the course of a single semester, there will be parallel sets of assignments: one for your thesis (individual) and one for a practice thesis (group). During the first part of the course, your individual thesis project will be emphasized, focusing on finding a thesis topic related to the research of Carlson School faculty who will be supervisors for this academic year. Starting partway through the course, you will be paired with a group of students to work on a practice thesis in which methods, statistical analysis, and writing results are emphasized using pre-specified datasets. Writing is integrated fully into the course. You will be instructed in writing pertinent to research proposals and scholarship, including problem statements, annotated bibliographies, literature reviews, methodology, and reference lists. prereq: Senior honors student

Business Law (BLAW)

BLAW 3059. Real Estate Law. (2 cr. ; A-F only; Every Fall)

Every business owner or manager inevitably will be involved with purchasing, selling, owning, leasing, zoning, taxing, mortgaging and financing real estate. This course provides the basic tools to understand all aspects of real estate and to spot issues that require legal counsel.

BLAW 3061. Business Law Basics. (2 cr. ; A-F only; Every Fall & Spring)

This course provides a broad background in the fundamentals of many business law topics that are important to any businessperson. NOTE: This course is designed for students who do not have knowledge or experience with any aspect of business law. There is no prerequisite for this course. The goal is to provide basic concepts that can be used throughout your career to spot legal issues, identify potential concerns, and with the aid of counsel, solve or avoid problems. General topics include: various legal entities in which business can be conducted, tort law (with emphasis on negligence), real estate law, the law of agency, intellectual property (patents, copyrights, trade secrets and trademarks), warranty law, product liability, employment law, certain discrimination laws (including Minnesota?s fairly recent protections for women in the workplace), alternative dispute resolution and administrative law. Throughout the course, we will examine the impact of the Supreme Court on American business. NOTE: Students who previously took BLAW 3058 (4 credit course) should NOT take this course.

BLAW 3062. Contract Law and Corporate Regulation. (2 cr. ; A-F only; Every Fall & Spring)

This course highlights topics that are important to any business major, with particular emphasis on publicly-traded companies. NOTE: This course is designed for students who do not have knowledge or experience with any aspect of business law. There is no prerequisite for this course. General topics include: (1) the law of contracts and transactions involving the sale of goods, (2) secured transactions

(how creditors can use a debtor's assets as collateral to secure indebtedness), and (3) the basics of bankruptcy law. Public company subjects include: pros and cons of going public, the IPO process, federal securities laws and SEC regulations regarding public company reporting requirements, insider trading, the Sarbanes-Oxley Act of 2002 and its impact on corporate governance, trends in shareholder democracy rights and shareholder activism, and the role of boards and audit committees. Throughout the course, we will examine the impact of the Supreme Court on American business. NOTE: Students who previously took BLAW 3058 (4 credit course) should NOT take this course.

CAPA Barcelona Study Abroad Program (BCLA)

BCLA 1001. Beginning Spanish I. (GP; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This course is designed to provide students the vocabulary and grammar necessary for basic expression in Spanish using a communicative approach. In this course, students will learn to introduce themselves, talk about daily routine and plans, discuss past events, use vocabulary related to food, family, and everyday life and activities, negate, and use other expressions necessary for basic communication such as greetings, ordering at a restaurant, or asking for directions.

BCLA 1002. Beginning Spanish II. (GP; 4 cr. ; Student Option; Every Fall, Spring & Summer)

After completing this course, the student will understand phrases and expressions of frequent use related to areas of experience that are especially relevant to him (basic information about himself and his family, purchases, places of interest, occupations, etc.). Will be able to communicate when carrying out simple and daily tasks that do not require more than simple and direct exchanges of information on issues that are known or usual. Can describe in simple terms aspects of their past and their environment as well as issues related to their immediate needs.

BCLA 1003. Intermediate Spanish I. (GP; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This course is designed to improve a student's ability to communicate in Spanish. Building on knowledge from previous courses, this course will introduce students to grammatical topics such as the subjunctive mood, the imperative mood, the pluperfect of the indicative, and expressions regarding the passage of time. This class is based on the communicative approach and stresses the use of these grammatical structures in real and relevant communication.

BCLA 1004. Intermediate Spanish II. (GP; 4 cr. ; Student Option; Every Fall, Spring & Summer)

After completing this course, the student will understand extended speech and lectures (TV, movies, newspapers,...). Will be able

to communicate with a degree of fluency that will let students interact with locals with spontaneity. The information presented will be precise when talking in a field of interest and quite clear when writing or speaking in other range of subjects.

BCLA 1101. Pompeu Fabra University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Barcelona study abroad program to represent a course taken at Pompeu Fabra University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

BCLA 1102. Pompeu Fabra University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Barcelona study abroad program to represent a course taken at Pompeu Fabra University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

BCLA 1103. Pompeu Fabra University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Barcelona study abroad program to represent a course taken at Pompeu Fabra University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

BCLA 1104. Pompeu Fabra University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Barcelona study abroad program to represent a course taken at Pompeu Fabra University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

BCLA 1105. Pompeu Fabra University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Barcelona study abroad program to represent a course taken at Pompeu Fabra University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

BCLA 1501. Introduction to Photography. (AH,GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course is designed for beginning students in photography, and specifically presents digital camera techniques as a means of personal expression. Observing/capturing, digital process, printing and screen presentation will be addressed in relation to specific subjects, intentions and aesthetic judgements. The particular study abroad experience of each student will be one of the main focuses throughout the semester. Students are

expected to bring a digital camera and a laptop with some means of editing (although computers and basic Photoshop is available in the computer lab.)

BCLA 3001. Nationalism in Comparative Perspective. (CIV,SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course studies the relationship between states and nations in both a theoretical and comparative perspective with a particular focus on the Catalan, Basque and Spanish experiences. It analyzes state building processes and the development of nationalism, as well as the social, economic and technological conditions behind its emergence, transformation and contrasting discourse. The course aims at providing a solid theoretical background on the subject of nationalism as well as introducing the students into the social and political reality that permeates in Spain's daily life and shapes Spaniards' political mind-frames and identities.

BCLA 3002. Global Marketing. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course provides an exploration of basic knowledge of global marketing, focusing on the impact of environment on the strategies used by firms, and the understanding of consumer behavior management as it relates to the development and implementation of global marketing strategies. Worldwide business represents real opportunities for a firm but also creates difficulties, challenges and new ways of implementing marketing. Global marketing is a specific kind of marketing applied to inter-national firms in order to implement the same strategy within the entire market taking into account cultural, economic, social, political, etc., specificities for each area. This course will provide the basic knowledge of global marketing focusing on the impact of environment on the firm strategy, the development and implementation of a global marketing strategy and the understanding of consumer behavior management in a global strategy. Case studies applied to worldwide business contexts as well as more specific European contexts will provide concrete illustrations for the students.

BCLA 3003. Intercultural Management. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course is designed to introduce students to concepts and fundamentals of international management. The course will consider aspects of management within an international and culturally complex environment, while considering the business influences within the global workplace. Students with or without prior international management knowledge will benefit from the course. Organizational effectiveness demands that personnel do the right things efficiently. Therefore, the role of management is to strive for and maintain the goals of the organization. Being an effective manager is not just telling others what to do. It is also about effective leadership, training, and communication. Having effective managers can be a cost saving tool for all organizations of all sizes. Corporation executives, supervisors,

and managers are aware of the importance of and difficulty in finding and retaining highly skilled employees (a time-consuming role of management). Today's managers need a systems-view of the organization. This course will help you think of the organization as a system rather than as a work unit where tasks are performed. Most of you will, after graduating, become supervisors and managers and be required to provide training and leadership for your personnel. In just about any organization, you will be working with people who will have a different cultural background than your own, you may be working as an expatriate in a different country or you may experience any of a number of multicultural challenges. This course will help you prepare for these eventualities.

BCLA 3004. Advertising and Society. (CIV; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course introduces students to the linkages between advertising and society. It is premised on the belief that advertising helps shape human attitudes and behaviors, just as the latter two in turn help direct and shape advertising. However, the emphasis in this course is firmly on advertising as a shaping agent?how it influences individuals and societies, the dynamic nature of the relationship, and the impacts (both positive and negative) that advertising may have on individuals and societies. It takes a critical and dispassionate view of advertising rather than a managerial or practitioner?s view. Various criticisms of advertising are flagged, and these are used as a basis for further coverage and discussion of the criticisms and issues raised.

BCLA 3005. Analyzing and Exploring the Global City. (GP,HIS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Cities around the world are striving to be ?global,? and Barcelona, the capital of Catalunya, is one of the largest and most cosmopolitan cities in Spain. It is globally renowned for its art and architecture, possessing no fewer than nine UNESCO World Heritage sites, and has become a major destination for global tourism. This interdisciplinary course examines the emergence of this elegant, creative city as Spain?s gateway to the Mediterranean, and analyzes its history and evolution since its foundation by the Romans. Students will explore the role of population dynamics, industrial change, and globalization in shaping the city and the lives of its inhabitants, examining the ways in which the interplay of urbanism, politics, and society has addressed challenges of social, political, and technological change in the past and today. The course also traces the changing nature of Barcelona?s relationship with the rest of Spain, Europe, and the wider world. Topics will include ancient and Medieval Barcelona; nationalism and innovations in art and architecture; the role of the 1992 Olympics as a catalyst for urban regeneration; the impacts of gentrification, tourism, and the recent economic crisis on the city and its inhabitants; and future scenarios of urban change.

BCLA 3006. Architectural History of Spain. (HIS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course will look at the history of architecture and urban design in Spain. Beginning with a brief introduction to the ancient styles (from the first civilization of the Iberian Peninsula), it will focus upon developments in architecture and urban planning in Spain from the 1st Century AD to the present. Special attention will be paid to the 19th and 20th Centuries in Barcelona, and several relevant field visits will be made.

BCLA 3009. Media and Conflict. (CIV,SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

The course will provide a structured approach to address different media systems. It will explore the dynamics of news, politics, conflicts and freedom of the press. Focusing on ongoing, international crises of global importance, we will examine how various international media report on topics including armed conflicts, human rights abuses. Study the dynamics governing news media environment and structures. We will try to understand why different audiences from different cultural spheres perceive the same news in sometimes a diametrically opposed way. We will examine the rich arsenal of repression tools used by authoritarian and even democratic regimes to suppress press freedom or spin news to their advantage. We will look at the ways and means by which courageous journalists try to circumvent these obstacles.

BCLA 3011. The Birth of Modern Art: Matisse, Picasso, Dal?. (AH; 3 cr. ; Student Option; Every Fall, Spring & Summer)

The work of these three international artists with distinct cultural roots is explored on an individual basis within the wider framework of European art movements. In each case, we will study the acceptance and/or rejection of tradition, the interaction with French art and artists, and personal experience. We will also pay attention to the role of both outside stimuli (war, relationships) and inner forces (memory, imagination). The course will include course related excursions to the Picasso Museum, the MNAC (Catalan National Museum of Art) as well as a trip to the Dal? Theatre Museum in Figueres.

BCLA 3013W. Writing the City. (GP,WI,LITR; 3 cr. ; Student Option; Every Fall, Spring & Summer)

The course explores the craft of creative writing in relation to the city and investigates the particular challenges of writing about place. Students will examine different aspects of the city in relation to Barcelona narratives, including the old city, travel, urban spaces, solitude, politics, ethnicity, particular boroughs, and characters (both fictional and real), as well as making use of practical exercises and fieldwork.

BCLA 3014. Spain As Seen Through Its Movies: 1980s to Today. (AH,GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

The main goal of this course is to provide students with a general understanding of

Spain, taking into consideration its recent past, but focusing mainly on some of the most relevant and controversial issues of the current situation. The use of movies as a vehicular tool allows not only for the introduction of the cultural factor, but also the very Spanish perspective(s) that helps explain how the country sees and understands itself. The course will address the following general questions: a) what it means to speak of a "national cinema;" b) how cinema constructs and/or contests of his or her story; c) cinema's impact on shifting notions of what constitutes the human condition; d) how the formal qualities of cinematic narrative shape on-screen stories; e) where and how issues of gender, sexuality, class, and ethnicity surface in cinematic articulations of the relationship between national identity, global trends, and personal history. There are five sections or blocks to this course. The first block will cover the Spanish Civil War and the subsequent dictatorship, indispensable to understand the last 40 years of democracy in Spain. The second block is almost a monography to the figure of Pedro Almod?var, his time, and the ? Espa?a? his movies depict. The third focuses on the genre of horror, very rich in the recent Spanish production and quite ?imitated? by Hollywood. These last two blocks serve as a good opportunity to reflect about the political/national/identity aspects of the cinema industry. In an attempt to reverse the perspective, the last two blocks approach current Spanish issues with an important impact in the society as a whole and its citizens as individuals. The fourth block discusses Spanish politics and its most recent developments. And the fifth one is a gender approach to the demographics of the country.

BCLA 3015. Capturing Barcelona through Photography. (AH; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course will explore digital photography as a tool to view different aspects of Spanish society (and ourselves within that society) through various photographic exercises and assignments. Students will receive the tools to read photography and construct an idea through images. At the end of the course the students will produce a portfolio of the work done. Lectures will cover the History of Photography, with a special attention to photo-reportage, Italian photographers, technical aspects related to photography production. The course introduces technical process of digital photography, from camera operation and the essential techniques of image capture with camera, image management with imaging related software. Classroom discussions and assigned readings will help student develop the critical skills used to understand how photographs function aesthetically and conceptually as how they are used in contemporary society and culture.

BCLA 3016. Intercultural Communication. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course allows students experiencing the challenges of cross-cultural communication in an international setting to explore intercultural

communication theory and research within both broad and interpersonal contexts. Topics include similarities and differences in values, norms, interethnic/intergroup communication, and adaptation. Students will bring these theories to bear on their experiences in the field. The study of intercultural communication is often approached from a social psychological perspective. Although that perspective has yielded many important ideas about intercultural communication, other perspectives may also contribute to our understanding of the subject, particularly in acknowledging the influence of context and power in intercultural interactions.

BCLA 3017. The Business of Social Media. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Currently the way in which people interact is changing. We live in a new digital and technological era, and an important actor in this change, without a doubt, is social networks. Social networks represent today a real revolution in the way we communicate. According to The Global State of Digital in 2019, prepared by HootSuite and We Are Social, it is estimated that 3,484 million people already use social networks regularly, 45 percent of the world's population. This data reveals the importance that these platforms already have in our lives. In different recent events, such as the so-called Arab Spring or the 2020 elections to the US presidency, the importance of social networks and how they can shape people's opinions was verified. If thanks to Facebook we can influence who will be the next president of a country or incite or promote a social revolution, how will it not be decisive to position a brand, sell a product, improve the image of a company, or launch a new service? Companies are increasingly aware of this new reality and invest more and more money in advertising on networks with different objectives: to position their brand, increase the reputation of their company, increase their sales, communicate their innovations or launch a new product. In short, in maintaining close contact with their target audience through networks. In this course, students will learn how companies use social networks as marketing and communication tools. In this course, students will appreciate the strategic importance of social networks within an organization and will also be exposed to different examples from companies adopting social media through the analysis of case studies. Additionally, students will be able to perceive and understand the possible risks that a company may face if it does not know how to manage its use, and the importance of identifying and managing the so-called "fake news" in the communication policy (and trust) of a company.

BCLA 3048. Transportation and Logistics Management. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

In today's global supply chains, manufactured products often travel across multiple countries and multiple states, using multiple modes of transportation, before reaching final customers. Along the way, these products are processed

at a variety of inventory transfer points, and reconfigured and combined with other products with the goal of arriving intact at the right place and right time. Effectively managing these flows requires understanding the underlying economics of weight, volume, distance, and velocity. It requires taking an end-to-end view of the logistics and transportation network to understand how changes in one link impact others. It also requires openness to change, including adopting new network designs and other innovations that promise to improve processes in fundamental ways. This course uses a combination of lectures, case discussions, interactive classroom activities, and guest speakers. Students are expected to have read any assigned readings and cases before the corresponding class session so they are prepared to actively take part in class discussion.

BCLA 3101. Pompeu Fabra University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Barcelona study abroad program to represent a course taken at Pompeu Fabra University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

BCLA 3102. Pompeu Fabra University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Barcelona study abroad program to represent a course taken at Pompeu Fabra University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

BCLA 3103. Pompeu Fabra University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Barcelona study abroad program to represent a course taken at Pompeu Fabra University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

BCLA 3104. Pompeu Fabra University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Barcelona study abroad program to represent a course taken at Pompeu Fabra University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

BCLA 3105. Pompeu Fabra University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Barcelona study abroad program to represent a course taken at Pompeu Fabra University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

BCLA 3375. Global Internship: Barcelona. (3-6 cr. ; Student Option; Every Fall, Spring & Summer)

The Global Internship Course (GIC) provides a unique and innovative opportunity for students to engage in an internship (and living abroad experience) while supported by academic in-class and online educational sessions to further develop their personal and professional skills while earning academic credit. GIC students also partake in out-of-class guided and self-guided activities and excursions that have been devised to enable them to become more comfortable with, and knowledgeable of, their internship locations/neighborhoods. Furthermore, a day-long field trip illustrates how socio-political and economic factors, such as the effects of housing costs in global cities, necessitate commuting and changing work practices, such as flexible working hours and working remotely that embody best practice in well-being. Field excursions vary depending on location and may also include a focus on, for example, corporate social responsibility and sustainability. The GIC fits in with CAPA's philosophy and practice of enabling students to learn about the social and cultural context of their internship placement and the host region and country, as well as other GIC themes, through comparative global analysis. At times, this analysis will be facilitated through a small selection of CAPA Masterclasses given by leading professionals from a diverse range of fields. The in-class active learning approach gives students the opportunity to discuss and analyze theories and models of work, organizational behavior, and management in a cross-cultural context.

BCLA 4061. Marketing and Distribution Channels. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Marketing channels are sets of interdependent organizations involved in the process of making a product or service available for use or consumption. Marketing and distribution channels management is an essential aspect of commercial activities. In today's ever-more complex and challenging competitive scenario, it is necessary for organizations to know how to effectively select and manage marketing channels so that they can create partnerships that are capable of generating value and trust and avoiding conflicts. As Peter Drucker has said, "The greatest change will be in distribution channels, not in new methods of production or consumption." Choosing the right channels, convincing them to carry your merchandise, and getting them to work as partners is a major challenge. Too many companies see themselves as selling to distributors instead of selling through them. This course will help students learn how to develop marketing channel plans, which enable an organization to increase sales, margins, and levels of collaboration with channel partners.

BCLA 4622W. International Finance. (GP,WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

The International Finance module provides an understanding of finance in the international context. In a globally integrated world, it

has become imperative to trade, invest, and conduct business operations internationally. This course exposes students to the opportunities and risks associated with international finance. As the world has become more integrated due to deregulation of financial markets, product innovation, and technology, capital markets have kept pace with this integration. Building upon the understanding of theoretical concepts of finance and their adaptation to the international context, the study of international finance has become essential. The course coverage includes historical perspectives and foundations of international finance, the foreign exchange markets and exchange rate determination, exposure management, and financial management of the multinational firm. The course also helps students examine the current economic landscape through discussions of current economic and political development and their impact on international finance.

Carlson Executive MBA (CMBA)

CMBA 5554. International Residency. (1.5 cr. ; A-F only; Every Spring)

Students travel to an international location for nine days, engage in discussions with international colleagues, to apply program concepts and develop broader sensitivity to cultural/social differences. Pre-trip preparation, on-site discussion, and trip assignment are also required. Held in late March.

CMBA 5625. Entrepreneurship and Innovation. (3 cr. ; A-F only; Every Spring)
Entrepreneurial role of employee/management in increasing organizational value through creation/formation of new businesses, products, or markets within entities ranging from early stage companies to social ventures to F500 corporations.

CMBA 5710. Leadership. (1.5 cr. ; A-F only; Every Fall)
Self-awareness/insight concerning personal leadership/core values. Increase capabilities to understand potential personal derailment patterns/create effective strategies to address challenges. Develop lifelong executive leadership practices/habits for high performance in demanding circumstances.

CMBA 5711. Negotiation. (3 cr. ; A-F only; Every Fall)
Securing agreements between two or more parties who are interdependent and are seeking to maximize their own outcomes. Negotiation in various settings. Simulations, role-playing, cases.

CMBA 5712. Information Technology. (1.5 cr. ; A-F only; Every Fall)
Course prepares you with an inside-out and an outside-in perspective of how information technology is disrupting a variety of industries, how to compete in such an environment and how to strategically manage the IT function within companies to have an efficiency-innovation duality. Key principles covered in the class are developing a state-of-the-art IT strategy, getting first-hand exposure to ERP systems and learning the organizational

changes involved in implementing such systems, applying disruptive and big-bang theories of IT enables disruption and learning the nuances of platform competition and multi-sided markets to fight such disruption.

CMBA 5713. Managerial Accounting. (3 cr. ; A-F only; Every Fall)

How to analyze accounting for management decisions. Planning/control. Transfer pricing, performance measurements, cost behavior, cost allocation, activity-based costing, standard costs.

CMBA 5714. Advanced Marketing. (3 cr. ; A-F only; Every Fall)

Product markets in which organization should compete. Sustainable competitive advantage. Matching marketing strategy with environment. Coordinating marketing/business functions. Organizing/managing marketing process. Cases.

CMBA 5715. Advanced Financial Management. (3 cr. ; A-F only; Every Fall)

Executive-level corporate financial policy. Rigorous case-oriented approach. Students apply principles of finance on their own initiative.

CMBA 5721. Advanced Management Topics. (1.5 cr. [max 3 cr.] ; A-F only; Every Spring)

Topics reflects strengths, talents, and interests of class. Topics integrate different aspects of curriculum while not being limited by specific area/paradigm.

CMBA 5722. International Business. (3 cr. ; A-F only; Every Spring)

Developing an integrative framework for international activities of firm. How international environment constrains decision-making. How currency prices are determined. Managing exchange risk.

CMBA 5723. Ethics. (1.5 cr. ; A-F only; Every Fall & Spring)

Role of ethics in corporate strategy. Stakeholder management, individual/collective responsibility, international business ethics. Business's responsibility to the environment. Truthful/tasteful advertising. Obligations to local community. Managing diverse workforce.

CMBA 5724. International Residency. (1.5 cr. ; A-F only; Every Spring)

Students travel to international location for 11 days. Discussions with international colleagues. Applying program concepts. Sensitivity to cultural/social differences. Pre-trip preparation, on-site discussion, trip assignment.

CMBA 5810. Introduction to Statistics and Business Analytics. (3 cr. ; A-F only; Every Fall)

This course focuses on the use of data to solve business problems and the development of skills necessary to (1) formulate a management problem as a statistical problem; (2) collect appropriate data and perform fundamental procedures of statistical analysis; and (3) to interpret, critically evaluate, and implement the results of the statistical analysis. In particular, the student should be able to: generate and use basic graphical and numerical descriptive methods; apply basic

estimation and testing procedures; estimate and interpret the parameters of simple and multiple regression model; to test the utility of the model and to use it for estimation and prediction; think statistically about issues facing her/his organization; recognize when statistical methods are effective, and when they are not; and to translate, communicate, and critically evaluate the results of statistical analyses.

CMBA 5811. Financial Accounting. (3 cr. ; A-F only; Every Fall)

Students learn about the accounting system used by firms to measure and report their economic performance and financial position to external parties. Students analyze corporate financial reports to discover the impact of significant economic events. Discussions and cases focus on the role of financial reporting standards in informing financial intermediaries and contributing to the efficient allocation of capital in a modern economy.

CMBA 5812. Organizational Behavior. (3 cr. ; A-F only; Every Fall)

Course's main purpose is to prepare you to successfully engage and lead people to achieve organizational goals. Effective managers must not only develop winning strategies, but they must also implement them. Doing so requires a thorough understanding of organizational behavior. Broadly speaking, organizational behavior is the systematic study of how people behave in organizational settings. This course is designed to develop your understanding of the complexity of orgs and how they affect behavior, build your self-knowledge and people-leadership skills, and help you learn and apply appropriate tactics and tools to improve organizational functioning and facilitate personal career success. Course topics include: organizational (e.g. structure and culture), interpersonal (e.g. power and influence, social networks, conflict), and individual (e.g. decision making, motivation) aspects of organizational behavior.

CMBA 5813. Competing In The Digital Age. (1.5 cr. ; A-F only; Every Fall)

This course covers the crucial and current topics of how information technology disrupts a variety of industries, how to compete in such an environment, and how to strategically manage the IT function in the companies to stay relevant in the digital age. Key principles covered in the class are developing a state-of-the-art IT disruption strategy, learning the nuances of platform competition and multi-sided markets to fight such disruption, understanding the organizational changes involved in implementing enterprise wide systems, and utilizing social and data-driven techniques to enhance marketing outcomes.

CMBA 5814. Economics. (1.5 cr. [max 3 cr.] ; A-F only; Every Fall)

The goal is to improve corporate decision-making by developing better understanding of the economic environment. Emphasis is strategic, not theoretic (this is not a standard macro course.) We shall consider two primary kinds of economic phenomena (and models): i. long-run economic growth; ii. business cycles. Also and importantly, we will learn about what

a central bank does and spend some time on the current world financial/macroeconomic mess. How could we do otherwise? Students will learn appropriate tools to analyze these phenomena and apply them to their own decision-making environs, both organizational and personal.

CMBA 5815. Marketing Management. (3 cr. ; A-F only; Every Spring)

This is a study of management of the marketing function. We strive for an understanding of foundational marketing concepts and of the skills needed for strategy development. We also consider the importance of integrating financial data, operational factors, and human resource issues along with marketing research pertaining to product offering decisions, distribution channels, pricing and communication.

CMBA 5816. Strategic Management. (3 cr. ; A-F only; Every Spring)

Course provides an integrated, top management viewpoint for business students. It frames the functional courses in the CEMBA curriculum by providing a 'total' business perspective. The course objective is to develop analytic skills and deep understandings in identifying key issues and formulating and implementing appropriate strategies for creating and sustaining a competitive edge in complex business situations. The course will familiarize students with the most current theories, concepts, and techniques of strategic management using a combination of readings, case discussions, presentations and videos. Student progress will be assessed through class participation, an in-class exam, and a group project comparing the strategies of two competing firms.

CMBA 5817. Financial Management. (3 cr. ; A-F only; Every Spring)

Students apply concepts of risk, return, and valuation to decisions that a corporate financial officer or person in small business must make about sources/uses of funds during changing financial markets.

CMBA 5818. Supply Chain and Operations. (3 cr. ; A-F only; Every Spring)

A majority of the people and physical assets of a company are involved in operations. The operations function represents the physical core of every company: The systems and processes that generate the goods and services to be sold to customers. World-class operations can lead to a significant and enduring competitive advantage. Failing operations mean low productivity and bad press at best, and company failure at worst. Understanding operations means understanding processes and supply chains. This course is designed to develop a basic framework to comprehend key design decisions and trade-offs within that context. As such, the course encompasses both manufacturing and service operations. Course also highlights why successful supply chain and operations management has to be strategic in nature, and how the operations function relates to other business functions such as marketing or product development.

CMBA 5820. Negotiation Strategies: Creative Solutions for Difficult Problems. (3 cr. ; A-F only; Every Fall)

Negotiation is the art and science of securing agreements between two or more parties who are interdependent and who are seeking to maximize their own outcomes. As such, this course deals with understanding the behavior of individuals, groups, and organizations in the context of competitive situations. We focus on understanding both the theory and process of negotiation in a variety of settings. This course is designed to be relevant to the broad spectrum of negotiation problems that are faced by managers and professionals. It is designed to complement the technical and diagnostic skills learned in other courses in the program. A basic premise of the course is that while a manager needs analytical skills to discover optimal solutions to problems, a broad array of negotiation skills are needed to get these solutions accepted and implemented. This course will allow participants the opportunity to develop these skills experientially and to understand negotiation in useful analytic frameworks. As such, considerable emphasis will be placed on simulations, role-playing, and cases.

CMBA 5821. Managerial Accounting. (3 cr. ; A-F only; Every Fall)

This course presents the topic of management accounting in depth. The purpose of management accounting is to provide information to management for costing products and decision making as well as for planning, controlling, and evaluating business activities. The student who successfully completes this class will be able to identify a managerial issue and create a solution to the problem.

CMBA 5822. Applied Leadership. (1.5 cr. ; A-F only; Every Fall)

The course objectives are to build stronger self-awareness and insight concerning personal leadership and core values, increase capabilities to understand potential personal derailment patterns and create effective strategies to address these challenges, better nurture and leverage strengths for executive leadership performance, effectively coach and motivate others as a key executive leadership attribute, and develop deeper lifelong executive leadership practices and habits for high performance in demanding circumstances. prereq: CMBA student

CMBA 5823. Competing Globally. (3 cr. ; A-F only; Every Fall)

In this course we explore the many faces of global competition. We challenge the assumptions that global strategy is a precursor to success by exploring a set of complex forces that drive firms to internationalize. The course places special emphasis on emerging markets, given that they are home to most of the global growth and population, as well as institutional voids. We focus on factors that determine strategic choices firms make as they build their international presence, by exploring how firms: build international presence by selecting countries, and modes of entry; benefit from

national competitive advantage in developed and emerging markets; diagnose and address cultural challenges of working across borders; organize to share knowledge across borders; build and sustain their multifaceted global legitimacy; collaborate across borders; prepare their managers to address cultural, personal, and career challenges in expatriate roles and on global teams.

CMBA 5824. Corporate Responsibility & Ethics. (1.5 cr. ; A-F only; Every Fall)

In this course we will explore both ethical challenges in the contemporary business environment as well as the strategic opportunities offered by corporate social responsibility. Students will conduct stakeholder analysis, apply ethical principles, consider alternatives, and recommend and defend an "ethical" final decision. We will seek to answer the question "can business do good, and also do well?"

CMBA 5825. Strategic Marketing. (3 cr. ; A-F only; Every Spring)

Marketing begins and ends with the buyer. Hence, marketing strategy is the study of delivering value to buyers in a manner that exceeds the value proposition of marketplace rivals, using both internal and external resources. From determining consumer needs to assuring customer satisfaction, a clear understanding of buyer behavior is critical to the successful formulation and implementation of marketing strategy. To that end, this course is designed to provide prospective general managers the intellectual tools necessary to design actionable marketing strategies. There will be a strong emphasis on managerial action and multiple theoretical perspectives will be discussed.

CMBA 5826. Corporate Strategy. (1.5 cr. ; A-F only; Every Spring)

This course focuses on the strategic management of firm scope (i.e., choosing what your firm does and does not do). It provides understanding about strategic choices such as outsourcing or insourcing? activates and entering or leaving lines of business. We develop and employ a set of tools that provide a disciplined way to investigate these issues. Why companies exist, notion of added value, how companies add value through resources and incentives to develop resources, why a company would participate in more than one line of business, and what considerations should guide corporate renewal.

CMBA 5827. Advanced Financial Management. (3 cr. ; A-F only; Every Spring)

Financial Management introduced the theory of corporate finance and the application of value creation principles to, mainly, business operating decisions at the level of the project or initiative. This course moves on to consider decisions at the firm level. Among the questions addressed in this course are how best to measure overall firm performance, how to best finance the company, including debt versus equity questions, when to include options in the firm's financing arrangements, when to lease resources rather than buy them, when to pay a dividend and/or repurchase

shares and whether mergers and acquisitions generate value added.

CMBA 5828. International Residency - Study Abroad. (1.5 cr. ; A-F only; Every Spring)
Students travel to an international location for 9-10 days. This provides the opportunity to engage in discussions with international colleagues, apply program concepts, and develop a broader sensitivity to cultural and social differences. Pre-trip preparation, assignments, on-site discussions and activities, and post-trip assignments are required.

CMBA 5829. International Residency ? Global Team Project. (1.5 cr. ; A-F only; Every Spring)
The Global Team Project (GTP) provides Carlson School Executive MBA students with the unique opportunity to work in a collaborative team environment across cultures, industries, and markets alongside students from our Vienna Executive MBA program and our China Executive MBA program. As participants in the GTP, students develop advanced skills in teamwork, cross-cultural collaboration, and business plan development within a dynamic environment shaped by academic rigor and the demands of real-world international business.

CMBA 5830. Advanced Management Topic Elective: Power & Influence. (; 1.5 cr. ; A-F only; Every Spring)
Elective courses are offered across cohorts on preference basis. Course topics may change from year to year and can cover a variety of areas including entrepreneurship/innovation, strategy, IT, and others.

CMBA 5831. Advanced Management Topic Elective: Entrepreneurship & Innovation. (; 1.5 cr. ; A-F only; Every Spring)
Elective courses are offered across cohorts on preference basis. Course topics may change from year to year and can cover a variety of areas from entrepreneurship/innovation, strategy, IT, and others.

CMBA 5832. Advanced Management Topic Elective: Business Analytics for Competitive Advantage. (; 1.5 cr. ; A-F only; Every Spring)
Elective courses are offered across cohorts on preference basis. Course topics may change from year to year and can cover a variety of areas from entrepreneurship/innovation, strategy, IT, and others.

CMBA 5833. Advanced Management Topics Elective - Healthcare Innovations. (; 1.5 cr. ; A-F only; Every Spring)
Elective courses are offered across cohorts on preference basis. Course topics may change from year to year and can cover a variety of areas from entrepreneurship/innovation, strategy, IT, and others.

CMBA 5838. Financial Accounting. (1.5 cr. ; A-F only; Every Fall)
Financial Accounting

CMBA 5839. Management of Teams. (1.5 cr. ; A-F only; Every Fall)
Management of Teams

CMBA 5842. Marketing Management. (3 cr. ; A-F only; Every Fall)

Marketing Management

CMBA 5843. Data Driven Decision Making. (3 cr. ; A-F only; Every Fall)
Data Driven Decision Making

CMBA 5844. Organizational Behavior. (3 cr. ; A-F only; Every Fall)
Course's main purpose is to prepare you to successfully engage and lead people to achieve organizational goals. Effective managers must not only develop winning strategies, but they must also implement them. Doing so requires a thorough understanding of organizational behavior. Broadly speaking, organizational behavior is the systematic study of how people behave in organizational settings. This course is designed to develop your understanding of the complexity of orgs and how they affect behavior, build your self-knowledge and people-leadership skills, and help you learn and apply appropriate tactics and tools to improve organizational functioning and facilitate personal career success. Course topics include: organizational (e.g. structure and culture), interpersonal (e.g. power and influence, social networks, conflict), and individual (e.g. decision making, motivation) aspects of organizational behavior.

CMBA 5845. Executive Perspectives. (0-1.5 cr. ; S-N only; Every Fall & Spring)
Top Management Perspectives

CMBA 5846. Executive Leadership Insights. (0.5-3 cr. ; A-F only; Every Fall & Spring)
Executive Leadership Insights

Cellular/Organismal Physiology (COP)

COP 4793W. Writing Intensive Directed Studies. (WI; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)
Writing Intensive Directed Studies is an individual-study, literature-based investigation in which the student is mentored directly by a faculty member. One main feature of this course is that the student will receive writing instruction and the written output of the course will be revised during the semester. The project needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, how writing instruction will take place, a timeline for when student writing will be handed in and how it will be assessed, methodology to be used by the student, and how assessment of learning will be conducted by the mentor. Additional oversight is established for this course near the end of the semester the written output is submitted to the DUGS for the major. The DUGS is responsible to determine that the writing meets standards set by the CBS Education Policy Committee for quality of writing, appropriate citation of literature, well-constructed figures, tables, and legends (if present), appropriate use and interpretation of statistics (if present),

conclusions that are supported by evidence, and well-formatted references. This course is graded S/N and approval of the DUGS is required before a grade of S can be given by the faculty mentor. prereq: department consent, instructor consent, no more than 7 credits of 4793, 4794, 4993W, 4994W counts towards CBS major requirements.

COP 4794W. Writing Intensive Directed Research. (WI; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)
Writing Intensive Directed Research is an individual-study, laboratory or field research experience in which the student is mentored directly by a faculty member. This course is intended for students who already have initiated a research project in the lab of the mentor and already have results. In this course the student will receive writing instruction. The written output usually is in the form of a scientific paper describing the results of the student's project. Written output of the course must be revised during the semester and a schedule for writing, assessment and revision needs to be in place at the beginning of the semester. The project needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the Director of Undergraduate Studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, how writing instruction will take place, a timeline for when student writing will be handed in and how it will be assessed, methodology to be used by the student, and how assessment of learning will be conducted by the mentor. Additional oversight is established for this course - near the end of the semester the written output is submitted to the DUGS for the major. The DUGS is responsible to determine that the writing meets standards set by the CBS Education Policy Committee for quality of writing, appropriate citation of literature, well-constructed figures, tables, and legends (if present), appropriate use and interpretation of statistics (if present), conclusions that are supported by evidence, and well-formatted references. The DUGS can call for a final revision before a grade is given. This course is graded S/N and approval of the DUGS is required before a grade of S can be given by the faculty mentor.

COP 4993. Directed Studies. (1-7 cr. ; S-N only; Every Fall, Spring & Summer)
Directed Studies is an individual-study, literature-based investigation in which the student is mentored directly by a faculty member. The topic for the course needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. prereq: department consent, instructor consent, no more than 7 credits of

4793, 4794, 4993W, 4994W counts towards CBS major requirements.

COP 4994. Directed Research. (1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Directed Research is an individual-study, laboratory or field investigation course. The research topic needs to be agreed on by both the student and the faculty mentor and explained in a Research/Directed Studies contract. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. prereq: department consent, instructor consent, no more than 7 credits of 4793, 4794, 4993W, 4994W counts towards CBS major requirements.

Center for Allied Health Prog (CAHP)

CAHP 5110. Foundations of Interprofessional Communication and Collaboration. (; 1 cr. ; S-N only; Every Fall)

Interprofessional approach to health care. Directed group activities in five two-hour sessions: personal/professional image; teamwork, self/peer assessment; health professions; professional identity/integrity; relationships between professions and those they serve. Includes online modules. prereq: Enrolled CLSP or OT student

Chemical Engineering (CHEN)

CHEN 1001. Advances in Chemical Engineering and Materials Science. (; 1 cr. [max 2 cr.] ; S-N or Audit; Every Fall)

Survey of important advances in chemical engineering, materials science/engineering. Design problems, career opportunities. Lectures, demonstrations, interactive exercises. prereq: Recommended for [chemical engineering, materials science/engineering] majors

CHEN 2001. Material and Energy Balances. (4 cr. ; A-F or Audit; Every Fall)

Description/analysis of chemical engineering systems. Units/dimensions, materials balances on systems with/without chemical reactions, elementary phase equilibria/diagrams, energy balances. Elementary treatment of multistage steady-state equilibrium operations. prereq: Chem 1061 or equiv., concurrent registration is required (or allowed) in MATH 2374 or equiv., concurrent registration is required (or allowed) in PHYS 1302 or equiv., CSE student, C- or better in all pre-reqs

CHEN 2594. Directed Research Lower Division. (; 1-4 cr. [max 6 cr.] ; Student Option No Audit; Every Fall, Spring & Summer) Independent lab research under faculty supervision for students not yet taking junior level ChEn courses. prereq: instr consent, DUGS consent

CHEN 3005. Transport Phenomena: Momentum and Heat. (4 cr. ; A-F only; Every Fall)

Fluid statics/dynamics. Applications to chemical engineering systems, conduction, diffusion. Principles/applications of heat transfer in chemical engineering systems. prereq: [2001 or [transfer student, dept consent]], [Math 2373 or equiv.], upper div ChEn major, C- or better in all pre-reqs

CHEN 3006. Mass Transport and Separation Processes. (4 cr. ; A-F only; Every Spring)

Introduction to principles of mass transfer. Mass transfer operations used in separation processes, unit operations. prereq: [2001 or 4001], [3005 or 4005], [3101 or 4101], [upper div ChEn major or dept consent], C- or better in all pre-reqs

CHEN 3101. Chemical Engineering Thermodynamics. (4 cr. ; A-F only; Every Spring)

Applications of thermodynamics/chemical equilibrium to problems in chemical engineering. prereq: ChEn 2001, Chem 1062/1066 Math 2374 or equivalent, & Math 2373 or equivalent

CHEN 3102. Reaction Kinetics and Reactor Engineering. (4 cr. ; A-F only; Every Fall)

Chemical equilibrium/chemical kinetics applied to chemical engineering systems. Behavior/design of chemical reactors, interaction between chemical/physical rate processes. Mathematical modeling, design of reactors. prereq: [2001 or 4001], [3101 or 4101], [upper div ChEn major or dept consent], C- or better in all pre-reqs

CHEN 3201. Numerical methods in ChEn applications. (3 cr. ; A-F only; Every Fall) Numerical methods/applications in heat/mass transfer, advanced chemical engineering applications.

CHEN 3401W. Junior Chemical Engineering Lab. (WI; 2 cr. ; A-F only; Every Spring)

Efficient design, structure, measurement, planning, analysis, presentation of experiments/results. Energy balances, fluid flow, heat/mass transfer. Design of new systems using data obtained in lab. Oral/written presentations. prereq: ChEn 3005; upper div ChEn major

CHEN 3701. Introduction to Biomolecular Engineering. (3 cr. ; A-F or Audit; Every Spring)

Fundamentals of biological systems, from biomolecules to interplays of biomolecules that give rise to processes of life. Students apply chemical engineering principles to analysis of living systems. Prereq: Chem 2301, ChEn 3201, Math 2373 (or equivalent)

CHEN 4214. Polymers. (; 3 cr. ; A-F or Audit; Every Spring)

Polymer structure-property relations: structure/morphology of crystalline/amorphous states. Crystallization kinetics. Vitrification and the glass transition. Mechanical properties, failure, permeability, optical/electrical properties, polymer composites, effect of processing on properties. prereq: [[MATS 3011, [3101 or MATS 3001], [upper div MatS or ChEn]]] or instr consent

CHEN 4223W. Polymer Laboratory. (WI; 2 cr. ; Student Option; Every Spring)

Synthesis, characterization, and physical properties of polymers. Free radical, condensation, emulsion, anionic polymerization. Infrared spectroscopy/gel permeation chromatography. Viscoelasticity, rubber elasticity, crystallization.

CHEN 4401W. Senior Chemical Engineering Lab. (WI; 4 cr. ; A-F only; Every Fall)

Principles/techniques of efficient design, structure, measurement, planning, analysis, presentation of experiments. Energy balances, fluid flow, heat transfer, mass transfer. Design of new systems using experimental data obtained in lab. Oral/written presentations. prereq: CHEN 3006, CHEN 3401W

CHEN 4501W. Chemical Engineering Design. (WI; 4 cr. ; A-F only; Every Spring)

Engineering economics of process evaluation, including time/bases for cost estimation. Engineering design through group projects. Case studies. prereq: CHEN 3401W, ChEn 3102, ChEn 3006 (or &3006), Chem 2301

CHEN 4593. Directed study. (; 1-4 cr. [max 6 cr.] ; Student Option No Audit; Every Fall, Spring & Summer)

Directed study under faculty supervision. prereq: ChEn major upper division, instr consent

CHEN 4594. Directed Research. (; 1-4 cr. [max 6 cr.] ; Student Option No Audit; Every Fall, Spring & Summer)

Independent lab research under faculty supervision. prereq: Upper div ChEn

CHEN 4601. Process Control. (3 cr. ; A-F or Audit; Every Fall)

Analysis of dynamic behavior/design of linear control systems for chemical processes. Dynamic response/stability of linear ODE systems, tuning of PID controllers, synthesis of feedback, feedforward/feedback controller. prereq: [3102 or 4102], [upper div ChEn major or dept consent], C- or better in all pre-reqs

CHEN 4701. Applied Math. (; 3 cr. ; A-F only; Every Fall)

Integrated approach to solving linear mathematical problems (linear algebraic equations, linear ordinary/partial differential equations) using theoretical/numerical analysis based on linear operator theory. Undergraduate version of 8201. prereq: [3102 or 4102], ChEn major upper div

CHEN 4702. Introduction to Rheology. (; 2 cr. ; A-F only; Every Fall)

Deformation/flow of non-Newtonian/viscoelastic fluids, plastic materials, perfectly elastic solids. Phenomenological/molecular interpretation of rheology of elastomers, polymer melts, polymer solutions. Application of rheology to polymer processing. prereq: [3005 or 4005], instr consent

CHEN 4704. Advanced Undergraduate Physical Rate Processes I: Transport. (; 3 cr. ; A-F only; Every Fall & Spring)

Mass transfer, dilute/concentrated diffusion, Brownian motion. Diffusion coefficients in polymers, of electrolytes, at critical points. Multicomponent diffusion. Correlations/predictions. Mass transfer, chemical reaction. prereq: [3005 or 4005], ChEn major upper div

CHEM 4708. Advanced Undergraduate Chemical Rate Processes: Analysis of Chemical Reactors. (; 3 cr. ; A-F only; Every Spring)

Design of reactors for heat management, with catalytic processes. Analysis of steady state, transient behavior. Polymerization, combustion, solids processing, environmental modeling. Design of multiphase reactors. prereq: [3102 or 4102], ChEn major upper div

CHEM 5531. Electrochemical Engineering and Renewable Energy. (; 3 cr. ; A-F only; Every Fall)

Fundamentals of electrochemical engineering. Electrochemical mass transfer electrokinetics, thermodynamics of electrochemical cells, modern sensors. Formation of thin films and microstructured materials. Computer-based problems. prereq: [MATS 3011 or instr consent], [upper div CSE or grad student]

CHEM 5595. Special Topics. (; 1-4 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)

New or experimental special topics. prereq: ChEn major upper div

CHEM 5751. Biochemical Engineering. (; 3 cr. ; A-F or Audit; Every Fall)

Chemical engineering principles applied to analysis/design of complex cellular/enzyme processes. Quantitative framework for design of cells for production of proteins, synthesis of antibodies with mammalian cells, or degradation of toxic compounds in contaminated soil. prereq: [3005 or 4005], [concurrent registration is required (or allowed) in 3006 or concurrent registration is required (or allowed) in 4006], [concurrent registration is required (or allowed) in 3102 or concurrent registration is required (or allowed) in 4102]

CHEM 5753. Advanced Biomedical Transport Processes. (; 3 cr. ; A-F or Audit; Every Spring)

Fluid, mass, heat transport in biological systems. Mass transfer across membranes, fluid flow in capillaries, interstitium, veins, and arteries Heat transfer in single cells/tissues. Whole organ, body heat transfer issues. Blood flow, oxygenation. Heat/mass transfer in respiratory systems. Biotransport issues in artificial organs, membrane oxygenators, drug delivery applications. prereq: 3005 or 4005 or equiv

CHEM 5771. Colloids and Dispersions. (; 3 cr. ; A-F or Audit; Every Fall)

Preparation, stability, coagulation kinetics or colloidal solutions. DLVO theory, electrokinetic phenomena. Properties of micelles, other microstructures. prereq: Physical chemistry

CHEM 5801. Optimization in Chemical and Energy Systems Engineering. (3 cr. ; A-F or Audit; Every Fall)

Mathematical optimization is a rigorous and systematic method for modeling and solving decision-making problems. It has become an indispensable tool in various disciplines, including economics, science, and engineering. In this course, students are introduced to the theory of mathematical optimization, systematic

approaches to modeling complex optimization problems, and state-of-the-art algorithms for solving them. While the presented methods are general, we focus on applications in chemical engineering, energy systems engineering, and related disciplines. Many of the applications are directly related to the efficient design and operation of sustainable industrial systems.

CHEM 5802. Applied Machine Learning in Chemical Engineering and Materials Science. (3 cr. ; A-F or Audit; Every Spring)

Machine learning is an increasingly prominent tool used by engineers to aid in the design and characterization of materials and molecules. This course will introduce advanced undergraduates and graduate students to fundamental concepts and practical skills that enable the application of machine learning to these problems. These concepts and skills will be contextualized with examples of recent advances at the intersection of chemical engineering, materials science, and machine learning.

CHEM 5803. Chemical and Materials Technology Commercialization. (3 cr. ; A-F only; Every Fall)

Introduction to chemical and materials technology commercialization including a focus on products, markets, customers, and processes for bringing innovations to market. prereq: courses: ChEn 3101 or MatS 3001

Chemistry (CHEM)**CHEM 1015. Introductory Chemistry: Lecture.** (PHYS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Matter/energy, atoms, compounds, solutions, chemical reactions, mole/chemical calculations, gases, liquids, solids, chemical bonding, atomic/molecular structure, acids, bases, equilibria. Physical/chemical properties of hydrocarbons and organic compounds. Problem solving. prereq: [High school chemistry or equiv], two yrs high school math, not passed chem placement exam, high school physics recommended; Students who will go on to take CHEM 1061/1065 should take CHEM 1015 only. Students who will NOT be continuing on to CHEM 1061/1065 and need to fulfill the Physical Science/Lab core requirement need take the 1-credit lab course CHEM 1017 either concurrently or consecutively. This course will NOT fulfill the Physical Science/Lab core requirement unless the CHEM 1017 lab course is completed either concurrently or consecutively.

CHEM 1016. Exploring Chemical Thinking. (1 cr. [max 2 cr.] ; S-N only; Every Fall & Spring)

This course is designed to help students develop and implement algebraic and chemical thinking, the ability to use symbols to represent atoms and molecules, and how these symbolic representations of microscopic particles match our macroscopic experimental observations/data. While these unique skills will be explicitly developed in this course, they will help students gain a deeper understanding of any chemical concepts to which they are applied.

CHEM 1017. Introductory Chemistry: Laboratory. (PHYS; 1 cr. ; A-F only; Every Fall, Spring & Summer)

Organic chemistry. Matter/energy, atoms, compounds, solutions, chemical reactions, mole/chemical calculations, gases, liquids, solids, chemical bonding, atomic/molecular structure, acids, bases, equilibria. Physical/chemical properties of hydrocarbons and organic compounds containing halogens, nitrogen, or oxygen. Problem solving. prereq: [1015 or concurrent registration is required (or allowed) in 1015], dept consent; credit will not be granted if credit received for: 1011; CHEM 1017 is a 1-credit lab-only course. This course is not intended for students who are planning to take CHEM 1061/1065. Intended only for students who need the course to fulfill the Physical Science/Lab requirement, and are taking CHEM 1015 either concurrently or consecutively. This course will NOT fulfill the Physical Science/Lab core requirement, unless CHEM 1015 is completed either concurrently or consecutively.; meets Lib Ed req of Physical Sciences)

CHEM 1061. Chemical Principles I. (PHYS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Atomic theory, periodic properties of elements. Thermochemistry, reaction stoichiometry. Behavior of gases, liquids, and solids. Molecular/ionic structure/bonding. Organic chemistry and polymers. energy sources, environmental issues related to energy use. Prereq-Grade of at least C- in [1011 or 1015] or [passing placement exam, concurrent registration is required (or allowed) in 1065]; intended for science or engineering majors; concurrent registration is required (or allowed) in 1065; registration for 1065 must precede registration for 1061

CHEM 1062. Chemical Principles II. (PHYS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Chemical kinetics. Radioactive decay. Chemical equilibrium. Solutions. Acids/bases. Solubility. Second law of thermodynamics. Electrochemistry/corrosion. Descriptive chemistry of elements. Coordination chemistry. Biochemistry. prereq: Grade of at least C- in 1061 or equiv, concurrent registration is required (or allowed) in 1066; registration for 1066 must precede registration for 1062

CHEM 1065. Chemical Principles I Laboratory. (PHYS; 1 cr. ; A-F only; Every Fall, Spring & Summer)

Basic laboratory skills while investigating physical and chemical phenomena closely linked to lecture material. Experimental design, data collection and treatment, discussion of errors, and proper treatment of hazardous wastes. prereq: concurrent registration is required (or allowed) in 1061

CHEM 1066. Chemical Principles II Laboratory. (PHYS; 1 cr. ; A-F only; Every Fall, Spring & Summer)

Basic laboratory skills while investigating physical and chemical phenomena closely linked to lecture material. Experimental design, data collection and treatment, discussion of

errors, and proper treatment of hazardous wastes. prereq: concurrent registration is required (or allowed) in 1062

CHEM 1071H. Honors Chemistry I. (PHYS; 3 cr. ; A-F only; Every Fall)

Advanced introduction to atomic theory. Periodic properties of elements. Behavior of gases, liquids, and solids. Molecular/ionic structure, bonding. Aspects of organic chemistry, spectroscopy, and polymers. Mathematically demanding quantitative problems. Writing for scientific journals. prereq: Honors student, permission of University Honors Program, concurrent registration is required (or allowed) in 1075H; registration for 1075H must precede registration for 1071H

CHEM 1072H. Honors Chemistry II. (PHYS; 3 cr. ; A-F only; Every Spring)

Advanced introduction. Chemical kinetics/reaction mechanisms, chemical/physical equilibria, acids/bases, entropy/second law of thermodynamics, electrochemistry/corrosion; descriptive chemistry of elements; coordination chemistry; biochemistry. prereq: 1071H, concurrent registration is required (or allowed) in 1076H, honors student, registration for 1076H must precede registration for 1072H

CHEM 1075H. Honors Chemistry I Laboratory. (PHYS; 1 cr. ; A-F only; Every Fall)

Develop laboratory skills while investigating physical and chemical phenomena closely linked to lecture material. Experimental design, data collection and treatment, discussion of errors, and the proper treatment of hazardous wastes. Prereq: &1071H, honors student, permission of University Honors Program.

CHEM 1076H. Honors Chemistry II Laboratory. (PHYS; 1 cr. ; A-F only; Every Spring)

Develop laboratory skills as experiments become increasingly complex. Data collection/treatment, discussion of errors, proper treatment of hazardous wastes, experiment design. prereq: concurrent registration is required (or allowed) in 1072H

CHEM 1081. Chemistry for the Life Sciences I. (PHYS; 3 cr. ; Student Option; Every Fall)

The topics of atomic theory, molecular structure, bonding and shape, energy and enthalpy, gases, properties of solutions, and equilibrium will be presented along with their application to biological systems. Intended to provide a strong chemistry background for students pursuing life science related majors or careers in life science related fields. prereq: grade of a C- or better in CHEM 1015 or passing chemistry placement exam. This course is recommended for CBS majors.

CHEM 1082. Chemistry for the Life Sciences II. (3 cr. ; Student Option; Every Spring)

The topics of acids, bases and equilibrium, kinetics, nucleophilic substitution and elimination reactions, free radicals, electrochemistry, and alkene addition reactions will be presented along with their application to biological systems. Intended to provide a strong chemistry background for students pursuing life science related majors or careers

in life science related fields. prereq: grade of a C- or better in CHEM 1081 (lecture) and CHEM 1065 (lab); concurrent registration is required (or allowed) in 1086; registration for 1086 must precede registration for 1082. This course is recommended for CBS majors.

CHEM 1086. Chemistry for the Life Sciences II Laboratory. (1 cr. ; Student Option; Every Spring)

Experimental techniques and instrumentation applied to the study of chemical reactions. Techniques include computational chemistry, isolation of natural products, chromatography, acid-base titrations, preparation of buffers, study of reaction kinetics, and examination of polymer degradation. Prereq: grade of a C- or better in CHEM 1081 (lecture) and CHEM 1065 (lab). Concurrent registration in CHEM 1082 is required. This course is recommended for CBS majors.

CHEM 1903. Chemistry in the Kitchen. (; 3 cr. [max 6 cr.]; Student Option; Periodic Fall & Spring)

This seminar will look at the chemistry behind cooking and baking. In this course, we'll cover topics such as coffee roasting, gluten formation, caramelization, "unscrambling" an egg, the science of ice cream, and molecular gastronomy. We will discuss some of the fundamental processes and chemical transformation that occur when we step into the kitchen. In addition to chemistry, this course will touch on interdisciplinary concepts from biochemistry, neuroscience, materials science, and physics.

CHEM 1911W. Quantum Mechanics and Popular Philosophy. (WI; 2 cr. [max 4 cr.]; Student Option; Periodic Fall & Spring)

One may argue about its causal role in these matters, but there is no doubt that the language of quantum mechanics has provided a powerful new set of metaphors with which to express our understanding of ourselves and our place in the overall scheme of things. We will begin with an introduction to some of the basic ideas of quantum mechanics, including the uncertainty principle and wave/particle duality, and discuss some of the quantum paradoxes that highlight the counter-intuitive nature of these concepts. We will then go on to discuss the reflection of these ideas in popular books, articles, and web sites concerning religion, mythology, and philosophy.

CHEM 1915. ?Seeing is Believing.? How Do We See in Science?. (; 2 cr. ; Student Option; Periodic Fall & Spring)

Science is predominantly an empirical field. At its core, the scientific method is based on the formulation and testing of hypotheses based on observations and measurements; but how do we see? in science? Cells are too small to see with the naked eye, proteins and molecules are too small to be observed even with the most powerful microscopes. So how do scientists know a process is happening and what that process is? Many powerful techniques have been developed over the years to help scientists observe the systems of interest, each type of observation providing specific data. The data, however, are often subject to

interpretation. We will discuss different imaging and characterization techniques widely used in Chemistry, Biology, Biochemistry, and Material Science. Classes will include field trips to several imaging and characterization facilities hosted by various Departments and Colleges on the Twin Cities campus and guest lectures by experts in specific techniques.

CHEM 2081. Chemistry for the Life Sciences III. (3 cr. ; Student Option; Every Fall)

The topics of spectroscopy, conjugation and aromaticity, carbonyl and their reactivity, carboxylic acid derivatives, and electrophilic aromatic substitution reactions will be presented along with their application to biological systems. Intended to provide a strong chemistry background for students pursuing life science related majors or careers in life science related fields. prereq: grade of a C- or better in CHEM 1082 (lecture) and CHEM 1086 (lab). This course is recommended for CBS majors.

CHEM 2085. Chemistry for the Life Sciences III Laboratory. (2 cr. ; Student Option; Every Fall)

Experimental techniques and instrumentation applied to the study of chemical reactions and related biological systems. Techniques include spectroscopy, isolation, kinetics and thermodynamics, green chemistry, oxidations, enzymatic reductions, drug discovery. prereq: grade of a C- or better in CHEM 1082 (lecture) and CHEM 1086 (lab). Concurrent registration in CHEM 2081 is required. This course is recommended for CBS majors.

CHEM 2094. Directed Research. (; 1-3 cr. ; Student Option; Every Fall, Spring & Summer)

The directed study experience allows a student to work directly with a faculty on a research project. Students enrolling in this directed study/research course will complete the University's common Directed Study/Research contract with the faculty mentor/evaluator. prereq: instr consent

CHEM 2301. Organic Chemistry I. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Organic compounds, constitutions, configurations, conformations, reactions. Molecular structure. Chemical reactivity/properties. Spectroscopic characterization of organic molecules. prereq: C- or better in 1062/1066 or 1072H/1076H

CHEM 2302. Organic Chemistry II. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Reactions, synthesis, and spectroscopic characterization of organic compounds, organic polymers, and biologically important classes of organic compounds such as lipids, carbohydrates, amino acids, peptides, proteins, and nucleic acids. prereq: Grade of at least C- in 2301

CHEM 2311. Organic Lab. (4 cr. ; Student Option; Every Fall, Spring & Summer)

Laboratory techniques in synthesis, purification and characterization of organic compounds with an emphasis on green chemistry methodologies. prereq: Grade of at least C- in [2302] or [concurrent registration is required (or allowed) in 2302

CHEM 2312H. Honors Organic Lab. (; 5 cr. ; A-F only; Every Fall)

Honors organic chemistry lab. prereq: [2301 or concurrent registration is required (or allowed) in 2301], [Chem or ChemE or BioC] major, instr consent

CHEM 2331H. Honors Elementary Organic Chemistry I. (; 3 cr. ; A-F only; Every Fall)

Important classes of organic compounds, their constitutions, configurations, conformations, reactions. Relationships between molecular structure/chemical properties/reactivities. Spectroscopic methods/characterization of organic molecules. prereq: At least B+ in 1072H, UHP student

CHEM 2332H. Honors Elementary Organic Chemistry II. (; 3 cr. ; A-F only; Every Spring)

Continuation of 2331H. Reactions, synthesis, and spectroscopic characterization of organic compounds, organic polymers, and their role in biologically important classes of organic molecules such as lipids, carbohydrates, amino acids, peptides, proteins, and nucleic acids. prereq: At least C- in 2331H, UHP student

CHEM 3101. Introductory Analytical

Chemistry Lecture. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Primarily for chemistry majors. Methods/concepts of measurement by chemical/instrumental analysis, including titrimetry, quantitative spectrophotometric analysis, chromatographic separations, equilibrium/rate methods. prereq: 1062/1066 or equiv

CHEM 3111. Introductory Analytical

Chemistry Lab. (; 2 cr. ; Student Option; Every Fall & Summer)

Lab for 3101. High precision methods, acidimetry and complexometry, single and multicomponent analysis by spectrophotometry, analysis of mixtures by ion exchange and gas chromatography, enzymatic and rate methods. prereq: 3101 or concurrent registration is required (or allowed) in 3101

CHEM 3121. Process Analytical Chemistry. (; 3 cr. ; A-F or Audit; Every Spring)

Strategies/techniques for analysis. Use of modern instruments, including spectrophotometry, chromatography, and electrochemistry. prereq: [2302 or concurrent registration is required (or allowed) in 2302], [4501 or concurrent registration is required (or allowed) in 4501], CSE student

CHEM 4001. Chemistry of Biomass and Biomass Conversion to Fuels and Products. (ENV; 4 cr. ; A-F or Audit; Every Fall)

Chemical principles underlying structure, properties, processing, performance of plant materials. prereq: 2301, [jr or sr or instr consent]

CHEM 4011. Mechanisms of Chemical Reactions. (; 3 cr. ; Student Option; Every Fall)

Reaction mechanisms, methods of study. Mechanistic concepts. Gas phase reactions. "Electron pushing" mechanisms in organic/enzymatic reactions. Kinetic schemes, other strategies. prereq: [2302, 4501] or equiv

CHEM 4021. Computational Chemistry. (; 3 cr. ; Student Option; Every Spring)

Theoretical methods for study of molecular structure, bonding, and reactivity. Ab initio/semi-empirical calculations. Theoretical determination of molecular electronic structure/spectra, relation to experimental techniques. Molecular mechanics. Structure determination for large systems. Molecular properties/reactivity. Computational tools. Critical assessment of methods/theoretical work in the literature. Lab. prereq: [4502 or equiv], instr consent

CHEM 4066. Chemistry of Industry. (; 3 cr. ; Student Option; Every Spring)

Industrial and polymer chemistry technology. Relation of basic properties to industrial utility. Economics, social problems, industrial environment. prereq: Chem sr or grad student or instr consent

CHEM 4094W. Directed Research. (WI; 1-5 cr. [max 30 cr.]; Student Option; Every Fall, Spring & Summer)

Learning experience in areas not covered by regular courses. Individually arranged with faculty member. prereq: Any 3xxx or 4xxx chem course, instr consent

CHEM 4101. Modern Instrumental Methods of Chemical Analysis. (; 3 cr. ; A-F or Audit; Every Spring)

Basic electronic, optical, computer technologies in design of chemical instrumentation. Advanced topics in spectroscopy (e.g., FT-NMR, FT-IR, atomic absorption/emission). Electrochemistry. Mass spectrometry. prereq: 2101, 2111

CHEM 4111W. Modern Instrumental Methods of Chemical Analysis Lab. (WI; 2 cr. ; A-F or Audit; Every Spring)

Instrumental techniques, including spectroscopic methods, electrochemical methods, and analysis based on separation. Use of computers in data collection and reduction. prereq: 4101 or concurrent registration is required (or allowed)

CHEM 4201. Materials Chemistry. (; 3 cr. ; Student Option; Every Fall)

Crystal systems/unit cells, phase diagrams, defects/interfaces, optical/dielectric properties, electrical/thermal conductivity, X-ray diffraction, thin film analysis, electronic structure, polarons/phonons, solid state chemistry, liquid/molecular crystals, polymers, magnetic/optical materials, porous materials, ceramics, piezoelectric materials, biomedical materials, catalysts. prereq: [[4502 or equiv], 4701] or instr consent

CHEM 4214. Polymers. (; 3 cr. ; A-F or Audit; Every Spring)

Structure/morphology of crystalline/amorphous states. Crystallization kinetics. Vitrification, glass transition. Mechanical properties, failure, permeability, optical/electrical properties, polymer composites, effect of processing. prereq: [MATS 3011, [CHEN 3101 or CHEN 4101 or MATS 4001], [upper div MatS or ChEn or CHEM]] or instr consent

CHEM 4221. Introduction to Polymer Chemistry. (; 3 cr. ; Student Option; Every Fall)

Condensation, radical, ionic, emulsion, ring-opening, metal-catalyzed polymerizations.

Chain conformation, solution thermodynamics, molecular weight characterization, physical properties. prereq: [2302, 4501] or instr consent

CHEM 4223W. Polymer Laboratory. (WI; 2 cr. ; Student Option; Every Spring)

Synthesis, characterization, and physical properties of polymers. Free radical, condensation, emulsion, anionic polymerization. Infrared spectroscopy/gel permeation chromatography. Viscoelasticity, rubber elasticity, crystallization. prereq: CHEM 4221 coreq CHEM 4214 or CHEN 4214 or MATS 4214 or instr consent

CHEM 4301. Applied Surface and Colloid Science. (; 3 cr. ; Student Option; Every Fall)

Introduction to surface/colloid science concepts. Surface tension, wetting, adsorption, capillarity. Formation/stability of sols, emulsions, and foams. Water solubility. Partition coefficients of organic species. Properties of both surfactants and water soluble polymers. Focuses on interdisciplinary applications. prereq: 3043 or BMEN 2101 or CHEN 3101 or CHEM 4501 or instr consent

CHEM 4311W. Advanced Organic Chemistry Lab. (WI; 4 cr. ; Student Option; Every Fall & Spring)

Reactions, techniques, and instrumental methods in synthetic organic chemistry. prereq: 2311

CHEM 4321. Organic Synthesis. (; 3 cr. ; Student Option; Every Fall)

Fundamental concepts, reactions, reagents, structural/stereochemical issues, mechanistic skills for organic chemistry. prereq: [2302 or equiv], 4501, instr consent

CHEM 4322. Advanced Organic Chemistry. (; 3 cr. ; Student Option; Every Spring)

Topics vary by instructor. Examples: natural products, heterocycles, asymmetric synthesis, organometallic chemistry, polymer chemistry. prereq: [2302 or equiv], 4501, instr consent

CHEM 4352. Physical Organic Chemistry. (; 3 cr. ; Student Option; Every Spring)

Fundamental concepts and mechanistic tools for analysis of organic reaction mechanisms. Solvation, reactive intermediates, gas phase chemistry. Photochemistry/strained-ring chemistry. prereq: 4501, [4011 or 8011]

CHEM 4361. Interpretation of Organic Spectra. (; 3 cr. ; Student Option; Every Fall)

Application of nuclear magnetic resonance, mass, ultraviolet, and infrared spectral analyses to organic structural problems. prereq: [2302 or equiv], 4501, instr consent

CHEM 4411. Introduction to Chemical Biology. (; 3 cr. ; Student Option; Every Fall)

Chemistry of amino acids, peptides, proteins, lipids, carbohydrates, and nucleic acids. Structure, nomenclature, synthesis, reactivity. Techniques to characterize biomolecules. prereq: [2302 or 2081 equiv]

CHEM 4412. Chemical Biology of Enzymes. (; 3 cr. ; Student Option; Periodic Spring)

Enzyme classification with examples from current literature. Strategies to decipher enzyme mechanisms. Chemical approaches

to control enzyme catalysis. prereq: [2302 or equiv], 4501

CHEM 4423W. Foundations of Chemical Biology Laboratory. (WI; 2 cr. ; Student Option; Every Fall & Spring)

Experimental techniques from all areas of chemistry applied to biological problems. Experiments to highlight techniques and concepts used in modern Chemical Biology research. Emphasis on connections between classroom/laboratory learning and experimental science, health, disease and medical research. prereq: [2302 or 2304], 2311, 2111

CHEM 4501. Introduction to Thermodynamics, Kinetics, and Statistical Mechanics. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Physical chemistry as it relates to macroscopic descriptions of chemical systems. Chemical thermodynamics, phase equilibria, chemical equilibria. Statistical mechanics. Phenomenological reaction kinetics. Kinetic theory of gases. Collision, statistical theories of reaction rates. prereq: [1062/1066 or 1071H/1075H], [MATH 2263 or concurrent registration is required (or allowed) in MATH 2263 or MATH 2374 or concurrent registration is required (or allowed) in MATH 2374], [PHYS 1302 or PHYS 1402V or PHYS 1502V]

CHEM 4502. Introduction to Quantum Mechanics and Spectroscopy. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Microscopic descriptions of chemical systems. Quantum theory. Applications to atomic/molecular structure. Molecular spectroscopy. Quantum statistical mechanics. Discussion of solutions to several differential equations. prereq: [1062/1066 or 1072H/1076H or 1082/1086], [MATH 2263 or concurrent registration is required (or allowed) in MATH 2263 or MATH 2374 or concurrent registration is required (or allowed) in MATH 2374 or MATH 2243 or concurrent registration is required (or allowed) in MATH 2243 or MATH 2373 or concurrent registration is required (or allowed) in MATH 2373], [PHYS 1302 or PHYS 1402V or PHYS 1502V]

CHEM 4511W. Advanced Physical Chemistry Lab. (WI; 3 cr. ; Student Option; Every Fall)

Experiments illustrating principles and methods of thermodynamics, reaction kinetics, and quantum mechanics. prereq: 4502, chemistry major

CHEM 4601. Green Chemistry. (ENV; 3 cr. ; Student Option; Every Spring)

Survey key aspects of green chemistry in modern research and development both in academia and industry, as well as relevant implications for the environment, technology, and public policy. prereq: [2302 or 2081 or equiv]

CHEM 4701. Inorganic Chemistry. (; 3 cr. ; Student Option; Every Fall & Spring)

Periodic trends. Structure/bonding in compounds where s and p electrons are important. Descriptive chemistry of solids and transition metal compounds. Transition metal chemistry. Topics in main group and materials

chemistry. prereq: [2311 or concurrent registration is required (or allowed) in 2311], [4501 or concurrent registration is required (or allowed) in 4501 or 4502 or concurrent registration is required (or allowed) in 4502]

CHEM 4701H. Honors Inorganic Chemistry. (; 3 cr. ; A-F only; Periodic Fall & Spring)

Periodic trends. Structure/bonding in compounds where s and p electrons are important. Descriptive chemistry of solids and transition metal compounds. Transition metal chemistry. Topics in main group and materials chemistry. prereq: [2311 or concurrent registration is required (or allowed) in 2311], [4501 or concurrent registration is required (or allowed) in 4501 or 4502 or concurrent registration is required (or allowed) in 4502]

CHEM 4711W. Advanced Inorganic Chemistry Lab. (WI; 3 cr. ; A-F or Audit; Every Spring)

Lab experiments in inorganic/organometallic chemistry illustrating synthetic/spectroscopic techniques. prereq: 4701, chem major

CHEM 4715. Physical Inorganic Chemistry. (; 3 cr. ; Student Option; Every Fall)

Physical methods (e.g., IR, UV-VIS, ESR, Mossbauer and mass spectroscopy, magnetic measurements, X-ray diffraction) and concepts applied to inorganic and organometallic systems. prereq: 4701 or equiv, chem major or instr consent

CHEM 4725. Organometallic Chemistry. (; 3 cr. ; Student Option; Periodic Fall)

Synthesis, reactions, structures, and other properties of main group and transition metal organometallic compounds; electronic and structural theory, emphasizing their use as stoichiometric and homogeneous catalytic reagents in organic and inorganic systems. prereq: 4701 or equiv, chem major or instr consent

CHEM 4735. Bioinorganic Chemistry. (; 3 cr. ; Student Option; Periodic Spring)

Role of metal ions in biology. Emphasizes structure, function, and spectroscopy of metalloproteins and their synthetic analogs. prereq: 4701 or equiv, chem grad or instr consent

CHEM 4745. Advanced Inorganic Chemistry. (; 3 cr. ; Student Option; Periodic Spring)

Topics in main group and transition metal chemistry. Emphasizes synthesis, structure, physical properties, and chemical reactivity. prereq: 4701, chem major, instr consent

CHEM 4894. Directed Thesis. (; 1-3 cr. [max 6 cr.]; A-F only; Every Fall, Spring & Summer) Written thesis under direction of chemistry project advisor. prereq: instr consent

CHEM 5210. Materials Characterization. (; 4 cr. ; Student Option; Every Spring)

Modern tools/techniques for both bulk- and thin-film characterization. Topics may include ion-solid interactions, Rutherford back scattering, secondary ion mass spectrometry, solid-state NMR, x-ray photoelectron spectroscopy, small-angle x-ray/neutron scattering, transmission/scanning electron/probe microscopy, near-field scanning optical microscopy, porosimetry, adsorption

techniques, and ellipsometry. prereq: grad student or instr consent

CHEM 5245. Introduction to Drug Design. (; 3 cr. ; A-F or Audit; Periodic Fall)

Concepts that govern design/discovery of drugs. Physical, bioorganic, medicinal chemical principles applied to explain rational design and mechanism of action drugs. prereq: 2302 or equiv

CHEM 5755. X-Ray Crystallography. (; 4 cr. ; A-F or Audit; Every Spring)

Essentials of crystallography as applied to modern, single crystal X-ray diffraction methods. Practical training in use of instrumentation in X-ray crystallography facility in Department of Chemistry. Data collection, correction/refinement, structure solutions, generation of publication materials, use of Cambridge Crystallographic Structure Database. prereq: Chem grad student or instr consent

Chicano Studies (CHIC)

CHIC 1102. Latinos in the United States: Culture and Citizenship. (DSJ,HIS; 3 cr. ; Student Option; Every Fall)

Historical/cultural knowledge on the complex/multi-layered relationship that Latinos have to the U.S., their country of origin. Influence of social, cultural, and political dynamics on Latino identity, politics, and sense of belonging in the U.S. Cultural citizenship.

CHIC 1102H. Honors: Latinos in the United States: Culture and Citizenship. (DSJ,HIS; 3 cr. ; A-F only; Every Fall)

Historical/cultural knowledge on the complex/multi-layered relationship that Latinos have to the U.S., their country of origin. Influence of social, cultural, and political dynamics on Latino identity, politics, and sense of belonging in the U.S. Cultural citizenship.

CHIC 1112. Paradigms in Chicana/o Studies. (DSJ; 3 cr. ; Student Option; Every Spring)

Prevailing paradigms of analysis, methodologies of research, and guiding theoretical concepts that have shaped Chicana/o studies. The paradigms introduced in this course are foundational to the study of Chicanas, Chicanos, and Chicax, and it provides the necessary tools for success in upper division courses in the department. Topics include decolonial imaginaries, indigeneity, intersectionality, experiential knowledge, hegemony and counter-hegemony, oppositional consciousness, queer theory, racialization, transnationalism, and globalization.

CHIC 3212. Chicana Feminism: La Chicana in Contemporary Society. (AH,DSJ; 3 cr. ; Student Option; Every Fall & Spring)

Scholarly/creative work of Chicanas or politically defined women of Mexican American community. Interdisciplinary. Historical context, cultural process, and autoethnography.

CHIC 3216W. Chicana and Chicano Art. (AH,WI,CIV; 3 cr. ; Student Option; Periodic Fall & Spring)

A Chicana/o has been described as a Mexican-American with a political sense of identity that emerges from a desire for social justice. One journalist bluntly stated, "A Chicano is a Mexican-American with a non-Anglo image of himself" (Ruben Salazar, Los Angeles Times, 1970). This identity emerged through the Chicano Movement, a social and political mobilization that began in the 1960s and 1970s. The Chicano Movement witnessed the rise of community-based political organizing to improve the working conditions, education, housing opportunities, health, and civil rights for Mexican-Americans. For its inception, the Chicano Movement attracted artists who created a new aesthetic and framework for producing art. A major focus of Chicana/o artists of the 1960s and 1970s was representation, the right to self-determination, and the role of art in fostering civic and public engagement. This focus continues to inform Chicana/o cultural production. Social intervention, empowerment, and institutional critique remain some of the most important innovations of American art of the last several decades, and Chicana/o artists played a significant role in this trend.

CHIC 3221. Chicana/o Cultural Studies: Barrio Culture and the Aesthetics of Everyday Life. (AH,DSJ; 3 cr. ; Student Option; Every Spring)

Cultural studies approach to investigating aesthetic dimensions of experience that inform and are informed by dynamic relationship between culture, class, ethnicity, and power.

CHIC 3223. Chicana/o and Latina/o Representation in Film. (AH,DSJ; 3 cr. ; Student Option; Every Spring)

Introduction to Chicana/o and Latina/o visual representation. Depiction of Latina/o experience, history, and culture in film. Analyzing independent/commercial films as texts that illuminate deeply held beliefs around race, class, ethnicity, gender, and national origin.

CHIC 3352. Transborder Theory: Global Views/Borderland Spaces. (; 3 cr. ; Student Option; Fall Even Year)

Demographic realities, political/economic shifts, cultural exchanges that characterize U.S.-Mexico borderland spaces in global economy. Historically contextualized, transnational approach to cultures, politics, and economics of U.S.-Mexico Borderlands. Dynamics of borderland spaces.

CHIC 3374. Migrant Farmworkers in the United States: Families, Work, and Advocacy. (CIV; 4 cr. ; Student Option; Every Spring)

Socioeconomic/political forces that impact migrant farmworkers. Effects of the laws and policies on everyday life. Theoretical assumptions/strategies of unions and advocacy groups. Role/power of consumer. How consuming cheap food occurs at expense of farmworkers.

CHIC 3375. Folklore of Greater Mexico. (DSJ; 3 cr. ; Student Option; Every Fall & Spring)

Scholarly survey and exploration of the sociocultural function of various types of folklore in Greater Mexico. Ways in which folklore constructs and maintains community, as well as resists and engenders cultural shifts.

CHIC 3412. Comparative Indigenous Feminisms. (GP; 3 cr. ; Student Option; Periodic Fall & Spring)

The course will examine the relationship between Western feminism and indigenous feminism as well as the interconnections between women of color feminism and indigenous feminism. In addition to exploring how indigenous feminists have theorized from 'the flesh' of their embodied experience of colonialism, the course will also consider how indigenous women are articulating decolonization and the embodiment of autonomy through scholarship, cultural revitalization, and activism.

CHIC 3423. Central American Revolutions. (; 3 cr. ; Student Option; Periodic Fall)

Social, political, and economic issues that have shaped Central American history for nearly two centuries. Colonial histories, capitalist development, ethnic/racial conflict, foreign intervention, Catholic Church, civil war throughout region. Readings/discussions cover events in Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and Panama.

CHIC 3425. History of Modern Mexico. (3 cr. ; A-F or Audit; Every Fall & Summer)

Mexico from independence to the present: struggles for land, liberty, and equality; ethnicity, gender, and class; economic growth, nationalism, and globalization; urbanization, immigration, demographic transition. Issues of race, religion, and national identity; the US-Mexico War, the 1910 Mexican Revolution, urbanization, migration, free trade agreements, and the War on Drugs.

CHIC 3444. Chicana and Chicano History I. (DSJ,HIS; 3 cr. ; Student Option; Every Fall)

Experiences of people of Mexican descent in the United States. Important eras in histories of Mexico, the United States, and Mexican Americans. Central role of Chicana/os in U.S. history, culture, and politics. Topics include race, ethnicity, gender, sexuality, immigration, migration.

CHIC 3446. Chicana and Chicano History II: WWII, El Movimiento, and the New Millennium. (DSJ,HIS; 3 cr. ; Student Option; Every Spring)

Experiences of people of Mexican descent in the U.S. Notions of citizenship from WWII. Chicano civil rights movement. Impact of immigration patterns/legislation. Cultural wars, changing demographics. Social, economic, and political changes that influenced day-to-day life of Mexican Americans. Meaning of racialized "Mexican" identity. How different groups of Mexicans have understood their relationships to other Americans and other Latino groups.

CHIC 3452. Chicana/LatinX Indigeneity. (DSJ; 3 cr. ; Student Option; Every Spring)

Historical, cultural, and political processes impacting Chicanas/os and their understanding of being indigenous to the North American

continent. History, culture, and identity formation as dynamic processes intimately related to present and future constructions of Mexican American identities and sociopolitical perspectives.

CHIC 3507W. Introduction to Chicana/o Literature. (DSJ,WI,LITR; 3 cr. ; Student Option; Every Fall & Spring)

Cultural, intellectual, and sociopolitical traditions of Mexican Americans as they are represented in creative literature. Genres/forms of creative cultural expression and their significance as representations of social, cultural, and political life in the United States. Novels, short stories, creative non-fiction, drama, essay, poetry, and hybrid forms of literature.

CHIC 3672. Chicana/o Experience in the Midwest. (DSJ; 3 cr. ; Student Option; Every Spring)

Experiences of people generally defined as Chicano or Latino, living in the Midwest. Individual/group identity. Focuses on construction of Chicano-Latino experience. How identity affirmation, migration stories, immigration status, historical memory, and cultural traditions are impacted by being in the Midwest.

CHIC 3771. Latino Social Power and Social Movements in the U.S.. (; 3 cr. ; Student Option; Periodic Fall)

How Latinos have collectively resisted social domination. Theories of social power/movements. Resistance by Latinos during 60s/70s. Current organized efforts to curb immigration, establish English as official language, and limit immigrant rights.

CHIC 3852. Chicana/o Politics. (DSJ,SOCS; 3 cr. ; Student Option; Every Fall & Spring)

Theory/practice of Chicana/o politics through an analysis of Mexican American experience, social agency, and response to larger political systems and behaviors using social science methods of inquiry. Unequal power relations, social justice, and the political economy.

CHIC 3862. American Immigration History. (DSJ,HIS; 3 cr. ; A-F or Audit; Periodic Fall)

Global migrations to U.S. from Europe, Asia, Latin American, and Africa, from early 19th century to present. Causes/cultures of migration. Migrant communities, work, and families. Xenophobia, assimilation/integration, citizenship, ethnicity, race relations. Debates over immigration. Place of immigration in America's national identity.

CHIC 3888. Immigration and the U.S. Latina/o Experience: Diaspora, Identity, and Community. (DSJ,HIS; 3 cr. ; Student Option; Every Fall)

Experiences of migrants from Latin America to the United States in 20th/21st century. Migrant engagements with US society. Pre-existing Latina/o and other ethnic communities. Experiences within political, economic, and social aspects of life at local/global level.

CHIC 3896. Internship for Academic Credit. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

An applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals, which may be related to a student's major field or area of interest. The work can be full or part time, paid or unpaid, primarily in off-campus environments. Internships integrate classroom knowledge and theory with practical application and skill development in professional or community settings. The skills and knowledge learned should be transferable to other employment settings and not simply to advance the operations of the employer. Typically the student's work is supervised and evaluated by a site coordinator or instructor.

CHIC 3900. Topics in Chicano Studies. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)
Topic: Health in Indig chicx/Latinx

CHIC 3920. Topics in Spanish-American Lit. (; 3 cr. ; A-F or Audit; Periodic Fall)
n/a

CHIC 3993. Directed Studies. (; 1-9 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)
Guided individual reading, research, and study. Students often do preliminary readings and research in conjunction with plans for education abroad programs. prereq: instr consent

CHIC 4231. Color of Public Policy: African Americans, American Indians, Asian Americans & Chicanos in the U.S.. (3 cr. ; Student Option; Periodic Fall)
Examination of the structural or institutional conditions through which people of color have been marginalized in public policy. Critical evaluation of social theory in addressing the problem of contemporary communities of color in the United States.

CHIC 4232. Chicana/o - Latina/o Gender and Sexuality Studies. (AH,DSJ; 3 cr. ; Student Option; Fall Odd, Spring Even Year)
Critical thinking of Chicanas/os and Latinas/os around construction of gender. Politics of sexual identity. How the self is gendered in relationship to sexual, racial, class, and national identities under different social structural conditions. Way in which the "borders" that define/confine sexual norms shift over time.

CHIC 4275. Theory in Action: Community Engagement in a Social Justice Framework. (CIV; 3 cr. ; Student Option; Every Fall)
Theoretical frameworks of social justice and community engagement for work outside classroom with/in Latina/o community. Worker issues/organizing. Placements in unions, worker organizations. Policy initiatives on labor issues. Students reflect on their own identity development, social location, and position of power/privilege.

CHIC 4401. Chicana/Latina Cultural Studies. (AH,DSJ; 3 cr. ; Student Option; Fall Even Year)
Readings in Chicana/Latina cultural studies. TV, film, art, music, dance, theatre, literature. Identity/sexuality. Production of culture/theory.

CHIC 4901W. Senior Paper. (WI; 3 cr. ; A-F only; Every Spring)

Capstone experience. Students produce original research paper or creative project on a topic determined in consultation with a faculty adviser.

CHIC 4993W. Directed Study: Senior Capstone. (WI; 1 cr. ; S-N only; Every Fall, Spring & Summer)

This course accompanies any 3xxx, 4xxx, or 5xxx level course from Chicano and Latino Studies taught by a tenure-line faculty in the department and serves as the capstone requirement in addition to the existing host course requirements. Therefore, the student is co-currently enrolled in the appropriate 3xxx, 4xxx, or 5xxx level host course that matches their research interests and this capstone writing intensive class.

CHIC 5216W. Chicana and Chicano Art. (AH,WI,CIV; 3 cr. ; Student Option; Periodic Fall & Spring)

A Chicana/o has been described as a Mexican-American with a political sense of identity that emerges from a desire for social justice. One journalist bluntly stated, "A Chicano is a Mexican-American with a non-Anglo image of himself" (Ruben Salazar, Los Angeles Times, 1970). This identity emerged through the Chicano Movement, a social and political mobilization that began in the 1960s and 1970s. The Chicano Movement witnessed the rise of community-based political organizing to improve the working conditions, education, housing opportunities, health, and civil rights for Mexican-Americans. For its inception, the Chicano Movement attracted artists who created a new aesthetic and framework for producing art. A major focus of Chicana/o artists of the 1960s and 1970s was representation, the right to self-determination, and the role of art in fostering civic and public engagement. This focus continues to inform Chicana/o cultural production. Social intervention, empowerment, and institutional critique remain some of the most important innovations of American art of the last several decades, and Chicana/o artists played a significant role in this trend.

CHIC 5374. Migrant Farmworkers in the United States: Families, Work, and Advocacy. (CIV; 4 cr. ; Student Option; Every Spring)

Socioeconomic/political forces that impact migrant farmworkers. Effects of the laws and policies on everyday life. Theoretical assumptions/strategies of unions and advocacy groups. Role/power of consumer. How consuming cheap food occurs at expense of farmworkers.

CHIC 5412. Comparative Indigenous Feminisms. (GP; 3 cr. ; Student Option; Periodic Fall & Spring)

The course will examine the relationship between Western feminism and indigenous feminism as well as the interconnections between women of color feminism and indigenous feminism. In addition to exploring how indigenous feminists have theorized from 'the flesh' of their embodied experience of colonialism, the course will also consider how indigenous women are articulating

decolonization and the embodiment of autonomy through scholarship, cultural revitalization, and activism.

CHIC 5920. Topics in Chicana(o) Studies. (; 3 cr. ; Student Option; Every Fall & Spring)
Multidisciplinary themes in Chicana(o) studies. Issues of current interest.

CHIC 5993. Directed Studies. (; 1-3 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual reading, research, and study for completion of the requirements for a senior paper or honors thesis. prereq: instr consent

Child & Adolescent Psychiatry (CAPY)

CAPY 5672. Children's Exposure to Domestic Violence: Effects on Child Functioning, Treatment Implications. (; 1 cr. ; Student Option; Periodic Spring)
Effects of exposure to domestic violence in context of development, from infancy to late adolescence. Assessment strategies, best practices in intervention/prevention for vulnerable children and adolescents. Multidisciplinary approaches to working with children exposed to violence (e.g., judicial, medical, law enforcement partnerships).

Child Psychology (CPSY)

CPSY 1301. Nature-Based Learning in Early Childhood. (3 cr. ; A-F or Audit; Every Fall)
This course is intended for undergraduate students throughout the University of Minnesota to develop an understanding of the connection between early childhood, development, and nature-based learning and play. Students will learn, through an exploration of national standards and guidelines as well as current research, best practices for connecting children and nature.

CPSY 1334. Global Issues on Children and Youth in Society. (CIV; 3 cr. ; Student Option; Every Fall)

Study of hot topics currently faced by children and youth around the world, including focuses on homelessness, acculturation, mental health, substance abuse, war and political violence, immigration, and legal issues. Provides an introduction to science, ethics, and ramifications in civic life of current, controversial issues concerning child or youth development. Examines topics of concern and interest to parents, society, and young people and how developmental science informs these issues and policies as well as the decisions and actions of citizens. Students will also learn how research is translated and disseminated so that it can inform policy and practice.

CPSY 2301. Introduction to Developmental Psychology. (SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This course will examine normative physical, social, and cognitive development from the prenatal period through adolescence. The major goals include fostering an understanding of the usefulness of a developmental approach to psychological issues, familiarizing students

with current research and methodology in developmental psychology, and engaging students in the experiences of developmental psychology through observation and analysis of child behavior. PSY majors should take the cross-listed course CPSY 3301.

CPSY 2310. Special Topics in Child Development. (; 1-4 cr. [max 12 cr.]; A-F or Audit; Periodic Fall & Spring)
Topics vary by semester.

CPSY 3301. Introduction to Developmental Psychology. (SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)
This course will examine normative physical, social, and cognitive development from the prenatal period through adolescence. The major goals include fostering an understanding of the usefulness of a developmental approach to psychological issues, familiarizing students with current research and methodology in child psychology, and engaging students in the experiences of developmental psychology through observation and analysis of child behavior. This course is intended for non-Child Psychology/Early Childhood majors. Those majors should take the cross-listed course CPSY 2301.

CPSY 3301H. Honors Introduction to Developmental Psychology. (SOCS; 4 cr. ; A-F only; Every Spring)
This course will examine normative physical, social, and cognitive development from the prenatal period through adolescence. The major goals include fostering an understanding of the usefulness of a developmental approach to psychological issues, familiarizing students with current research and methodology in developmental psychology, and engaging students in the experiences of developmental psychology through observation and analysis of child behavior. This course is intended for University Honors Program students both within and outside of the Developmental Psych/Early Childhood programs.

CPSY 3308W. Introduction to Research Methods in Child Psychology. (WI; 4 cr. ; A-F or Audit; Every Fall & Spring)
Explore developmental research methodology by learning about observational research and experimental designs. Critically evaluate research articles, learn to report research, and understand the difference between science and pseudoscience. Gain awareness of the ethical and practical issues that developmental psychologists face when they work with children. prereq: CPSY 2301 / 3301 or equiv

CPSY 3360H. Child Psychology Honors Seminar. (; 2 cr. ; A-F or Audit; Every Fall)
Acquaints students with the various research projects and activities in the Institute for Child Development and in related departments. Faculty are invited to discuss their research projects with seminar participants. prereq: CPSy honors student

CPSY 3401. Children, Youth, and Media. (3 cr. ; Student Option; Spring Odd Year)
This course will examine a variety of questions related to children's and adolescents' use and understanding of the media, and address

the role of the media in cognitive, social, and emotional development. Pre-req: CPSY 2301 OR CPSY 3301 OR PSY 1001

CPSY 3601. Introduction to Child Life Theory and Practice. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

This course will provide an introduction to the child life profession with a strong focus on patient and family-centered care. This course will meet the required topics of study as identified by the Child Life Council. The major learning objectives include 1) gaining an understanding of the fundamental theories that support patient and family-centered care and child life practice, 2) identifying how illness, injury, and hospitalization impacts a child's development and their family, 3) gaining an understanding of the Official Documents of the Child Life Council, 4) examining the elements of therapeutic play in a clinical setting, and 5) identifying techniques to prepare a child and their family for healthcare encounters. prereq: any introductory course in the areas of Child Development, Psychology, Human Development, Family Systems (CPSY 2/3301 strongly recommended)

CPSY 3896. Internship in Child Psychology. (; 1-4 cr. [max 12 cr.]; S-N only; Every Fall, Spring & Summer)
Students secure an internship in the realm of child psychology/development. A student may only earn credit for a given internship through one course at a time. Corresponding online coursework includes written reflections, journals, and career development activities. Credits are variable based on hours at your site: - 1 credit - 45 hour minimum (average 3-4 hours per week) - 2 credit - 90 hour minimum (average 5-7 hours per week) - 3 credit - 135 hour minimum (average 8-9 hours per week) - 4 credit - 180 hour minimum (average 10-12 hours per week) Students and their supervisors must submit a completed internship contract via Goldpass in order to register. <http://goldpass.umn.edu/> Contact the CPSY advisor with any questions.

CPSY 4302. Infant Development. (; 3 cr. ; A-F or Audit; Every Fall)
Perceptual, motor, emotional, social, and cognitive development during the first two years of life; the developing infant in his or her social and physical environment. prereq: CPSY 2301 or equivalent or instructor consent

CPSY 4303. Adolescent Psychology. (; 3 cr. ; A-F or Audit; Every Fall & Spring)
Overview of development in the teenage years/second decade of life. Interactions of adolescents with family, school, and society. prereq: PSY 1001 or equivalent

CPSY 4310. Special Topics in Developmental Psychology. (; 1-4 cr. [max 12 cr.]; Student Option; Every Fall & Spring)
Description is specific to each topic's title.

CPSY 4311. Behavioral and Emotional Problems of Children. (; 3 cr. ; A-F or Audit; Every Fall)
Study abnormal psychology and atypical development in children and adolescents. Focus on behavioral and emotional problems,

disorders and diagnoses, psychopathology contrasted to normal development. Understand symptoms, causes, course, and prevention of common disorders, excluding physical and sensory handicaps. prereq: CPSY 2301 / 3301 or equiv

CPSY 4313W. Disabilities and Development. (WI; 4 cr. ; Student Option; Every Spring)
Surveys all areas of exceptionality. Mental, hearing, vision, physical, speech, language handicaps. Learning disabilities. Autism. Emotional/behavior disorders. Giftedness. Study the related legal rights, policies, and education accommodations for students with disabilities. prereq: Psy 1001

CPSY 4314. Trauma-Informed Care Practices in Early Childhood. (; 3 cr. ; Student Option; Every Spring)
The course offers a unique experience for students to dig deeply into current research about trauma, resilience, and child development. Students will also have the opportunity to explore how, as practitioners, our ideas about best practice and quality care must be shaped by and around what we are learning about the lasting impact of trauma. Throughout the course, students will explore how race, class, and gender influence and intersect with our understanding of "best practice" as we help students develop a trauma-informed approach to working with children and families. This course offers students the opportunity to learn how theory influences practice in a variety of community settings that serve diverse populations. Students taking this course also have the option to enroll concurrently in CPSY 4315. CPSY 4315 is designed as a practicum experience to be taken concurrently with CPSY 4314. Students taking the course will be able to work in a community setting with children ages 0-5. Students will collaborate with teachers who are experts in working with children and families who have experienced trauma. CPSY 4315 offers students the opportunity to put theory into practice in a community setting that serves a diverse population.

CPSY 4315. Practicum in Early Childhood Trauma-Informed Care. (; 2 cr. ; S-N only; Every Spring)
This course is designed as a field-based practicum to be taken concurrently CPSY 4314. Students may not register only for 4315. Students taking the course will be able to work in a community setting with children ages 0-5. Students will collaborate with teachers who are experts in working with children and families who have experienced trauma. The course, in conjunction with CPSY 4314, offers a unique experience for students to dig deeply into current research about trauma, resilience, and child development and put that knowledge to immediate use in a quality early childhood education environment. Students will also have the opportunity to explore how, as practitioners, our ideas about best practice and quality care must be shaped by and around what we are learning about the lasting impact of trauma. Throughout the course, students will explore how race, class, and gender influence and intersect with our understanding of ?

best practice? as we help students develop a trauma-informed approach to working with children and families. This course offers students the opportunity to put theory into practice in a community setting that serves a diverse population.

CPSY 4329. Biological Foundations of Development. (; 3 cr. ; A-F or Audit; Every Spring)

Evolutionary theory and behavioral genetics applied to understanding of development of human behavior; formation of species-typical adaptive behavior and individual differences in infancy, childhood, and adolescence. prereq: CPSY 2301 / 3301 or equiv

CPSY 4331. Social and Personality Development. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Development of social relations and personality; research, methodology, and contrasting theoretical perspectives. Survey of findings on interpersonal relationships, the concept of self, prosocial and antisocial behavior, and acquisition of social roles. prereq: CPSY 2301 / 3301 or equiv

CPSY 4336. Development and Interpersonal Relationships. (3 cr. ; A-F or Audit; Every Fall)

Processes and functions of interactions with personal relationships across the lifespan; analysis of theory and research on developmental changes and influences.

CPSY 4341. Perceptual Development. (; 3 cr. ; Student Option; Every Fall)

Study how children learn to perceive and experience the world. Explore different approaches to studying brain function and the development of the sensory and perceptual systems and processes with focus on infant perception and the neurobiology of how the senses work. Cover a variety of developmental disorders of sensation and perception: learn about normal brain function by studying abnormal brain function. prereq: CPSY 2301 / 3301 or equiv

CPSY 4343. Cognitive Development. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to the scientific study of cognitive development (children's thinking) from infancy through adolescence. Focus on research and practical applications. Specific topic areas include infant perception and cognition, attention and memory development, language and symbolic thinking, social cognition, executive function. prereq: CPSY 2301 or 3301 or equivalent

CPSY 4345. Language Development and Communication. (; 3 cr. ; A-F or Audit; Every Spring)

How do children acquire language? Learn about acquisition of phonology (the sound system of the language), semantics (the meaning of units in the language), syntax (the structure of sentences), morphology (the structure of words, phrases, and sentences), and pragmatics (language use). Study English learning along with the acquisition of other spoken and signed languages. prereq: CPSY 2301 / 3301 or equiv

CPSY 4347W. Child Psychology Capstone.

(WI; 3 cr. ; A-F or Audit; Every Fall & Spring) Synthesize important themes and concepts from the CPSY undergraduate experience. Use knowledge of developmental psychology and research methods to complete various capstone assignments throughout the course. Students may find and evaluate high-quality empirical articles; write a literature review; create a hypothesis and design a behavioral coding system; work with peer research partners to collect data in the Lab School; and/or present work to peers and instructors in a professional format. Prereq: Senior and completion of CPSY 3308W (or approved equiv)

CPSY 4994. Directed Research in Developmental Psychology. (; 1-4 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Serve as an Research Assistant in an Institute of Child Development faculty lab. Help plan/ implement/document scientific studies and gain experience in research methodology. Duties vary based on lab and faculty projects that term, and are individually arranged with corresponding faculty and lab representatives. To register: students must first secure their own placement in a faculty research lab; see ICD website and departmental advisor for assistance. Students then submit completed contract to CPSY advisor for a permission number to register.

CPSY 4994V. Directed Research in Child Psychology (Honors Thesis). (WI; 1-6 cr. ; Student Option; Every Fall, Spring & Summer) Individual empirical investigation. Students help plan/implement scientific studies while gaining experience/expertise in research methodology. prereq: 4 cr in CPsy, CPsy honors, instr consent, dept consent

CPSY 4996. Field Study in Child Psychology. (; 1-4 cr. [max 12 cr.] ; S-N or Audit; Every Fall, Spring & Summer)

Students secure an internship / volunteer / work opportunity in the community with children. Corresponding online coursework includes written reflections, journals, and career development activities. Credits are variable based on hours at your site. Students must submit a completed field study contract to the CPSY advisor in order to register.

CPSY 5171. Field Experience: Applying Instructional Methods in the Elementary School. (2 cr. ; S-N only; Every Fall)

Field Experience: Applying Instructional Methods in Elementary School is a semester long, full day experience during which teaching candidates gradually increase teaching responsibilities through observation and guided practice in an elementary (grade K-3) classroom, in a co-teaching model. The field experience is taken in connection with the Elementary Methods Teaching Block. Methods course teaching assignments are done during the field experience.

CPSY 5181. Clinical Experience in Elementary School Teaching. (10 cr. [max 20 cr.] ; S-N or Audit; Every Fall, Spring & Summer)

Students spend full days in the elementary classroom gradually assuming responsibility for teaching the class. Students prepare a portfolio based on criteria given. One seminar per week.

CPSY 5187. Capstone Project: Improvement of Teaching in Early Childhood Education.

(2 cr. ; Student Option No Audit; Every Spring) This is the capstone for teaching candidates in the M.Ed. in Early Childhood Education. Students will complete an in-depth reflective teaching portfolio and parallel assignments. The course requires demonstration of the linking of child development theory, knowledge of developmentally appropriate teaching, and reflective practice. prereq: Completion of all requirements for Early Childhood Teacher Licensure, other than CI 5181, which is taken concurrently.

CPSY 5241. Field Experience in Early Childhood Education. (; 3 cr. ; A-F only; Every Fall & Spring)

This course offers a great introduction to the early childhood experience for those interested in working with young children. Helpful first course to explore Early Childhood major (can also count in CPSY BA). Students will review early development and learn how this knowledge is applied in educational and early care settings. Spend time observing early childhood programs through field experiences around the city.

CPSY 5251W. Social and Philosophical Foundations of Early Childhood Education.

(WI; 3 cr. ; A-F only; Every Fall) This course traces the history of early childhood education from Plato to the present, as well as explores various program models and the standards movement, including the Minnesota Early Learning Indicators. The course includes lecture, discussion, videos and vignettes, assignments, and requires students to begin developing a personal teaching philosophy. It is also a writing intensive course which incorporates writing instruction and professional writing expectations throughout all course assignments and activities.

CPSY 5252. Facilitating Social and Emotional Learning in Early Childhood Education. (3 cr. ; A-F only; Every Spring)

This course explores social and emotional development throughout the early childhood (0-8) years. Explore the variety of ways that social interactions and emotional understanding occur in young children with a special emphasis on the role of adults in facilitating these processes. Students will encounter a blend of theory and application as they learn to promote children's mental health, understand special circumstances such as trauma, and respond to challenging behaviors across early learning settings. prereq: CPSY 2301 or equiv or inst consent. For Early Childhood or ECSE students.

CPSY 5253. Facilitating Cognitive and Language Learning in Early Childhood Education. (; 3 cr. ; A-F only; Every Fall)

This is a required methods course for students in the Early Childhood Education major (Licensure and Individualized-Studies Tracks) and the Early Childhood Education Initial

Licensure Program. It is intended to prepare students to work with and teach typically and non-typically developing children from birth to age 8. Through lecture, videos, small group projects, hands-on exploration of materials and actual implementation of course principles with children, students will practice and learn to: -carefully observe children to identify their individual learning characteristics. -assess children's developmental characteristics in the cognitive and language domains. -plan relevant and appropriate curriculum to foster growth and development in the areas of cognition, language, and literacy. -write goals and lesson plans focusing on the curriculum areas of math, science, language and literacy. -document and reflect on children's learning and development. prereq: CPSY 2301 or equiv or inst consent. For Early Childhood or ECSE students.

CPSY 5254. Facilitating Creative and Motor Learning in Early Childhood Education. (2 cr. ; A-F only; Every Spring)

Learn how young children develop creativity and motor skills from birth - age 8. Engage in hands-on exploration of creative classroom materials and reflection. Complete action-oriented and applied assignments with small groups of children in early childhood education settings. prereq: CPSY 2301 or equiv or inst consent. For Early Childhood and ECSE students.

CPSY 5261. Early Learning in Infancy and Toddlerhood. (3 cr. ; Student Option; Periodic Summer)

This course provides an understanding of infant and toddler development. It offers multiple perspectives and current research related to the timetable of infant and toddler development, as well as the role of caregivers, environment, and culture in development. Special attention will be given to policies/programming that concern infants, toddlers, and their families. Students will be expected to understand the nuanced and varied ways in which development unfolds, including areas of exceptionalities, as well as explore the roles of professionals and community members in supporting infant and toddler development.

CPSY 5281. Student Teaching in Early Childhood Education. (6-8 cr. ; S-N or Audit; Every Fall & Spring)

Student teaching plus weekly seminar for students pursuing the Early Childhood teaching licensure. Application of theory/research relating to teaching preschool children. Student teach either 5 mornings per week (7:45-12:30) for 8 credits or 3 afternoons per week (11:45-4:30) for 6 credits. In addition, ALL students participate in weekly (Fridays 12:30-2) seminars. Prereq: Early Childhood or ECSE student plus successful completion of CPSY 5241, 5252, 5253, and 5254.

CPSY 5301. Advanced Developmental Psychology. (3 cr. ; A-F or Audit; Every Fall & Summer)

This course is an exploration of life span development through the lenses of social, cultural, cognitive, biological, and learning theories and research. A primary emphasis of the class is on gaining better conceptual

understanding of different perspectives on healthy development in order to support informed practical understanding of how to help children, adolescents, and adults progress through the developmental periods and to help them with the challenges they face across their lifespan. This course is intended for graduate students. Undergraduate students should take CPSY 2301 or 3301 and not also 5301.

CPSY 5302. Cognitive and Biological Development. (3 cr. ; Student Option; Every Fall)

This course concerns the development and function of thinking skills throughout the lifespan, touching upon several aspects of what makes humans unique. How are humans able to perceive, evaluate, interpret, infer, remember, symbolize, plan, evaluate, problem solve, and hypothesize? What influences the very emergence of such abilities and the nature of their function? What obstacles interfere with the development or the quality of cognitive processes? Brain development and other biological factors, and our relationships and other environmental factors influence our thinking and its development. Throughout this course, we will discuss how knowledge about cognitive development can influence our work with children, adolescents, and adults, in daily life, professional practice, and public policy. Among the many applications of our knowledge of cognitive development, in this course we will focus on select examples relevant to parenting, education, and media exposure, and on topics initiated by students. The course will address individual differences and cultural differences in cognitive development, and how knowledge about variation in 'typical' cognitive development provides an important foundation for understanding atypical cognitive development.

CPSY 5303. Social and Emotional Development. (3 cr. ; Student Option; Every Spring)

What are the roots of becoming who we are, as individuals in society? What roles do others (parents, siblings, peers, teachers, and communities) -- play in the socialization of an individual, and how stable are the forces and outcomes of these influences? This course focuses on social development throughout the human lifespan, with an emphasis on how biology, culture, and relationships influence that development. Throughout this course, we will discuss how knowledge about social development can inform our interpretation of social issues and guide our reaction to them, in terms of behaviors, practices, and public policy. Among the many possible applications of social development, we focus in particular (but not exclusively) on positive psychology, widespread social problems such as poverty and social disparities, and prevention science. We emphasize individual differences in social development, and attend to the interplay between social development and cognition, learning, and biological development.

CPSY 5304. Research Methods in Applied Child and Adolescent Development. (3 cr. ; Student Option; Every Fall)

Applied child and adolescent development research builds upon on traditions of general, clinical, developmental, and educational psychology research, while focusing on efforts to address social needs, social problems, and public policy. Knowledge of scientifically sound and effective approaches to studying social problems and solutions will support those individuals who lead, contribute to, or use research. That is, knowledge gained from this course will support your development as an investigator or research associate, and it will also empower your role as a savvy consumer of the research you intend to apply to practice or policy.

CPSY 5306. Ethics and Professionalism in Applied Child and Adolescent Development. (2 cr. ; A-F only; Every Fall)

This course concerns ethical principles, issues, and codes relevant to research and practice in applied developmental psychology. These ethical considerations pertain to the work of professionals and researchers in communities, school, medical, and social agencies that serve children, youth, families, and adults. Throughout the course, we will consider the general principles that guide ethical behaviors and decision-making across settings, unique issues that might arise in specific settings, and the roles served by formal codes of conduct. We also consider the roots of ethical thinking, behavior, and decision-making, and the social and cultural influences on individual's developing sense of ethics.

CPSY 5413. Early Childhood and Public Policy. (3 cr. ; Student Option; Every Fall)

State, federal, and international policies and legislative activity touching first five years of a child's life. Family, community, and institutional roles in promoting children's social, cognitive, and emotional development. Issues related to health, mental health, poverty, developmental delays, and special needs.

CPSY 5501. Foundations in Infant and Early Childhood Mental Health I. (3 cr. ; A-F only; Fall Odd Year)

History, theory, research, concepts, and issues in infant mental health. Issues pertinent to difficulties in development. Readings, visual material. Expert guest lectures. prereq: [Baccalaureate degree in an early-childhood-related field from an accredited U.S. institution or documented equiv], experience in early childhood [research or practice]

CPSY 5503. Development and Psychopathology in Early Childhood. (3 cr. ; Student Option; Every Spring)

History, theory, research, concepts, and issues in infant mental health. Typical development. Difficulties in development. Expert guest lectures. Readings, visual material. prereq: 5501 or enrolled in MA program or IECMH graduate minor

CPSY 5506. Infant Observation Seminar I. (1 cr. ; S-N only; Spring Odd Year)

How an infant develops in context of family relationships over a 9-12 month period. Students observe an infant for one hour a week, write a narrative, and discuss observations.

CPSY 5508. Infant Observation Seminar II.

(; 1 cr. ; S-N only; Summer Odd Year)

How an infant develops in context of family relationships over a nine- to twelve-month period. Students observe an infant for one hour a week, write a narrative, and discuss observations.

CPSY 5511. Infant Observation Seminar III.

(; 1 cr. ; S-N only; Fall Even Year)

How an infant develops in context of family relationships over 9-12 month period. Students observe an infant for one hour a week, write a narrative, and discuss observations.

CPSY 5513. Early Childhood Assessment.

(; 3 cr. ; Student Option; Every Summer)

The course introduces processes and evidence-based methods of early childhood assessment and diagnosis from a developmental, multi-disciplinary framework. prereq: CPSY 5503 or instructor permission

CPSY 5518. Prevention and Intervention in Early Childhood: Principles.

(; 3 cr. ; A-F only; Every Fall)

Students design prevention/intervention programs and apply evidence-based strategies in workplace/practicum settings. Readings, in-class reflective practice groups. prereq: CPSY 5513

CPSY 5521. Prevention and Intervention in Early Childhood: Practice.

(; 3 cr. ; A-F only; Spring Odd Year)

Students design prevention/intervention programs and apply evidence-based strategies in workplace/practicum settings. Readings, in-class reflective practice groups.

CPSY 5523. Reflective Practice I.

(; 1 cr. ; S-N only; Every Fall)

The capacity to reflect on one's own behavior, thoughts, feelings, and implicit biases, and those of others, is among the essential competencies of infant and early childhood professionals. Reflective practice is a distinctive component of professional training designed to facilitate the development of self-awareness, perspective-taking, and the ability to work effectively across disciplines, cultures, and contexts. This course offers students the opportunity to explore elements of reflective practice, experience, and build their own reflective capacity. Students will integrate these competencies and IECMH coursework with their professional experience and goals in order to provide high quality services to young children and their families and leadership in the field of infant mental health.

CPSY 5525. Reflective Supervision in Infant and Early Childhood Mental Health: Clinical.

(; 1 cr. ; S-N only; Spring Even Year)

Principles and strategies of reflective supervision/consultation. Discussion, final assignment designated by instructor.

CPSY 5601. Child Life Theory, Practice and Program Development.

(; 3 cr. ; A-F only; Every Spring)

With a strong foundation in the theory and science of child development, Child Life Specialists promote effective coping for children experiencing the stress and uncertainty of illness, injury, disability, and

hospitalization. Child Life Specialists translate the theory of developmental science into practice and advocate for patient- and family-centered care in medical settings. This course will provide an overview of history, fundamental theories, relevant research, and application of the Child Life Professional Practice. The Official Documents of the Child Life Council (2011) will be analyzed as a source of guiding principles for professional practice. An introduction to Child Life program development is also examined in this course. This course must be taken prior to a child life internship.

CPSY 5602. Developmental Perspectives on Illness and Injury in Healthcare.

(; 3 cr. ; A-F only; Every Spring)

With a strong foundation in the theory and science of child development, Child Life Specialists promote effective coping for children experiencing the stress and uncertainty of illness, injury, disability, and hospitalization. Child Life Specialists translate the theory of developmental science into practice and advocate for patient- and family-centered care in medical settings. This course will provide an overview of developmental theories as they apply to children and adolescents experiencing illness and injury in healthcare. Child Life preparation, relaxation interventions, and patient support practices for ill children will be examined.

CPSY 5603. Therapeutic Play for Child Life Practice.

(; 3 cr. ; A-F only; Every Summer)

With a strong foundation in the theory and science of child development, Child Life Specialists promote effective coping for children experiencing the stress and uncertainty of illness, injury, disability, and hospitalization. Child Life Specialists translate the theory of developmental science into practice and advocate for patient- and family-centered care in medical settings. This course will provide an overview of the theoretical framework of play across childhood development and its role within pediatric healthcare settings and Child Life practice. Students will gain a professional understanding of therapeutic play interventions essential for facilitation of children's coping and adjustment in various healthcare experiences.

CPSY 5604. Therapeutic Relationships: Supporting Children in Healthcare.

(; 3 cr. ; A-F only; Every Fall)

With a strong foundation in the theory and science of child development, Child Life Specialists promote effective coping for children experiencing the stress and uncertainty of illness, injury, disability, and hospitalization. Child Life Specialists translate the theory of developmental science into practice and advocate for patient- and family-centered care in medical settings. This course will provide an overview of the role of Child Life professionals in therapeutic relationships with patients, caregivers and families. The theoretical foundations of therapeutic relationships will be examined and students will gain a working knowledge of the philosophies and principles underpinning patient and family-centered care.

CPSY 5605. Childhood Death and Bereavement.

(; 3 cr. ; A-F only; Every Spring)

With a strong foundation in the theory and science of child development, Child Life Specialists promote effective coping for children experiencing the stress and uncertainty of illness, injury, disability, and hospitalization. Child Life Specialists translate the theory of developmental science into practice and advocate for patient- and family-centered care in medical settings. This course will provide an overview of the fundamental theories of children's concept of death and the grief process across development. Students will gain an understanding of how Child Life Specialists collaborate with multidisciplinary care teams to support and provide culturally competent care to pediatric patients and their families at end-of-life and bereavement.

CPSY 5981. Cross-Cultural Experiences in Education and English Teaching in Brazil.

(GP; 12 cr. [max 24 cr.] ; S-N only; Periodic Fall & Spring)

This course provides an experiential introduction to the process of learning and teaching a second language to young children in an international setting. Students will engage in inquiry, planning, classroom teaching and reflection as they participate on a team developing curriculum in a partial day English immersion classroom. Through readings, videos, a homestay experience, small group projects, classroom observations, and participation as part of a team of English teachers in Brazil, students will gain an introduction to Brazilian culture, learn the basics of the local education system, and experience firsthand what it is like to learn a new language. Students will next be exposed to some of the basic elements of early childhood second language teaching, will help to plan and co-deliver relevant and appropriate curriculum, write lesson plans and engage in reflective practice with their teaching team. Finally, because of the cultural immersion element of the class, students will be supported to 1) reflect on their personal cultural adjustment process, 2) develop an effective working relationship with their co-teachers, and 3) consider the ethical dilemma present in the provision of educational opportunity to Brazil's marginalized communities.

CPSY 5991. Independent Study in Child Development.

(1-12 cr. [max 24 cr.] ; Student Option No Audit; Periodic Fall & Spring)

Independent study arranged with child development faculty member.

CPSY 5996. Field Experience in Applied Child and Adolescent Development.

(1-12 cr. [max 24 cr.] ; S-N only; Periodic Fall, Spring & Summer)

Emphasizes field experiences focusing on the development of children and adolescents as individuals or members of groups; may include interactions with children and adolescents in natural settings, or research on applied topics or with atypical populations.

China Executive MBA (CHMB)

CHMB 5800. Organizational Behavior. (; 3 cr. ; A-F only; Every Fall)

Theories/frameworks for analyzing behavior of individuals, groups, and the organization itself. Emphasizes making decisions and developing action plans that enable managers to provide effective leadership. Personnel selection, reward/compensation systems, collective bargaining.

CHMB 5801. Financial Accounting. (; 3 cr. ; A-F only; Every Fall)

External accounting system used by firms to measure their economic performance and financial position. Students analyze corporate financial reports to discover impact of significant economic events. Rise of financial reporting standards and financial intermediaries in efficient allocation of capital in a modern economy. Discussions, cases.

CHMB 5802. Statistics and Decision Making. (; 3 cr. ; A-F only; Every Fall)

Exploratory data analysis, basic inferential procedures, statistical process control, regression analysis.

CHMB 5803. Operations Management. (; 3 cr. ; A-F only; Every Fall)

How to manage operations function in manufacturing/service organizations. Emphasizes strategic impact of operations decisions. Operations strategy, process design, productivity improvement, quality management, business process re-engineering, service quality, forecasting, demand management, inventory management, production planning, project management, scheduling, supply chain management, international operations management.

CHMB 5804. Managerial Accounting. (; 3 cr. ; A-F only; Every Spring)

How to analyze accounting for use in management decisions. Planning and control. Transfer pricing, performance measurements, cost behavior, cost allocation, activity based costing, standard costs.

CHMB 5805. Financial Management. (; 3 cr. ; A-F only; Every Spring)

Theory/practice of finance from analytical approach. Students apply basic financial concepts of risk, return, and valuation to decisions that a corporate financial officer or person engaged in small business must make about sources/uses of funds during changing financial markets.

CHMB 5806. Marketing Management. (; 3 cr. ; A-F only; Every Spring)

Developing/implementing most appropriate combination of variables to carry out a firm's strategy in its target markets. Applying analytic perspectives, concepts, and decision tools of marketing to decisions in product offering, distribution, pricing, and communication.

CHMB 5807. Business Strategy. (; 3 cr. ; A-F only; Every Spring)

Formulating strategy for an enterprise. Shaping mission, product-market choice, and organizational character. Shaping allocation of resources to meet organizational circumstances and conflicting stockholder interests. Situational analysis, strategy development. Written/

oral presentation of strategic analyses/recommendations.

CHMB 5808. Strategic Marketing. (; 3 cr. ; A-F only;)

Product markets in which an organization should compete. Sustainable competitive advantage that should be developed. Matching marketing strategy with the environment. Coordination between marketing and other business functions. Organization/management of marketing. Case studies.

CHMB 5809. Advanced Financial Management. (; 3 cr. ; A-F only;)

Executive level corporate financial policy. Students are challenged to apply basic principles of finance on their own initiative. Rigorous case-oriented approach.

CHMB 5810. International Environment. (; 1.5 cr. ; A-F only; Every Fall)

How to develop an integrative framework for dealing with international activities of a newly exporting company or a full-fledged multinational. How international environment constrains decision-making, how currency prices are determined, and how to manage exchange risk in coordination with strategic choices of the firm. prereq: China Executive MBA student

CHMB 5811. Information Technology Management. (; 3 cr. ; A-F only;)

Managing information resources/technology. Students gain exposure to various information technologies, examine their applications, explore competitive advantages associated with information technology, and address organizational/managerial implications.

CHMB 5813. Ethics and Leadership. (; 3 cr. ; A-F only; Every Fall & Spring)

Role that ethics can play in corporate strategy. Key concepts include stakeholder management, individual/collective responsibility, and international business ethics. Theoretical considerations applied to issues such as a business's responsibility to the environment, truthful/tasteful advertising, obligations to local community, and managing a diverse workforce.

CHMB 5815. International Human Resources Management. (; 3 cr. ; A-F only; Every Spring)

Topics reflect the strengths, talents, and interests of the class. Integrates different aspects of the curriculum while not being limited by a specific area or paradigm.

CHMB 5816. International Residency. (6 cr. ; A-F only; Every Fall & Spring)

Students travel to an international location for 11 days and engage in discussions with international colleagues, apply program concepts, and develop a broader sensitivity to cultural/social differences. Pre-trip preparation, on-site discussion, and trip assignment are required.

CHMB 5817. China's Economy. (; 1.5 cr. ; A-F or Audit; Every Spring)

Focusing on China's economy, this course is designed as a required course for all China Executive MBA students. prereq: China Executive MBA student

CHMB 5818. Law and Business. (; 3 cr. [max 6 cr.] ; A-F only; Every Spring)

Legal/regulatory environment of business operations in China.

Chinese (CHN)

CHN 1011. Beginning Modern Chinese I. (; 5 cr. [max 6 cr.] ; Student Option No Audit; Every Fall & Summer)

Speaking/reading modern standard Chinese through structured practice.

CHN 1012. Beginning Modern Chinese II. (; 5 cr. ; Student Option No Audit; Every Spring & Summer)

Speaking/reading modern standard Chinese through structured practice. prereq: 1011 or equiv or instr consent

CHN 1015. Accelerated Beginning Modern Chinese. (; 5 cr. ; Student Option No Audit; Every Fall)

Mandarin Chinese. Reading, writing, standard pronunciation. Meets with 4005. prereq: Oral/aural skills or speaker of other Chinese dialect recommended

CHN 3016. Accelerated Intermediate Modern Chinese. (; 5 cr. ; Student Option No Audit; Every Spring)

Continuation of CHN 1015. Mandarin Chinese course designed primarily for students with oral/aural skills but with little or no exposure to reading and writing. Also for speakers of other Chinese dialects and others with prior experience. Concentration on reading, writing, and standard pronunciation. Equivalent to two semesters, Chinese 3021-3022. Upon completion, student may enter Advanced Modern Chinese, Chinese 3031. prereq: 1012 or 1015; oral/aural skills or speaker of other Chinese dialect recommended

CHN 3021. Intermediate Modern Chinese I. (; 5 cr. ; Student Option No Audit; Every Fall)

Modern standard Chinese skills developed further through conversations, writing, reading. prereq: 1012 or 1015 or equiv or instr consent

CHN 3022. Intermediate Modern Chinese II. (; 5 cr. ; Student Option No Audit; Every Spring)

Modern standard Chinese skills developed further through conversation/reading. prereq: 3021

CHN 3031. Advanced Modern Chinese I. (4 cr. ; Student Option No Audit; Every Fall)

Reading/analysis of 20th-century texts. prereq: 3022 or equiv or instr consent

CHN 3032. Advanced Modern Chinese II. (4 cr. ; Student Option No Audit; Every Spring)

Reading/analysis of 20th-century texts. prereq: 3031 or equiv or instr consent

CHN 3100. Topics in Chinese. (; 1-4 cr. [max 12 cr.] ; Student Option No Audit; Periodic Fall & Spring)

Topics specified in course guide.

CHN 3161. Movies in Modern China. (; 3 cr. ; Student Option No Audit; Periodic Summer)

Taught entirely in Chinese, this course introduces students to modern Chinese cinema. Each week, students will view and discuss Chinese movies (without subtitles)

and learn the basic concepts of film studies, historical movements in Chinese cinema, key filmmakers in China, and how Chinese social issues are represented in the movies. This course is designed for students who have completed Chinese immersion school or have advanced proficiency in listening, reading, speaking, and writing in Mandarin Chinese. Not open to native Chinese speakers, except under special circumstances. prereq: CHN 3032 or permission of instructor. Lectures and assignments are primarily online with one class meeting per week on the UMN campus.

CHN 3201. Chinese Calligraphy. (; 2 cr. ; Student Option; Every Fall & Spring)
Appreciation and execution of Chinese calligraphy through guided practice.

CHN 3202. Intermediate Chinese Calligraphy. (; 2 cr. ; Student Option; Every Spring)
Advanced techniques of composing Chinese characters using regular style of Chinese calligraphy. prereq: 3201 or instr consent

CHN 3203. Advanced Chinese Handwriting. (2 cr. ; Student Option; Every Spring)
This course is designed for students participating in the Chinese Flagship program who have already completed CHN 3201 (Chinese Calligraphy). Students with a Chinese language background may also enroll with the instructor's permission. The course will be taught in Mandarin Chinese. Students will learn the proper methods of composing a Chinese character using pen/pencil. With this foundation, they will advance to writing ancient poetry, couplets, and classical and modern essays. As students learn to write beautiful characters in these texts, they will also gain a better understanding of Chinese culture and literature. Students will also have the opportunity to read and recognize characters written in the Running Script and Casual Script. A deeper understanding of the intricacies in written script allows students to better appreciate the beauty of Chinese literature and engage with its diverse philosophies.

CHN 3290. Chinese Language Teaching Tutorial. (; 1 cr. [max 2 cr.] ; S-N only; Every Fall & Spring)
Students tutor beginning students of Chinese and are part of department's Chinese language team. prereq: Grade of A in 3032

CHN 3920. Topics in Chinese Culture. (; 1-2 cr. [max 6 cr.] ; Student Option No Audit; Every Fall, Spring & Summer)
Selected topics in Chinese culture. Topics specified in the Class Schedule.

CHN 3993. Directed Studies. (1-5 cr. [max 15 cr.] ; Student Option No Audit; Periodic Fall, Spring & Summer)
Guided individual study of Chinese language or linguistics. prereq: instr consent, dept consent, college consent

CHN 4001. Beginning Modern Chinese I for Graduate Student Research. (; 5 cr. [max 6 cr.] ; Student Option No Audit; Every Fall & Summer)
Speaking/reading modern standard Chinese through structured practice. Meets with 1011.

CHN 4002. Beginning Modern Chinese II for Graduate Student Research. (; 5 cr. [max 6 cr.] ; Student Option No Audit; Every Spring & Summer)
Speaking/reading modern standard Chinese through structured practice. Meets with 1012. prereq: 4001

CHN 4003. Intermediate Modern Chinese I for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Fall & Summer)
Modern standard Chinese skills developed through conversations, writing, reading. Meets with 3021. prereq: 4002

CHN 4004. Intermediate Modern Chinese II for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Spring)
Modern standard Chinese skills developed through conversation/reading. Meets with 3022. prereq: 4003

CHN 4005. Accelerated Beginning Modern Chinese for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Fall)
Mandarin Chinese. Reading, writing, standard pronunciation. prereq: Grad student, instr consent; oral/aural skills or other Chinese dialect recommended

CHN 4006. Accelerated Intermediate Modern Chinese for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Spring)
Continuation of CHN 1015/4005. Mandarin Chinese course designed primarily for students with oral/aural skills but with little or no exposure to reading and writing. Also for speakers of other Chinese dialects and others with prior experience. Concentration on reading, writing, and standard pronunciation. Equivalent to two semesters, Chinese 3021-3022. Upon completion, student may enter Advanced Modern Chinese, Chinese 3031. prereq: 1012 or 1015; oral/aural skills or other Chinese dialect recommended

CHN 4007. Advanced Modern Chinese I for Graduate Student Research. (4 cr. ; Student Option No Audit; Every Fall)
Reading and analysis of 20th-century texts. Meets with 3031. prereq: 4004

CHN 4008. Advanced Modern Chinese II for Graduate Student Research. (4 cr. ; Student Option No Audit; Every Spring)
Reading and analysis of 20th-century texts. Meets with 3032. prereq: 4007

CHN 4021. Flagship Chinese for Academic Purposes. (2 cr. ; A-F only; Every Fall)
This content-based instruction course focuses on using the target language (standard Mandarin) properly in academic and professional social settings, and it is designed to prepare Chinese Flagship students for their direct enrollment courses during their capstone year in China. Students will apply Chinese to topics in their major, including writing academic essays and giving professional presentations on specific topics within their domain. Instructor consent required.

CHN 4022. Flagship Chinese for Professional Purposes. (2 cr. ; A-F only; Every Spring)

This course prepares Chinese Flagship students for their internship experience in China during their capstone year. Taught entirely in Mandarin Chinese, students explore various job-searching sites, create their own resume and cover letter in Chinese, and participate in mock job interviews for careers pertaining to their professional interests. Students perform basic tasks within their own work area and collaborate with peers from other Flagship universities to complete group work projects. Chinese business etiquette and culture are also embedded in the curriculum.

CHN 4040. Chinese Content-Based Instruction. (; 1-3 cr. [max 9 cr.] ; S-N or Audit; Every Fall & Spring)
This course is designed for students of advanced Chinese (CHN 4041 and above) especially students in the Chinese Flagship program. It is intended to bridge their language learning experience to the cultural studies courses on modern Chinese literature, visual culture, popular music, and contemporary Chinese society (ALL 3336, 3337, and others). Content-based instruction addresses Chinese creative and cultural production as contextualized by the Cultural Revolution, during and after the Mao era, China's "opening and reform" as well as by the commercialization and globalization of culture. Taught primarily in Mandarin Chinese, the course focuses on the discussion of materials and issues, not reading of texts. Students will be provided with bilingual materials, including vocabulary lists and original texts to aid the discussions. Not open to native Chinese speakers, except under special circumstances. Permission of Instructor.

CHN 4041. Advanced Readings in Modern Chinese I. (4 cr. ; Student Option; Every Fall)
Writings of different styles. Short stories/essays written since 1949 that reflect Chinese society. Internet writing, use of language. Writings reflection of contemporary Chinese society, its culture/philosophies. prereq: 3032 or instr consent

CHN 4042. Advanced Readings in Modern Chinese II. (4 cr. ; Student Option; Every Spring)
Writings of different styles. Short stories/essays written since 1949 that reflect Chinese society. Internet writing, use of language. Writings' reflection of contemporary Chinese society, its culture/philosophies. prereq: 3032 or instr consent

CHN 4393. Chinese Content-Based Instruction. (1-3 cr. [max 9 cr.] ; Student Option No Audit; Periodic Fall, Spring & Summer)
This course is designed for students of advanced Chinese (CHN 4041 and above) especially students in the Chinese Flagship program. It is intended to bridge their language learning experience to the cultural studies courses on modern Chinese literature, visual culture, popular music, and contemporary Chinese society (AMES 3336, 3337, and others). Content-based instruction addresses Chinese creative and cultural production as contextualized by the Cultural Revolution,

during and after the Mao era, China's "opening and reform" as well as by the commercialization and globalization of culture. Taught primarily in Mandarin Chinese, the course focuses on the discussion of materials and issues, not reading of texts. Students will be provided with bilingual materials, including vocabulary lists and original texts to aid the discussions. Not open to native Chinese speakers, except under special circumstances. Permission of Instructor. prerequisite: CHN 4041 or higher

CHN 5041. Media Chinese. (3 cr. ; A-F or Audit; Every Fall)

Conducted 100% in Mandarin Chinese, this course trains students to comprehend media Chinese by listening to and viewing Chinese television programs and online/ internet resources. Course content includes international and Chinese national news, social issues, historical events, and interpersonal relations relevant to modern Chinese society, history, and culture. Students must have taken 3-4 years of college-level Chinese or demonstrate the same level of Chinese proficiency.

CHN 5042. Contemporary Chinese Texts 1949-present. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Advanced Chinese language course focused on contemporary Chinese short stories, novelettes, and prose written since 1949, especially from 1978 to the present. These literary works explore various aspects of contemporary Chinese society, history, and culture including: social prejudices and discrimination against the mentally and physically disadvantaged, the Anti-Rightist Movement, the Cultural Revolution, the drug problem, male-female relationships, education, parental love (and lack thereof), traditional Chinese views of life, rape and sex, influence from the West, and more. Class discussion focuses on the use of the language, the social interpretation of the texts, and the Chinese cultural and philosophical implications found in those works. prereq: CHN 4042 or instructor consent. Recommended: CHN 5041

CHN 5211. Introductory Classical Chinese I. (3 cr. ; Student Option; Periodic Fall)

Reading excerpts from canonical Chinese texts. Transnational nature of Classical Chinese/its importance in study of East Asian cultures. Taught in English. prereq: Two years of an East Asian language (Chinese, Japanese, Korean) or equivalent or instr consent

CHN 5212. Introductory Classical Chinese II. (3 cr. ; Student Option; Periodic Spring)

Reading excerpts from canonical Chinese texts. Transnational nature of Classical Chinese/its importance in study of East Asian cultures. Taught in English. prereq: 5211 and two years of an East Asian language (Chinese, Japanese, Korean) or its equivalent or instr consent

CHN 5214. Classical Chinese Language and Culture. (3 cr. ; Student Option No Audit; Periodic Fall & Spring)

Classical Chinese, or literary Chinese, was the formal written language in China until the early 20th century, and also, during various periods, in Japan, Korea, and Vietnam. It is closely related to the modern Chinese language, especially for formal writing, and its literary heritage has laid the cornerstone of Chinese cultural values and worldviews. This class guides the students to comprehend the linguistic and cultural characteristics of classical Chinese, introduces them to key aspects of the tradition, and develops skills for translating classical Chinese into modern Chinese and English texts. The prerequisite is fourth-year Chinese (CHN 4042) or above. Please note that this class is entirely taught in modern Mandarin Chinese, although English study guides will be provided throughout the course.

CHN 5393. Directed Study. (1-5 cr. [max 18 cr.] ; Student Option; Every Fall & Spring)
Guided individual reading or study. Prereq-instr consent, dept consent, college consent.

Civil, Environ, and Geo-Engin (CEGE)

CEGE 1101. Introduction to Civil, Environmental, and Geo-Engineering. (1 cr. ; S-N only; Every Fall)

CEGE 1101 introduces students to the civil, environmental, and geo-engineering practice and the vital role these fields play in society. Presentations by professionals and faculty will explore the current and future challenges of the field, research areas, and career opportunities. Small group discussions with current CEGE majors will help students foster connections with peers and learn about the experience and opportunities in the Department of Civil, Environmental, and Geo- Engineering. prereq: Lower div

CEGE 1501. Environmental Issues and Solutions. (ENV,PHYS; 4 cr. ; Student Option; Every Fall & Spring)

Open to students from all colleges. Importance of science in understanding/solving various environmental problems. Case studies. Laboratory exercises. prereq: High school chemistry or equiv, one yr high school algebra

CEGE 3101. Computer Applications I. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Computer tools and computational methods for solving civil, environmental, and geo-engineering problems. Solving systems of linear/nonlinear equations, parameter estimation and engineering model fitting, numerical differentiation/integration, numerical solution of ordinary and partial differential equations. prereq: MATH 1372, PHYS 1301, CSE or instructor consent

CEGE 3102. Uncertainty and Decision Analysis. (3 cr. ; A-F or Audit; Every Fall & Spring)

Stochastic models, their usefulness in reasoning about uncertainty in civil, environmental, and geo-engineering. Techniques for identifying, fitting, and validating models using data samples. Testing

hypotheses about, and bounding uncertainty attached to, engineering parameters. Applications to civil, environmental, and geo-engineering. prereq: MATH 1372 or equiv

CEGE 3103. Engineering Ethics and Professional Practice. (1 cr. ; A-F only; Every Fall & Spring)

Introduction to ethical thinking, legal aspects of professional practice, codes of ethics for engineers, ethical problem-solving using case studies. Prereq: Civil Eng. or Environmental Eng. or Geoengineering Upper Division

CEGE 3111. CADD for Civil Engineers. (2 cr. ; A-F only; Every Fall & Spring)

Introduction to AutoCAD and Civil 3D software. Students complete all tasks to design two-lane roadways and subdivision using civil engineering design software, including topography, plan/profile, contours, cross sections, and quantity calculations. prereq: CEGE 3201

CEGE 3190. Curricular Practical Training Internship. (1 cr. [max 2 cr.] ; S-N only; Every Fall, Spring & Summer)

Work assignment involving advanced civil engineering. Reviewed by the director of undergraduate studies. Prereq: CE, EnvE, or Geo major

CEGE 3201. Transportation Engineering. (TS; 3 cr. ; A-F or Audit; Every Fall & Spring)

Applying laws of motion to vehicle performance, determining constraints for highway designs. Traffic flow principles, their relation to capacity and level of service. Geometric design, traffic control, pavement design, transportation planning. prereq: PHYS 1301, (CEGE 3101, CEGE 3102 can be taken concurrently)

CEGE 3202. Surveying & Mapping. (; 2 cr. ; A-F or Audit; Every Fall & Summer)

Theory of precision measurements of distance, elevation, angle, and direction of points/ lines above, on, or beneath earth's surface. Establishing such points/lines. Elements of coordinate systems, datum planes, and maps. prereq: MATH 1271, MATH 1272], [CSE or Construction Mgmt]

CEGE 3301. Soil Mechanics I. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Index properties and soil classification. Effective stress. Permeability and seepage. Elasticity theory. One-dimensional compression and consolidation; settlements. Compaction; cut and fill problems. prereq: upper division CSE, AEM 3031, CEGE 3101, or instructor consent

CEGE 3401. Linear Structural Analysis. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Analysis of determinate/indeterminate trusses and frames. Application of energy methods and virtual work technique in analysis of structural deformations. Force-based and displacement-based methods in analysis of indeterminate structures. Influence lines and critical load configurations. prereq: AEM 3031, upper division CSE or instructor consent

CEGE 3402. Civil Engineering Materials. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Concepts and modeling of behavior mechanisms for civil engineering materials such as concrete, masonry, metals, asphalt, plastics, and wood. Standard specifications for material properties. Techniques for testing. prereq: AEM 3031

CEGE 3501. Introduction to Environmental Engineering. (ENV; 3 cr. ; A-F or Audit; Every Fall & Spring)

A quantitative approach to environmental problems, including the development of mass and energy balances and the application of fundamental principles of environmental chemistry and microbiology. Meets the University of Minnesota's liberal education environment theme through the incorporation of environmental function, problems, and solutions throughout the course. prereq: Chem 1062, Phys 1302, Math 1372 or equivalent

CEGE 3502. Fluid Mechanics. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Fluid statics/dynamics. Kinematics of fluid flow, equations of motion, pressure-velocity relationships, viscous effects, boundary layers. Momentum/energy equations. Lift/drag. Flow in pipes and pipe systems. Hydraulic machinery. Fluid measurements. prereq: [AEM 2012 or AEM 3031], Math 2373, CEGE 3101

CEGE 3541. Environmental Engineering Laboratory. (3 cr. ; A-F only; Every Fall)

Laboratory-based course focused on physical, chemical, and microbiological measurements used in analysis of air, water, and solid samples. Applications include water quality, water treatment, wastewater treatment, hazardous waste treatment/remediation, air pollution, and environmental sensing. prereq: CEGE 3501

CEGE 4000H. Honors Research Seminar. (; 1 cr. [max 2 cr.]; A-F only; Every Fall & Spring)

Attend twelve (12) research seminars in civil, environmental, and geo-engineering given by faculty members and visiting scholars. Write and submit a summary of each attended seminar. Explicitly interact with four or more of the speakers. prereq: Upper div CE, EnvE, GeoE, Enrolled in the University Honors Program or instructor consent

CEGE 4101W. Project Management and Engineering Economics. (WI; 3 cr. ; A-F only; Every Fall & Spring)

Civil, Environmental, and Geo-engineering project management. Project planning, scheduling, and controlling. Project permitting. Financing, bidding, and contracts for public projects. Budgeting, staffing, task cost control. Critical path method and graphical project representations. Project management and leadership. Risk management. Engineering economics. Prerequisites: Civil Eng. or Environmental Eng. or Geoengineering upper division

CEGE 4102W. Capstone Design for Civil Engineering. (WI; 4 cr. ; A-F only; Every Fall & Spring)

Teams formulate/solve civil engineering problems. From conceptual stage through preliminary planning, public hearings, design, environmental impact statements, final plans/

specifications, and award of contracts. prereq: 4101W, 4301, 4401, 4501, 4502

CEGE 4103W. Capstone Design for Environmental Engineering. (WI; 4 cr. ; A-F only; Every Fall & Spring)

Team participation in formulation/solution of open-ended civil engineering problems, from conceptual stage through preliminary planning, public hearings, design, and environmental impact statements, to preparation of final plans/specifications and award of contracts. Prereqs: CEGE 4101W, 4501, 4502

CEGE 4104W. Capstone Design for Geoenvironmental Engineering. (WI; 4 cr. ; A-F only; Every Fall & Spring)

Team participation in formulation/solution of open-ended civil engineering problems, from conceptual stage through preliminary planning, public hearings, design, and environmental impact statements, to preparation of final plans/specifications and award of contracts. prereq: CEGE 4101W, CEGE 4121, CEGE 4311, CEGE 4351, ESCI 4501

CEGE 4121. Computer Applications II. (; 3 cr. ; A-F or Audit; Every Spring)

Advanced application of computer tools/methods in solving ordinary/partial differential equations from civil engineering problems. Spreadsheet, MatLab programming. Methods may include finite differences, boundary element, finite element, and control volume finite element. prereq: CEGE 3101, MATH 2373 or equivalent, MATH 2374 or equivalent, upper division CSE or instructor consent

CEGE 4160. Special Topics. (; 1-4 cr. [max 12 cr.]; A-F only; Periodic Fall & Spring)

Topics/credits vary. prereq: Upper div CSE

CEGE 4170. Independent Study I. (; 1-4 cr. ; Student Option; Every Fall)

Special studies in planning, designing, or analyzing civil engineering systems. Lab problems, literature studies, or reports supervised by staff. prereq: instr consent

CEGE 4180. Independent Study II. (; 1-4 cr. ; Student Option; Every Spring & Summer)

Special studies in the planning, design, or analysis of civil engineering systems. Individual lab research problems, literature studies, reports. Supervised by staff. prereq: instr consent

CEGE 4194. Directed Research. (1-4 cr. [max 16 cr.]; Student Option; Every Fall, Spring & Summer)

Special studies in planning, designing, or analyzing civil, environmental, and geo-engineering systems. Lab problems, literature studies, or reports supervised by staff. Prereq: Instructor Consent

CEGE 4201. Principles of Highway Design. (; 3 cr. ; A-F or Audit; Every Spring)

Vertical and horizontal alignment, cross-sections and earthwork computations, roadside design, highway capacity, impact of vehicle type on geometric design, intersection design, safety impacts of highway design. prereq: upper division CSE student, CEGE 3201 or instr consent

CEGE 4211. Traffic Engineering. (; 3 cr. ; A-F or Audit; Periodic Spring)

Principles of vehicle/driver performance as they apply to safe/efficient operation of highways. Design/use of traffic control devices. Capacity/level of service. Trip generation, traffic impact analysis. Safety/traffic studies. prereq: CEGE 3201, CEGE 3102 or equivalent, upper division CSE or instructor consent

CEGE 4214. Infrastructure Systems Engineering. (3 cr. ; A-F only; Every Fall)

The course introduces mathematical modeling methods such as convex or network optimization to formulate and solve civil engineering problems. Examples are motivated from emerging technologies such as sensing, shared mobility, etc. and computer tools are used to solve the problems. Prereqs: Math 2263 or equivalent, Math 2373 or equivalent, CEGE 3101 or equivalent, CEGE 3102 or equivalent

CEGE 4219. Air Transportation Systems. (3 cr. ; A-F only; Every Fall)

This course provides an overview of the civil air transportation system design and operations. After completing this course, you should be able to describe the operations of civil transport aircraft from the pilot and company, and air traffic control perspectives; conduct basic economic analysis on airline operations and demand; conduct capacity analysis for airspace and airports; and conduct basic optimization for air transportation operations. This course will prepare students for working with the civil aviation industry. Prereqs: CEGE 3101, CEGE 3102, MATH 2263, PHYS 1301

CEGE 4253. Pavement Design, Engineering, and Management. (; 4 cr. ; A-F or Audit; Every Spring)

History of road construction, pavement types, traffic, and environmental loading. Subgrade materials, aggregates, asphalt concrete, and Portland cement concrete. Flexible pavement analysis and rigid pavements analysis. Structural design of flexible pavements and structural design of rigid pavements. Flexible pavements construction and rigid pavements construction. Distresses, maintenance, and rehabilitation of pavement systems. Assessment of pavement condition. Needs analysis and rehabilitation and maintenance strategies. Time value of money and life cycle cost analysis. prereq: [3201, 3301, 3402, upper div CSE] or grad student or instr consent

CEGE 4301. Soil Mechanics II. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Traction and stress. Mohr-Coulomb failure criterion. Experiments on soil strength. Earth pressure theories, rigid/flexible retaining walls. Stability of slopes. Bearing capacity of foundations. prereq: CEGE 3301, upper div CSE, or instr consent

CEGE 4311. Rock Mechanics. (; 4 cr. ; A-F or Audit; Every Fall)

Site investigation/classification. In-situ stresses. Strength/failure criteria of rock/interfaces. Stereographic projections. Kinematic analysis of rock slopes. Block size/stability. Reinforcement. Methods of stress analysis. Pillar design, stiffness effects. Elastoplastic

analysis. Rock-support interaction. Numerical modeling of support systems. Lab testing of rock. prereq: CECE 3301 or instr consent

CECE 4351. Groundwater Mechanics. (; 3 cr. ; A-F or Audit; Every Fall)

Shallow confined, unconfined, and semi-confined flows. Flow in two coupled aquifers separated by leaky layers. Transient flow. Flow toward wells. Streamlines/pathlines in two/three dimensions. Contaminant transport. Elementary computer modeling. prereq: CECE 3101 or BBE 2003, CECE 3502 or BBE 3012, upper division

CECE 4352. Groundwater Modeling. (; 3 cr. ; A-F or Audit; Periodic Spring)

Analytic element method. Mathematical/computer modeling of single/multiple aquifer systems. Groundwater recovery. Field problems. Theory/application of simple contaminant transport models, including capture zone analysis. prereq: 4351, upper div CSE or grad student or instr consent

CECE 4401. Steel and Reinforced Concrete Design. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Limit-states design. Steel: tension, compression, flexure, combined compression/flexure, connections. Reinforced concrete: beams (rectangular, T-sections, doubly reinforced) in flexure/shear, one-way slabs, serviceability, development length, reinforcement detailing, short columns. prereq: Grade of at least C- in 3401, concurrent registration is required (or allowed) in 3402, [upper div CSE or grad student]

CECE 4411. Matrix Structural Analysis. (; 3 cr. ; A-F or Audit; Every Spring)

Analysis of linear structural systems by matrix methods, stiffness, and flexibility methods. Introduction to computerized structural analysis of trusses/frames, including coding. prereq: CECE 3101, CECE 3401, upper div CSE or grad student or instr consent

CECE 4412. Reinforced Concrete II. (; 3 cr. ; A-F or Audit; Every Spring)

Advanced design of reinforced concrete structures: footings, retaining walls, columns with slenderness effects and biaxial loading, torsion, continuous systems, two-way floor systems. prereq: CECE 4401, upper div CSE or instr consent; 4411 recommended

CECE 4413. Steel Design II. (; 3 cr. ; A-F or Audit; Every Fall)

Design of steel and composite steel/concrete structures, including composite beams, plate girders, beam-columns, connections and multi-story frames. prereq: CECE 4401, upper div CSE or instr consent; 4411 recommended

CECE 4416. Sensors in Infrastructure. (3 cr. ; A-F only; Periodic Fall)

As sensors become part of practice in CECE fields, an understanding of instrumentation and their application to engineering problems becomes essential. This course will highlight the interdisciplinary nature of using sensors in engineering applications and how previous coursework can be applied. The sensors covered will range from mechanical measurements (e.g. strain, displacement, and

acceleration) to environmental measurements (e.g. temperature, oxygen concentration, and wind speed), and non-destructive techniques. In addition to class lectures, instruments and data acquisition will be explored in lab experiments. Prerequisites: CECE 3402, AEM 3031, CSE Upper division or instructor consent

CECE 4417. Structural Engineering Design of Wood Buildings. (3 cr. ; A-F or Audit; Every Fall)

This course provides an in-depth presentation of topics in design of wood structures. The course is intended for advanced undergraduate and entering graduate students who have completed CECE 4401 or equivalent. The course extends basic concepts of member design, which are covered in CECE 4401, to wood members and simple wood structures. Knowledge of basic concrete and steel design, construction materials and structural analysis is presumed. Topics covered in the course include: wood properties and grading; design criteria using sawn wood, glue-laminated wood, and plywood; design of beams, columns, trusses, shear diaphragms and floors; connections for wood structures; and building codes and test methods. Prereqs: CECE 4401 or equivalent

CECE 4501. Hydrologic Design. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Hydrologic cycle: precipitation, evaporation, infiltration runoff. Flood routing through rivers and reservoirs. Statistical analysis of hydrologic data and estimation of design flows. Open channel flow, flow through conduits. Detention basin design, hydraulic structure sizing, estimation of risk of flooding. prereq: CECE 3502

CECE 4502. Water and Wastewater Treatment. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Theory and design of physical, chemical, and biological processes for the treatment of water and wastewater. prereq: CECE 3501 or ChEn 2001 or BBE 3033

CECE 4511. Hydraulic Structures. (; 3 cr. ; A-F or Audit; Periodic Fall)

Hydraulic design procedures for culverts, dams, spillways, outlet works, and river control works. Drop structures, water intakes, bridge crossings. prereq: CECE 4501, upper division CSE student, Grad student or instructor consent

CECE 4512. Open Channel Hydraulics. (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Theories of flow in open channels, including gradually varied and rapidly varied flows, steady and unsteady flows. Computational methods for unsteady open channel flows, applications to flood routing. Introduction to moveable bed mechanics.

CECE 4513. Energy Conversion from Wind Hydro and Solar Resources. (3 cr. ; A-F only; Periodic Fall)

During this class the physical principles of energy conversion from alternative resources as wind, hydro and solar will be presented and discussed, with an emphasis on fluid mechanics and geophysical flows (atmospheric

boundary layer, rivers, tidal flows). We will start with the resource assessment devoted to quantify the available energy in the environment (wind, rivers, and sun). Each energy resource module will include basic economic principles and assumption enabling the quantification of the efficiency and the costs of energy transformation, as well as an estimate of environmental effects (when possible). We will focus on the details on wind, streams, wave and solar power using conservation equations and basic principles of thermodynamics and fluid mechanics. prereqs: CECE 3502 or equivalent

CECE 4515. Remote Sensing of Environment and Water Resources. (3 cr. ; A-F only; Every Spring)

The course presents fundamentals of probability theory, statistical learning, and physics of remotes sensing to increase understanding and technical knowledge of undergraduate and graduate students about Earth data analysis and remote sensing Prereqs: CECE 3102, Stat 3021 or equivalent, CECE 4501 recommended

CECE 4522. Review of Introductory Fluid Mechanics for Graduate Students. (3 cr. ; A-F or Audit; Every Fall & Spring)

Fluid statics/dynamics. Kinematics of fluid flow, equations of motion, pressure-velocity relationships, viscous effects, boundary layers. Momentum/energy equations. Lift/drag. Flow in pipes and pipe systems. Hydraulic machinery. Fluid measurements

CECE 4561. Solids and Hazardous Wastes. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course will serve as an introduction to the topics of solid and hazardous waste management. Classes will incorporate information about prevention, treatment options, and the regulations surrounding solid and hazardous waste. They will also provide an opportunity to observe different methods of waste treatment in action.

CECE 4562. Environmental Remediation Technologies. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Theory and application of current and emerging technologies used to remediate contaminated soil and groundwater. preq: CECE 3501, Upper division CSE or graduate student or instructor consent

CECE 4563. Pollutant Fate and Transport: Processes and Modeling. (3 cr. ; A-F only; Periodic Fall & Spring)

This course will focus on understanding the processes that dictate chemical fate in surface waters, including air-water transfer, adsorption, and biological and abiotic degradation. Students will evaluate the kinetics of these processes by interpreting experimental data. They will also characterize transport in surface waters by building theoretical and computational models from scratch that incorporate advection, diffusion and dispersion transport processes. Students will develop finite difference solutions to advection-diffusion-reaction equations, using ideal and non-ideal reactor theory, to describe the ultimate fate of pollutants in surface water systems such as

rivers, lakes, and estuaries. Fate and transport of organic pollutants (such as pesticides and pharmaceuticals), as well as biochemical oxygen demand and nutrient pollution, will be studied. Prerequisites: CEGE 3101, CEGE 3501, or instructor consent

CEGE 4581. Design for Sustainable Development - India. (TS,GP; 3 cr. ; A-F only; Every Summer)

In this interdisciplinary course in Bangalore (India's fast-growing mega-city and entrepreneurship hub) you will work in teams with local partners to research and design sustainable solutions to development challenges of water, energy, waste, agriculture, transportation, and health. prereq: Open to Junior/Seniors with min. 3.0 GPA.

CEGE 4582. Field Methods in Water Quality: Norway. (3 cr. ; A-F only; Periodic Summer)

This course will explore various aspects of water quality while visiting Norway. The first week will cover the water quality of streams and of stormwater. The second week will cover the water quality of lakes. The third week will cover drinking water and its treatment as well as municipal wastewater and its treatment. This course will be a combination of ?field course? and ?laboratory course? . This course is considered ?hands-on? in that the students will make water quality and other measurements in the field, collect water samples, and perform laboratory analyses on those collected samples. The location of the course will be in/near Trondheim, Norway for weeks 1 and 3 and at the Sletvik field station for week 2. Students will be required to submit three laboratory reports, one for each week of the course. Prereq: (CHEM 1061, CHEM 1065) or equivalent

CEGE 4583. Design for Life: Water in Tanzania. (GP,TS; 3 cr. ; A-F only; Every Spring)

Teams will evaluate community needs and infrastructure to design potable water-handling systems in rural Tanzania, typically off the power grid. Fluid mechanics: complex distribution networks, system losses, pump selection, borehole development; field measurements. Designs must address Tanzanian design guidelines.

CEGE 5094. Directed Research. (; 1-4 cr. ; A-F only; Every Fall, Spring & Summer)

Special studies in the planning, design, or analysis of civil, environmental, and geo-engineering systems. Individual lab research problems, literature studies, reports. Supervised by staff. prereq: instr consent

CEGE 5180. Special Topics. (; 1-4 cr. [max 12 cr.] ; A-F or Audit; Periodic Fall & Spring)

Topics vary depending on faculty and student interests. prereq: upper division undergraduate, graduate student, or instructor consent

CEGE 5211. Traffic Engineering. (; 3 cr. ; A-F or Audit; Periodic Spring)

Principles of vehicle and driver performance as they apply to the safe and efficient operation of highways. Design and use of traffic control devices. Capacity and level of service. Trip generation and traffic impact analysis. Safety

and traffic studies. prereq: CEGE 3201, CEGE 3102 or equivalent, Grad Student

CEGE 5212. Transportation Policy, Planning, and Deployment. (; 3 cr. [max 4 cr.] ; A-F or Audit; Every Fall)

Techniques of analysis and planning for transportation services. Demand-supply interactions. Evaluating transportation alternatives. Travel demand forecasting. Integrated model systems. Citizen participation in decision-making. prereq: 3201 or equiv, upper division CSE, or grad student

CEGE 5213. Transit Planning and Management. (3 cr. ; A-F only; Every Fall)

Principles/techniques related to transit systems. Historical perspective, characteristics of travel demand, demand management. Evaluating/benchmarking system performance. Transit-oriented development. Analyzing alternative transit modes. System design/finance. Case studies, field projects. prereq: Upper Division CE, EnvE, or GeoE student, CE or GeoE grad student, or instructor consent

CEGE 5214. Infrastructure Systems

Engineering. (; 3 cr. [max 4 cr.] ; A-F or Audit; Every Fall)

Systems approach, its application to transportation engineering/planning. Prediction of flows and level of service. Production functions, cost optimization, utility theory, demand modeling, transportation network analysis, equilibrium assignment, decision analysis, multidimensional evaluation of transportation projects. prereq: Math 2373 or equivalent, Math 2263 or equivalent. CEGE 3101 or equivalent, CEGE 3102 or equivalent, CEGE graduate student or instructors consent.

CEGE 5219. Air Transportation Systems. (3 cr. ; A-F or Audit; Every Fall)

This course provides an overview of the civil air transportation system design and operations. After completing this course, you should be able to describe the operations of civil transport aircraft from the pilot and company, and air traffic control perspectives; conduct basic economic analysis on airline operations and demand; conduct capacity analysis for airspace and airports; and conduct basic optimization for air transportation operations. This course will prepare students for working with the civil aviation industry.

CEGE 5341. Wave Methods for Nondestructive Testing. (; 3 cr. ; A-F or Audit; Periodic Fall)

Introduction to contemporary methods for nondestructive characterization of objects of civil infrastructure (e.g., highways, bridges, geotechnical sites). Imaging technologies based on propagation of elastic waves such as ultrasonic/resonant frequency methods, seismic surveys, and acoustic emission monitoring. Lecture prereq: [AEM 2021, AEM 3031] or instr consent

CEGE 5342. Introduction to Inverse Problems. (3 cr. ; A-F only; Every Fall)

Introduction to principles and applications of the inverse problems theory -- the underpinning of model-driven data analytics. The course covers (i) basic ideas, (ii) mathematical

foundation, (iii) discretization strategies, (iv) regularization techniques, (v) solution algorithms, and (vi) example problems. All advanced concepts, when recalled, are introduced in an intuitive engineering setting. The discussion, supported by ample numerical examples, focuses on the inversion of linear ``forward" models. Numerical solutions are implemented in the Matlab environment, and make use of the regtools package that accompanies the textbook (P.C. Hansen, Discrete Inverse Problems -- Insight and Applications, SIAM, 2010). Prereqs: MATH 2243, MATH 2263, CEGE 3101 or equivalent

CEGE 5351. Advanced Engineering Mathematics I. (; 3 cr. ; A-F or Audit; Periodic Fall)

Emphasizes skills relevant for civil, environmental, and geo-engineers. Mathematical principles explained in an engineering setting. Applications from various areas in civil, environmental, and geo-engineering. prereq: [Math 2374 or equiv], upper division CSE student or grad student] or instr consent

CEGE 5411. Applied Structural Mechanics. (; 3 cr. ; A-F or Audit; Every Fall)

Principal Stresses and strain analysis; failure criteria. Introduction to plane elasticity, energymethods, torsion of beams, and bending of unsymmetrical beams. Introduction to structural dynamics and stability. prereq: AEM 3031, Upper div CSE or grad student or instr consent

CEGE 5414. Prestressed Concrete Design. (; 3 cr. ; A-F or Audit; Every Fall)

Design of prestressed concrete structures. Time dependent effects, behavior, flexure, shear, torsion, deflections, continuous systems. prereq: CEGE 4401, upper div CSE or grad student or instr consent

CEGE 5415. Masonry Structures. (; 3 cr. ; A-F or Audit; Periodic Fall)

Masonry materials and their production. Mortars, grouts. Design of unreinforced and reinforced masonry structural systems. Walls, columns, lintels. Codes/specifications, testing. prereq: CEGE 3401, upper div CSE or grad student or instr consent; 4401 recommended

CEGE 5416. Sensors in Infrastructure. (3 cr. ; A-F or Audit; Periodic Fall)

As sensors become part of practice in CEGE fields, an understanding of instrumentation and their application to engineering problems becomes essential. This course will highlight the interdisciplinary nature of using sensors in engineering applications and how previous coursework can be applied. The sensors covered will range from mechanical measurements (e.g. strain, displacement, and acceleration) to environmental measurements (e.g. temperature, oxygen concentration, and wind speed), and non-destructive techniques. In addition to class lectures, instruments and data acquisition will be explored in lab experiments. prereq: CEGE 3402, AEM 3031

CEGE 5417. Structural Engineering Design of Wood Buildings. (3 cr. ; A-F or Audit; Every Fall)

This course provides an in-depth presentation of topics in design of wood structures. The course is intended for advanced undergraduate and entering graduate students who have completed CEGE 4401 or equivalent. The course extends basic concepts of member design, which are covered in CEGE 4401, to wood members and simple wood structures. Knowledge of basic concrete and steel design, construction materials and structural analysis is presumed. Topics covered in the course include: wood properties and grading; design criteria using sawn wood, glue-laminated wood, and plywood; design of beams, columns, trusses, shear diaphragms and floors; connections for wood structures; and building codes and test methods. Prereqs: CEGE 4401 or equivalent

CEGE 5511. Urban Hydrology and Water Quality. (4 cr. ; A-F or Audit; Every Fall)

Urban hydrology for small watersheds and the management of storm water quality and quantity. prereq: CEGE 4501 or BBE 5513, upper division CSE or grad student or instructor consent

CEGE 5512. Stochastic Ecohydrology. (3 cr. ; A-F or Audit; Every Fall)

This course will provide the theoretical and quantitative basis for understanding the interactions between the water cycle, vegetation, soil biogeochemistry, and the atmosphere. A main focus of the course will be on modeling the water and carbon dynamics across the soil-plant-atmosphere system. We will provide probabilistic descriptions of this system at the daily, seasonal, and interannual timescales by incorporating various sources of randomness and non-stationarity within the environment, particularly those from rainfall. These concepts and tools will be discussed in the context of sustainable management of water resources and terrestrial ecosystems, especially in view of the changes in the hydrological regime from climate change and societal pressures. prereq: MATH 2373, MATH 2374

CEGE 5513. Energy Conversion from Wind, Hydro and Solar Resources. (3 cr. ; A-F only; Periodic Fall)

During this class the physical principles of energy conversion from alternative resources as wind, hydro and solar will be presented and discussed, with an emphasis on fluid mechanics and geophysical flows (atmospheric boundary layer, rivers, tidal flows). We will start with the resource assessment devoted to quantify the available energy in the environment (wind, rivers, and sun). Each energy resource module will include basic economic principles and assumption enabling the quantification of the efficiency and the costs of energy transformation, as well as an estimate of environmental effects (when possible). We will focus on the details on wind, streams, wave and solar power using conservation equations and basic principles of thermodynamics and fluid mechanics. prereq: CEGE 3502 or equivalent

CEGE 5514. Granular Physics with Environmental and Engineering

Applications. (4 cr. ; A-F or Audit; Periodic Fall)

This class concerns ways in which relatively straightforward particle-scale phenomenology is directly related to larger-scale behaviors of concern to environmental and engineering processes. These larger scale behaviors include pattern formation driven by cooperative sorting and advection dynamics. They also include quasi-static and dynamic non-linear responses to stresses and other forcing. Applications we discuss include particle transport in rivers, wetlands reclamation, pavement compaction, and industrial mixing. As many large-scale and small-scale phenomenology can be counter-intuitive without experience, the in-class work is supplemented by two sets of hand-on activities. (1) students will explore these phenomenology in physical laboratories and (2) students will explore details unattainable in the physical laboratory by modifying existing computational simulations. (e.g., behavior in zero gravity, chaotic particle pathways, small-scale structures in colloidal suspensions). Minimal prior programming experience is expected. Programming assignments will be designed to be flexible for students of all levels of such experience. Prereqs: Graduate student in CSE or permission of instructor and/or CEGE 3502, MATH 2373, MATH 2374

CEGE 5515. Remote Sensing of Environment and Water Resources. (3 cr. ; A-F or Audit; Every Spring)

The course presents fundamentals of probability theory, statistical learning, and physics of remotes sensing to increase understanding and technical knowledge of undergraduate and graduate students about Earth data analysis and remote sensing. Prereqs: CEGE 4501 is recommended

CEGE 5541. Environmental Water Chemistry. (3 cr. [max 4 cr.] ; A-F or Audit; Every Fall)

Introduction to water chemistry. Physical chemical principles, geochemical processes controlling chemical composition of waters, behavior of contaminants that affect the suitability of water for beneficial uses. prereq: CEGE 3501, Chem 1061, Chem 1062 or Chem 1071H/1072H, upper division CSE or grad student or instructor consent

CEGE 5542. Experimental Methods in Environmental Engineering. (3 cr. ; A-F or Audit; Periodic Spring)

Tools necessary to conduct research in environmental engineering and chemistry. Theory of operation of analytical equipment. Sampling and data handling methods, statistical analyses, experimental design, laboratory safety. Lecture, laboratory. prereq: CEGE 3501, (CEGE 5541 recommended) Chem 1022, upper division CSE or grad student or instructor consent

CEGE 5543. Introductory Environmental Fluid Mechanics. (4 cr. ; A-F or Audit; Fall Odd Year)

Environmental fluid mechanics is the study of the interaction of fluid flows that occur in aquatic ecosystems with the growth and

behavior of living organisms. prereq: CEGE 3502 or AEM 4201 or ChEn 3005, upper division CSE or grad students or instructor consent

CEGE 5551. Environmental Microbiology. (3 cr. ; A-F or Audit; Every Fall)

Role of microorganisms in environmental bioremediation, pollution control, water/wastewater treatment, biogeochemistry, and human health. prereq: Upper div or grad student or instructor consent

CEGE 5552. Environmental Microbiology Laboratory. (1 cr. ; A-F only; Periodic Fall)

Basic microbiological techniques: isolation, identification/enumeration of bacteria, BOD, biodegradable kinetics, disinfection. Lab. prereq: CEGE 5551 or concurrent registration is required (or allowed) in CEGE 5551

CEGE 5570. Design for Sustainable Development - India. (3-9 cr. ; A-F only; Every Summer)

In this interdisciplinary course in Bangalore (India's fast-growing mega-city and entrepreneurship hub) you will work in teams with local partners to research and design sustainable solutions to development challenges of water, energy, waste, agriculture, transportation, and health. Prereqs: Open to graduate students from all majors

Classical/Near Eastern Rel/Cul (CNRC)

CNRC 1002. World of Greece. (HIS; 3 cr. ; Student Option; Every Fall & Spring)

Ancient Greek civilization, from second millennium BCE to Roman period. Art/archaeology, philosophy, science, literature, social/political institutions. Focuses on connections with contemporary cultures corresponding to Ancient Near East.

CNRC 1003. World of Rome. (HIS; 3 cr. ; Student Option; Every Spring)

In this course we will ask ourselves: why does ancient Rome refuse to go away? What is it about ancient Rome that has captured the imaginations of Shakespeare and the framers of the U.S. Constitution as well as HBO, Hollywood, and the video game industry? The course examines the world of ancient Rome from early Etruscan and eastern origins to the emergent Christian Rome of later antiquity. We will study the diverse mix of cultures in this vast multi-ethnic empire that spanned from the Near East and Africa to Europe. As we chart the rise of this ancient superpower, we will examine Roman imperialism, colonialism, and the dynamics of cultural identity. Through art, literature, and archeology we will explore politics, religions, slavery and social structures, gender and sexuality, sports and entertainment, economics and trade, as well as the rhythms of daily life.

CNRC 1042. Greek and Roman Mythology. (AH; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Introduction to stories/study of Greek/Roman mythology.

CNRC 1042H. Honors Course: Greek and Roman Mythology. (AH; 4 cr. ; A-F only; Every Fall & Spring)
Introduction to stories/study of Greek/Roman mythology.

CNRC 1082. Jesus in History, Art & Culture. (HIS; 3 cr. ; Student Option; Every Spring)
Who was Jesus? While there has been some basic consistency in the depictions of Jesus throughout history, there has also been lots of variety. We will look at the stories and writings of the New Testament. We will look at ancient and medieval art and music. We will look at modern literature, film, and music. We will learn about how cultures and social groups from around the world have portrayed Jesus in their own contexts and for their own purposes. Students will leave the course with a sense of the diversity of depictions of Jesus and how this diversity correlates with the peoples that portray him and with the cultural and historical moments in which he is portrayed. Come and grapple with the question of who Jesus really was for ancient peoples and who he is for many today. Intended as a course of interest to undergraduates in all colleges of the TC campus. Students of any, all, or no religious background are welcome.

CNRC 1201. The Bible: Context and Interpretation, World of the Hebrew Bible.. (LITR; 3 cr. ; Student Option; Every Fall)
The Hebrew Bible and Old Testament are literary collections that modern Jewish and Christian traditions maintain as important, but these collections were initially produced by ancient Israelite scribes who composed and/or compiled the biblical texts at particular time periods in the ancient Near East. This course will introduce the academic study of biblical texts, which demands critical analysis of the literature and an openness to reading the literature from the perspective of ancient Israelite writers (who lived in a world far different from today). The course will spend considerable time on the literary (and scribal) composition of biblical prose texts; time will also be spent on the historical circumstances of biblical prophets and other writers of the biblical texts. This course will only address the ancient setting of the biblical texts and not re-interpretations in Jewish or Christian traditions. Given the scope of the course, modern interpretations of the biblical literature will not be discussed; we will only focus on this literature in its ancient setting. prereq: Knowledge of Hebrew not required

CNRC 3016W. Biblical Law and Jewish Ethics. (WI; 3 cr. ; Student Option; Periodic Fall & Spring)
This course introduces students to the original meaning and significance of religious law and ethics within Judaism. Law is the single most important part of Jewish history and identity. At the same time, law is also the least understood part of Judaism and has often been the source of criticism and hatred. We shall therefore confront one of the most important parts of Jewish civilization and seek to understand it on its own terms. In demonstrating how law becomes a fundamental religious and ethical

ideal, the course will focus on the biblical and Rabbinic periods but spans the entire history of Judaism. Consistent with the First Amendment, the approach taken is secular. There are no prerequisites: the course is open to all qualified students. The course begins with ideas of law in ancient Babylon and then studies the ongoing history of those ideas. The biblical idea that a covenant binds Israel to God, along with its implications for human worth - including the view of woman as person - will be examined. Comparative cultural issues include the reinterpretations of covenant within Christianity and Islam. The course investigates the rabbinic concept of oral law, the use of law to maintain the civil and religious stability of the Jewish people, and the kabbalistic transformation of law. The course concludes with contemporary Jewish thinkers who return to the Bible while seeking to establish a modern system of universal ethics. The premise of the course is the discipline of academic religious studies. The assumptions of the course are therefore academic and secular, as required by the First Amendment. All texts and all religious traditions will be examined analytically and critically. Students are expected to understand and master this approach, which includes questioning conventional cultural assumptions about the composition and authorship of the Bible. Willingness to ask such questions and openness to new ways of thinking are essential to success in the course.

CNRC 3042. Myths, Legends, and Literature of the Ancient Near East. (AH; 3 cr. ; Student Option; Spring Even Year)
Literature begins in Sumer and Egypt, the lands where writing was first invented and where it was first used to record poems and stories. The cuneiform script was initially developed to write Sumerian, then adapted to write Akkadian, the principal Semitic language of ancient Mesopotamia, and later to write other languages, including Hurrian and Hittite. In this course we shall read legends, myths, dialogues, satires, and other literary works from the ?cuneiform world? in translation. We shall analyze these ancient works of literature on their own terms, within their cultural and historical contexts, and in light of other literary traditions.

CNRC 3054. Ancient Egypt and its Neighbors. (3 cr. ; Student Option; Fall Even Year)
Ancient Egypt exerts fascination upon modern societies, as it did upon its ancient contemporaries. The decipherment of the hieroglyphic script, in the early 19th century CE, opened the way to recovering its history all the way back to the invention of the writing system more than 5,000 years ago. Ancient Egypt has meanwhile been a special focus of racialized interpretations of civilization, from the birth of modern Egyptology onward. Europeans of the colonial age saw Egyptian civilization as an anomaly in Africa, measured excavated skulls to prove its extraneous origins, and segregated it from its geographic context.

CNRC 3061. "Bread and Circuses:" Spectacles and Mass Culture in Antiquity.

(CIV,HIS; 3 cr. ; Student Option; Fall Odd, Spring Even Year)
Development of large-scale public entertainments in ancient Mediterranean world, from athletic contests of Olympia and dramatic festivals of Athens to chariot races and gladiatorial games of Roman Empire. Wider significance of these spectacles in their impact on political, social, and economic life of the societies that supported them.

CNRC 3071. Greek and Hellenistic Religions. (HIS; 3 cr. ; Student Option; Fall Even Year)
Greek religion from the Bronze Age to Hellenistic times. Sources include literature, art, and archaeology. Homer and Olympian deities, ritual performance, prayer/sacrifice, temple architecture, death and the afterlife, mystery cults, philosophical religion. Near Eastern salvation religions.

CNRC 3072. The Birth of Christianity. (AH; 3 cr. ; Student Option; Periodic Fall & Spring)
Early Jesus movement in cultural/historical setting. Origins in Judaism. Traditions about Jesus. Apostle Paul, controversies/interpreters. Authority, religious practice, structure. Emergence of canon. Contemporary methods of New Testament study. Biblical writings as history/narrative. CNES 3072/CNES 5072/ RELS 3072/RELS 5072 meet together.

CNRC 3074. Exploring the Quran: An intellectual odyssey with Islam's holy scripture. (AH; 3 cr. ; A-F or Audit; Every Spring)
This course explores the contents of the Quran and probes its place in the history of human civilization. Students will learn about, and critically reflect on, the following subjects: 1) the Quran's core ideas, stories, laws, parables, and arguments, 2) the historical context in which the Quran was first promulgated and codified, 3) the relationship between the Quran and the preceding literary traditions of the ancient world, in particular, the Bible and post-biblical Jewish and Christian writings, 4) Muslim utilization of the Quran towards intellectual, social, religious, cultural, and political ends, and 5) the pre-modern and modern scholarly traditions of interpreting the Quran.

CNRC 3076. Apostle Paul: Life, Letters, and Legacy. (; 3 cr. ; Student Option; Fall Odd, Spring Even Year)
How/what can we know about Paul. What his message was. What he was fighting. How he was later understood by friends/foes.

CNRC 3081W. Classical Epic in Translation. (LITR,WI; 3 cr. ; Student Option; Fall Odd, Spring Even Year)
Homer's Iliad and Odyssey, Virgil's Aeneid. Cultural context of epic. Development of the hero. Epic style. Poetics of epic.

CNRC 3082W. Greek Tragedy in Translation. (LITR,WI; 3 cr. ; Student Option; Fall Even, Spring Odd Year)
Origins of tragedy. Ancient theatres. Selected plays of Aeschylus, Sophocles, Euripides.

CNRC 3092. Jesus in History. (HIS; 3 cr. ; Student Option; Every Spring)

Who was Jesus? While there has been some basic consistency in the depictions of Jesus throughout history, there has also been lots of variety. We will explore a whole host of portraits of Jesus at different points in history to demonstrate not only the varying ways that Jesus has been thought of but also to understand the relationship between these portraits and the historical and cultural contexts in which they were created. We will look at the gospels of the New Testament and some from outside the New Testament. We will look at ancient and medieval art. And we will look at modern film. Although we might not get to the bottom of who Jesus was, we might understand more fully how communities throughout history have thought about him. Intended as a course of interest to undergraduates in all colleges of the TC campus. Students of any, all, or no religious background are welcome.

CNRC 3103. Ancient Greece: Alexander and the East. (HIS; 3 cr. ; Student Option; Spring Even Year)

Achievements of Alexander the Great, their effect on Greek-speaking world. Greek colonization of Egypt. Hellenistic art, literature, philosophy.

CNRC 3105. Ancient Rome: The Age of Augustus. (; 3 cr. ; Student Option; Spring Even Year)

This course explores ancient Rome's transformation from a democratic republic to an autocratic empire and the considerable implications this crucial shift has had for world history. It examines the fall of the Roman republic and the rise of Rome's first emperor Augustus along with the vast cultural transformations in this age of revolution. Major issues include: Augustan art, architecture, and literature; political ideologies, propaganda, and resistance; gender, sexuality, and the family; Rome and Egypt, colonialism and cultural identity.

CNRC 3106. Ancient Rome: The Age of Nero. (; 3 cr. ; Student Option; Periodic Fall)

The Roman Empire. "Silver Age" of Latin literature, rise of Christianity. Art/architecture.

CNRC 3115. Midrash: Reading and Retelling the Hebrew Bible. (; 3 cr. ; Student Option; Periodic Fall & Spring)

How did the Jews of the first seven centuries of the common era read and understand the Hebrew Bible? What were the problems they faced -- interpretive, historical, theological -- in trying to apply their holy scriptures? This course explores key issues that led to the development of a new form of Judaism in late antiquity, rabbinic Judaism, and its methods of scriptural interpretation. The course's study will focus on the forms and practices of rabbinic scriptural interpretation (midrash) as it developed in Roman Palestine and Sasanian Babylonia, focusing on key narrative and legal passages in the Five Books of Moses (Torah). A main focus of the course will be on the ways the rabbis adapted the Hebrew Bible to express their own core concerns.

CNRC 3121. Gender and Body in Early Christianity. (AH; 3 cr. ; Student Option; Fall Odd Year)

Ancient Christians, like any other social group in the ancient world, represented themselves through images, stories, and discourses using the cultural tools available to them in their own contexts. In this course, we will explore two key texts of early Christianity (1 Corinthians and the Gospel of Mark) with special attention to how representations of the body and gender served to communicate the nature of what it meant to be Christian for these authors. The study of ancient material offers a space to acquire the skills of critical analysis of body and gender dynamics so that we can better understand the roles that the body and gender play in shaping our self-identity, social interaction, and societal structures.

CNRC 3152. Art and Archaeology of Ancient Greece. (HIS; 3 cr. ; Student Option; Periodic Fall & Spring)

This course will provide an introduction to the history of Greek art, architecture and archaeology from the formation of the Greek city states in the ninth century BCE, through the expansion of Greek culture across the Mediterranean and Asia in the Hellenistic period, to the coming of Rome in the first century BCE. While this survey concentrates on the main developments of Greek art, an important sub-theme of this course is the changes Classical visual culture underwent as it served non-Greek peoples, including the role it played for Alexander and his successors in forging multiethnic, globally minded empires in Western, Central and South Asia. No background in the time period or discipline is expected and therefore this class will also serve as an introduction to interdisciplinary study of art history and the classical world. A number of art historical methodologies will be introduced in order to not only give students a useful background in art history but to give them the tools to think as art historians and incorporate related visual and textual evidence meaningfully into their writing.

CNRC 3162. Roman Art and Archaeology.

(HIS; 3 cr. ; Student Option; Fall Odd Year)
Introduction to art and material culture of Roman world: origin, change, continuity. Progress/decay in later empire, its legacy to modern world.

CNRC 3182. Egypt and Western Asia: Art and Archaeology of Ancient Egypt and Western Asia. (AH,GP; 3 cr. ; Student Option; Every Fall & Spring)

This course will provide students with foundational knowledge in the art, architecture, and archaeology of Egypt, East Africa, Asia Minor, Mesopotamia, Iran and Central Asia from the Neolithic through Late Antiquity (ca. 7,000 B.C.E. - 650 C.E.). Students will gain an understanding of the relationship between the visual material and the social, intellectual, political, and religious contexts in which it developed and functioned. In this regard, students will also gain an understanding of the evolution of, and exchanges and differences among, the visual cultures of these time periods and regions. It will also expose them to the preconditions for contemporary geopolitics in the region.

CNRC 3201. The Bible: Context and Interpretation, World of the Hebrew Bible.

(LITR; 3 cr. ; Student Option; Every Fall)
The Hebrew Bible and Old Testament are literary collections that modern Jewish and Christian traditions maintain as important, but these collections were initially produced by ancient Israelite scribes who composed and/or compiled the biblical texts at particular time periods in the ancient Near East. This course will introduce the academic study of biblical texts, which demands critical analysis of the literature and an openness to reading the literature from the perspective of ancient Israelite writers (who lived in a world far different from today). The course will spend considerable time on the literary (and scribal) composition of biblical prose texts; time will also be spent on the historical circumstances of biblical prophets and other writers of the biblical texts. This course will only address the ancient setting of the biblical texts and not re-interpretations in Jewish or Christian traditions. Given the scope of the course, modern interpretations of the biblical literature will not be discussed; we will only focus on this literature in its ancient setting. prereq: Knowledge of Hebrew not required

CNRC 3202. Bible: Prophecy in Ancient Israel. (3 cr. ; Student Option; Every Spring)

Survey of Israelite prophets. Emphasizes Amos, Hosea, Isaiah, Jeremiah, Ezekiel, Second Isaiah. Prophetic contributions to Israelite religion. Personality of prophets. Politics, prophetic reaction. Textual analysis, biblical scholarship. Prophecy viewed cross-culturally. prereq: [RELS 1001] or [CNES 1201 or JWST 1201 or RELS 1201 or CNES 3201 or JWST 3201 or RELS 3201]

CNRC 3205. Women, Gender, and the Hebrew Bible. (AH; 3 cr. ; Student Option; Spring Odd Year)

How men, woman, gender, sexuality is portrayed in Hebrew Bible. Social/religious roles/status of women in ancient Israel. Reading biblical texts from academic point of view.

CNRC 3206. Sex, Murder, and Bodily Discharges: Purity and Pollution in the Ancient World. (3 cr. ; Student Option; Every Spring)

"Dirt is dangerous" wrote Mary Douglas more than 50 years ago in her groundbreaking study, *Purity and Danger: An Analysis of Concept of Pollution and Taboo*. Her work has been influential in ancient Near Eastern and Mediterranean studies when dealing with issues of sacred/profane, purity/pollution, and ritual sacrifice and purification. Douglas' work provides a framework within which to understand ancients' thinking about these concepts that range from the sacredness of space and of bodies to perceived pollutions caused by bodily leakage or liminal stages of life and death. In this course, we will examine Douglas' theory in light of ancient evidence, with special attention to ancient Israelite literature (the Tanakh or Old Testament) and ancient Jewish literature (the Dead Sea Scrolls), but we will also analyze other ancient

Near Eastern and Mediterranean examples of purity and pollution (from epigraphical and documentary evidence).

CNRC 3502W. Ancient Israel: From Conquest to Exile. (WI; 3 cr. ; Student Option; Periodic Spring)

Israel and Judah were not states of great importance in the ancient Near East. Their population and territory were small, and they could not resist conquest by larger, more powerful states like Assyria and Rome. Yet their ancient history matters greatly today, out of proportion to its insignificance during the periods in which it transpired. The historical experiences of the people of Israel and Judah were accorded religious meaning and literary articulation in the Hebrew Bible (the Old Testament), which became a foundational text for Judaism, Christianity, and Islam. Essential features of Western as well as Islamic civilization are predicated on some element of Israel's ancient past, as mediated through the Bible; therefore it behooves us to understand that past. But the Bible is a religious work, not a transcript of events, and the history of ancient Israel is not derived merely from reading the biblical accounts of it. Archaeological excavations have revealed the physical remains of the cultures of Israel and neighboring lands, as well as bringing to light inscriptions, documents, and literary works produced by those cultures. These sources, which complement and sometimes contradict the accounts conveyed in the Bible, provide the basis for reconstructing a comprehensive history of ancient Israel. This course covers the history of Israel and Judah from the Late Bronze Age (c. 1550-1200 BCE), by the end of which Israel had emerged as a distinct ethnic entity, to the period of Roman rule (63 BCE-330 CE), which saw the final extinction of ancient Israel, represented by the kingdom of Judea, as a political entity. Knowledge of this history is based on archaeological, epigraphic, and literary sources, including the Hebrew Bible. N.B.: Students should be aware that the study of history, like all the human and natural sciences, is predicated on inquiry, not a priori judgments. Accordingly, the Bible is not privileged as an intrinsically true or authoritative record. No text is presumed inerrant, and all sources are subject to scrutiny, in the context of scholarly discourse. Biblical texts are treated just like all other texts, as the products of human beings embedded in a historical context, and as the subject of analysis and interpretation. Persons of all faiths and of no faith are equally welcome to participate in such scholarly discourse. However, students who feel that their own religious beliefs require an understanding of the Bible that is antithetical to the foregoing statements are cautioned that they may find themselves uncomfortable with this course.

CNRC 3504. Apocalypticism, Cosmic Warfare, and the Maccabees: Jewish Strategies of Resistance in Antiquity. (3 cr. ; Student Option; Periodic Spring)

The rise of Hellenistic kingdoms in the ancient Mediterranean and Near East created a variety of responses from local, subjugated peoples,

and some of the most documented cases are those of Jewish populations in Koee-Syria/Palestine. The main objective of this course is to analyze Jewish responses to imperial rule and military conflict during the Hellenistic and early Roman periods (c. 300 B.C.E. ? 150 C.E.), but we will also spend time examining the broader picture of how local, ancestral groups fared under foreign rule. Along with discussing pertinent archaeological evidence, we will discuss Jewish literature and documentary material from this period, including, the sectarian documents of the Dead Sea Scrolls, the Book of Judith (a Jewish "novel"), the Books of Daniel and the Maccabees (all of which provide historical information about the Maccabean revolt and rise of the Hasmoneans), and the writings of Josephus (a Jewish writer who witnessed the Roman takeover of Palestine in the first century C.E.). This course will stay within the confines of the ancient evidence and not examine later interpretations when analyzing each historical period; it will begin with Ptolemaic control of the region and conclude with the Bar Kokhba revolt, its aftermath, and the resilience of Jewish populations in northern Palestine. Topics that will be examined in depth are messianism and apocalypticism, the Jerusalem Temple, Jewish ancestral traditions (which include biblical literature), and theoretical models used by scholars to analyze power relationships in antiquity.

CNRC 3506. The Israeli Mossad in Film and Literature: History, Narrative, and Ethics. (GP; 3 cr. ; Student Option; Periodic Spring)

This course will look at Mossad's activities and their perceptions in Israeli culture through lenses of collective memory and national identity. Students will examine primary and secondary sources to understand the historic background and the various narratives, shaping the Israeli culture. Students will conduct discussions pertaining to the place of Mossad in Israeli culture expressing opinions about the ethical component of Mossad's activities.

CNRC 3515. Multiculturalism in Modern Israel: how communities, ideologies, and identities intersect. (GP; 3 cr. ; Student Option; Periodic Spring)

This course focuses on the way various cultural groups in Israel attempt to achieve cultural recognition. Students will learn how various ethnic and religious groups shape their identities through process of acculturation and struggle. Students will learn about several Israeli cultures by reading literature, book chapters and case-studies, and watching movies, all of which center on these debates. Students will examine various case studies centered on these multicultural issues in Israel and will discuss and reflect on the implications of the issues raised by the course material for the international community, the United States, and for their own lives.

CNRC 3535. Death and the Afterlife in the Ancient World. (AH; 3 cr. ; Student Option; Fall Odd Year)

Beliefs, attitudes, and behaviors related to death and the afterlife found in the cultures

of the ancient Mediterranean and Near East. Literature, funerary art/epitaphs. Archaeological evidence for burial practices and care of dead.

CNRC 3601W. Sexuality and Gender in Ancient Greece and Rome. (AH,WI; 3 cr. ; Student Option; Fall Even Year)

Evidence for Ancient Greek and Roman ideas about sexuality and gender roles. The methodologies by which it is analyzed. Norms of writing about ancient culture, gender, and sexuality.

CNRC 3617. Pagans, Christians, Barbarians: The World of Late Antiquity. (GP,HIS; 3 cr. ; A-F or Audit; Fall Odd Year)

Between classical and medieval, pagan and Christian, Roman and barbarian, the late antique world was a dynamic age. This course will focus on the Mediterranean region from the 2nd to the mid-7th century exploring such topics as the conversion of Constantine, the fall of Rome, barbarian invasions, the spread of Christianity, and the rise of Islam.

CNRC 3896. Internship for Academic Credit. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

An applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals, which may be related to a student's major field or area of interest. The work can be full or part time, paid or unpaid, primarily in off-campus environments in conjunction with museum or gallery internships; archaeological field experience; language teaching practicum, etc. Internships integrate classroom knowledge and theory with practical application and skill development in professional or community settings. The skills and knowledge learned should be transferable to other employment settings and not simply to advance the operations of the employer. Typically the student's work is supervised and evaluated by a site coordinator or instructor.

CNRC 3950. Topics in Ancient Culture. (; 3 cr. [max 9 cr.]; Student Option; Every Fall & Spring)

Selected topics in the cultural history of antiquity (e.g., women in antiquity, Roman diplomacy, slavery, education). Topics specified in Class Schedule.

CNRC 3993. Directed Studies. (; 1-4 cr. [max 16 cr.]; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. prereq: instr consent

CNRC 3994. Directed Research: Capstone. (4 cr. ; Student Option; Every Fall & Spring)

Research project pertaining to ancient world, using documents or primary sources along with secondary sources. Students select project in consultation with faculty member. Prereq: Course is open to second semester juniors and seniors, major in CNRC, or ReIS Students enrolling in this directed research course will complete the University's common Directed Research contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: - the work proposed is at the appropriate level for the course, academic in nature, and the

student will be involved intellectually in the project. - the project scope is reasonable for one semester and the number of credits specified (42 hours of work per credit) - the faculty mentor is qualified to serve in this role - assessment of student learning and grading criteria are clear and appropriate - the student will be working in a respectful, inclusive environment The contract will include the learning objectives for the course, the methods that will be employed, and how assessment will be conducted by the faculty mentor. The contract must be approved by the DUGS/academic approver of the major before the student can register.

CNRC 5016W. Biblical Law and Jewish Ethics. (3 cr. ; Student Option; Periodic Fall & Spring)

This course introduces students to the original meaning and significance of religious law and ethics within Judaism. Law is the single most important part of Jewish history and identity. At the same time, law is also the least understood part of Judaism and has often been the source of criticism and hatred. We shall therefore confront one of the most important parts of Jewish civilization and seek to understand it on its own terms. In demonstrating how law becomes a fundamental religious and ethical ideal, the course will focus on the biblical and Rabbinic periods but spans the entire history of Judaism. Consistent with the First Amendment, the approach taken is secular. There are no prerequisites: the course is open to all qualified students. The course begins with ideas of law in ancient Babylon and then studies the ongoing history of those ideas. The biblical idea that a covenant binds Israel to God, along with its implications for human worth - including the view of woman as person - will be examined. Comparative cultural issues include the reinterpretations of covenant within Christianity and Islam. The course investigates the rabbinic concept of oral law, the use of law to maintain the civil and religious stability of the Jewish people, and the kabbalistic transformation of law. The course concludes with contemporary Jewish thinkers who return to the Bible while seeking to establish a modern system of universal ethics. The premise of the course is the discipline of academic religious studies. The assumptions of the course are therefore academic and secular, as required by the First Amendment. All texts and all religious traditions will be examined analytically and critically. Students are expected to understand and master this approach, which includes questioning conventional cultural assumptions about the composition and authorship of the Bible. Willingness to ask such questions and openness to new ways of thinking are essential to success in the course.

CNRC 5051. Before Herodotus: History and Historiography of Mesopotamia and the Ancient Near East. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Seminar. Historical method/sources for Ancient Near Eastern history. Historical tradition and historiographic texts of Mesopotamia and neighboring regions of Ancient Near East/their relationship to the works of classical historians

such as Herodotus. Use of these sources in modern historiography of Ancient Near East. prereq: Previous coursework in Ancient Near Eastern history recommended

CNRC 5071. Greek and Hellenistic Religions. (; 3 cr. ; Student Option; Periodic Spring)

Greek religion from Bronze Age to Hellenistic times. Literature, art, archaeology. Homer/Olympian deities. Ritual performance, prayer, sacrifice. Temple architecture. Death/afterlife. Mystery cults. Philosophical religion. Near Eastern salvation religions. Meets with 3071.

CNRC 5072. The Birth of Christianity. (AH; 3 cr. ; Student Option; Periodic Fall & Spring)

Early Jesus movement in cultural/historical setting. Origins in Judaism. Traditions about Jesus. Apostle Paul, controversies/interpreters. Authority, religious practice, structure. Emergence of canon. Contemporary methods of New Testament study. Biblical writings as history/narrative. CNES 3072/CNES 5072/RELS 3072/RELS 5072 meet together.

CNRC 5115. Midrash: Jewish Biblical Interpretation. (; 3 cr. ; Student Option; Periodic Fall & Spring)

How did the Jews of the first seven centuries of the common era read and understand the Hebrew Bible? What were the problems they faced -- interpretive, historical, theological -- in trying to apply their holy scriptures? This course explores key issues that led to the development of a new form of Judaism in late antiquity, rabbinic Judaism, and its methods of scriptural interpretation. The course's study will focus on the forms and practices of rabbinic scriptural interpretation (midrash) as it developed in Roman Palestine and Sasanian Babylonia, focusing on key narrative and legal passages in the Five Books of Moses (Torah). A main focus of the course will be on the ways the rabbis adapted the Hebrew Bible to express their own core concerns.

CNRC 5121. Gender and Body in Early Christianity. (AH; 3 cr. ; Student Option; Fall Odd Year)

Ancient Christians, like any other social group in the ancient world, represented themselves through images, stories, and discourses using the cultural tools available to them in their own contexts. In this course, we will explore two key texts of early Christianity (1 Corinthians and the Gospel of Mark) with special attention to how representations of the body and gender served to communicate the nature of what it meant to be Christian for these authors. The study of ancient material offers a space to acquire the skills of critical analysis of body and gender dynamics so that we can better understand the roles that the body and gender play in shaping our self-identity, social interaction, and societal structures.

CNRC 5204. The Dead Sea Scrolls. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Introduction to Dead Sea Scrolls and Qumran. Contents of Dead Sea Scrolls, significance for development of Bible. Background of Judaism and Christianity. Archaeological site of Qumran. Open to graduate students across the college; knowledge of classical Hebrew will not

be required. The course is open to upper level undergraduate students with permission of the instructor.

CNRC 5502W. Ancient Israel: From Conquest to Exile. (WI; 3 cr. ; Student Option; Periodic Spring)

Israel and Judah were not states of great importance in the ancient Near East. Their population and territory were small, and they could not resist conquest by larger, more powerful states like Assyria and Rome. Yet their ancient history matters greatly today, out of proportion to its insignificance during the periods in which it transpired. The historical experiences of the people of Israel and Judah were accorded religious meaning and literary articulation in the Hebrew Bible (the Old Testament), which became a foundational text for Judaism, Christianity, and Islam. Essential features of Western as well as Islamic civilization are predicated on some element of Israel's ancient past, as mediated through the Bible; therefore it behooves us to understand that past. But the Bible is a religious work, not a transcript of events, and the history of ancient Israel is not derived merely from reading the biblical accounts of it. Archaeological excavations have revealed the physical remains of the cultures of Israel and neighboring lands, as well as bringing to light inscriptions, documents, and literary works produced by those cultures. These sources, which complement and sometimes contradict the accounts conveyed in the Bible, provide the basis for reconstructing a comprehensive history of ancient Israel. This course covers the history of Israel and Judah from the Late Bronze Age (c. 1550-1200 BCE), by the end of which Israel had emerged as a distinct ethnic entity, to the period of Roman rule (63 BCE-330 CE), which saw the final extinction of ancient Israel, represented by the kingdom of Judea, as a political entity. Knowledge of this history is based on archaeological, epigraphic, and literary sources, including the Hebrew Bible. N.B.: Students should be aware that the study of history, like all the human and natural sciences, is predicated on inquiry, not a priori judgments. Accordingly, the Bible is not privileged as an intrinsically true or authoritative record. No text is presumed inerrant, and all sources are subject to scrutiny, in the context of scholarly discourse. Biblical texts are treated just like all other texts, as the products of human beings embedded in a historical context, and as the subject of analysis and interpretation. Persons of all faiths and of no faith are equally welcome to participate in such scholarly discourse. However, students who feel that their own religious beliefs require an understanding of the Bible that is antithetical to the foregoing statements are cautioned that they may find themselves uncomfortable with this course.

CNRC 5713. Introduction to Ugaritic. (; 3 cr. ; Student Option; Periodic Fall)

Ugaritic alphabetic cuneiform script, morphology, and syntax. Reading of representative samples of Ugaritic literature. Attention to linguistic and cultural issues and links to biblical and other Ancient Near Eastern

texts. prereq: Adv Hebrew, previous study of biblical texts or instr consent

CNRC 5787. Visual Cultures in Contact: Cross-Cultural Interaction in the Ancient and Early Medieval Worlds. (3 cr. ; Student Option; Fall Even Year)

Evaluate critical perspectives from variety of interdisciplinary conversations. Framework for studying cross-cultural interaction among ancient visual cultures that integrates practical, cognitive, object oriented approaches. Cross-continental movement/selective appropriation of objects/motifs.

CNRC 5993. Directed Studies. (1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. Prereq-instr consent, dept consent, college consent.

CNRC 5994. Directed Research. (1-12 cr. ; Student Option; Every Fall & Spring)

Guided individual research. Prereq-instr consent, dept consent, college consent.

CNRC 5996. Directed Instruction. (1-12 cr. ; Student Option; Every Fall & Spring)

Guided individual research. Prereq-instr consent, dept consent, college consent.

Clinical Laboratory Science (CLS)

CLS 5090. Special Laboratory Methods. (; 1-2 cr. ; A-F or Audit; Every Fall & Spring)

Assignment on an individual basis to one of a variety of special areas of experience in the clinical lab. prereq: instr consent

CLS 5100. Virology, Mycology, and Parasitology for Medical Technologists. (; 2 cr. ; A-F or Audit; Every Spring)

Lab diagnosis of viral, fungal, and parasitic infections. Lecture. prereq: microbiology course with lab, biochem course

CLS 5120. Seminar: Clinical Laboratory Science. (; 1 cr. [max 3 cr.] ; S-N or Audit; Every Fall & Spring)

Current literature. Presentation/discussion of research. prereq: instr consent

CLS 5121. Journal Presentations. (; 1 cr. [max 2 cr.] ; S-N or Audit; Every Fall & Spring)

Critical analysis, evaluation, discussion of current journal articles in student's specialty area. prereq: 1st yr CLS grad student

CLS 5125. Practicum Teaching. (; 1-2 cr. ; A-F or Audit; Every Fall & Spring)

Supervised teaching experience, develop skills using instructional materials, tests, and measurements. prereq: instr consent

CLS 5129. Elements of Laboratory Administration. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Leadership styles, employee selection and evaluation, communications, motivation, morale, discipline, job descriptions, record keeping, budgets, cost accounting, purchasing, product evaluation, lab safety, labor relations, government regulations. prereq: instr consent

CLS 5130. Practicum in Laboratory Administration. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Supervised experience and assignment of specific problems related to lab service and

management in health care institutions. prereq: instr consent

CLS 5140. Techniques for Teaching. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Developing objectives, classroom activities, and evaluation criteria for medical technology education. prereq: instr consent

CLS 5165. Advanced Clinical Immunohematology. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Observation, study, and practice in special problems, advanced techniques, and methodology. prereq: instr consent

CLS 5402. Molecular Diagnostics. (; 1 cr. ; A-F only; Every Fall)

Basic theory/application of molecular diagnostics in clinical lab. Lecture, lab. prereq: instr consent

CLS 5768. Advanced Hematology. (; 5-10 cr. [max 30 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Practical experience collecting bone marrow from patients. Diagnosing hematological diseases by evaluating and interpreting cells from clinical specimens of bone marrow, peripheral blood, and, if applicable, lymph nodes. prereq: instr consent

CLS 5864. Research Seminar. (; 1 cr. [max 10 cr.] ; S-N or Audit; Every Fall & Spring)

Departmental research seminar series. prereq: instr consent

CLS 5865. Departmental Seminar. (; 1 cr. [max 10 cr.] ; S-N or Audit; Every Fall & Spring)

Departmental clinical lab research seminar series. prereq: instr consent

Clinical Physiol, Movement Sci (CPMS)

CPMS 5101. Introduction to Clinical Physiology and Movement Science. (; 3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall)

Overview of clinical physiology and clinical movement science. For students in such diverse fields as bioengineering, kinesiology, neuroscience, physical therapy, physiology, psychology, public health, occupational therapy.

CPMS 5201. Colloquium in Clinical Physiology and Movement Science. (; 1 cr. [max 4 cr.] ; S-N or Audit; Every Fall & Spring)

Interdisciplinary course meets 1st and 3rd week of the month. Current research areas, scientific methods, and interpretation of results in the areas of clinical movement science and clinical physiology. prereq: Undergrad level in basic anatomy and physiology is highly recommended

Cognitive Science (CGSC)

CGSC 5051. Overview of Cognitive Psychology. (3 cr. ; A-F only; Every Fall)

This course provides a comprehensive introduction to the major tools, assumptions, and theories of cognitive psychology, exploring the nature of thought processes such as attention, memory, concept, reasoning, perception, emotion, and language. This

course lays a foundation for understanding how the mind works and how the brain produces such a mind.

Col of Food, Agr & Nat Res Sci (CFAN)

CFAN 1101. Dean's Engaged Leaders Seminar. (DSJ; 3 cr. ; A-F only; Every Fall)

Students explore their role in building inclusive community spaces. Development of leadership skills in academic, social, and public service contexts. Hands-on learning/real-world applications in culturally diverse communities. Field trips, guest speakers, and discussions. prereq: Incoming 1st-yr CFANS students only

CFAN 1102. President's Emerging Scholars Seminar. (; 1 cr. ; Student Option No Audit; Every Fall)

President's Emerging Scholars (PES) is an educational opportunity program that supports high-achieving, historically underserved students in their pursuit of a bachelor's degree at the University of Minnesota Twin Cities. Participants are selected based on holistic review conducted by the Office of Admissions, and PES students demonstrate achievement in a number of ways, including strong academics, extracurricular excellence, and significant community engagement. This seminar is designed to help CFANS PES students in the transition from high school to college. Many PES students are the first in their family to attend college, be Pell Grant recipients, indigenous students, and students of color. In this course, students will explore University resources, its people, and connect students with each other. Students will learn about resources, challenges, opportunities, and their own identity development through self-reflection and engagement assignments, culminating in the creation of a Digital Story they can share with their peers. prereq: CFANS newly admitted PES students

CFAN 2096. Reflecting on Your Professional Experience. (; 1 cr. [max 2 cr.] ; A-F only; Every Fall)

This course is designed to meet the CFANS Experiential Learning requirement which defines the importance and processes of learning through experience. Students will undertake an experience in an authentic workplace setting related to agriculture, food or natural resource settings as a prerequisite to the course. The prerequisite experience will serve as a foundation for learning professional competencies including reflection, problem solving, managing interpersonal relationships, professional communication, and goal setting. Current theories of career development will be introduced to help students construct meaning from their experiences to inform future goals and strategies. prereq: Secured internship, completion of summer module, instr consent

CFAN 2333. Insects, Microbes, and Plants: Ecology of Pest Management. (TS; 3 cr. ; A-F only; Every Fall)

This course uses fundamental concepts of ecology and evolution to illuminate and solve the challenges in managing insects and microbes in today's global context of food and

fiber production. Students will learn relevant aspects of insect and microbial biology to be able to situate concrete management problems in an appropriate ecological and evolutionary conceptual framework. Students will apply these concepts and discuss ecological and management controversies, such as what can we learn from natural areas to better manage food and fiber production systems. Case studies, readings, and discussion topics will emphasize factors influencing responsible management decisions.

CFAN 3002. Transfer Student Seminar. (; 1 cr. ; A-F only; Every Fall & Spring)

This course introduces new transfer students to the College of Food, Agricultural and Natural Resource Sciences (CFANS) and to the UMN. This course will introduce students to opportunities provided to them by both CFANS and UMN. It will help connect students to faculty and staff, as well as to other transfer students. By introducing transfer student theories, diversity, & equity topics and career information, transfer students will become immersed in the CFANS environment and will be provided with a foundation of knowledge that will help students continue to be successful during their remaining time at the University of Minnesota. The course will be held once a week.

CFAN 3091V. Research Proposals: From Ideas to Strategic Plans. (WI; 3 cr. ; A-F only; Every Spring)

You have a great research idea, now what? How do you turn your idea into a proposal? It has been said, paraphrasing Edison, that innovation is one percent inspiration, 99 percent perspiration. In this course, we will start with an inspiring idea and sweat our way to develop a research proposal. The students will go through a step-by-step process that starts with choosing and defining a research idea, then proceeding to do literature reviews and to the development of a hypothesis, aims, objectives, and a research strategy. The aim of this course is to provide students with tools to understand the structure of scientific reports and proposals, literature searches, and basic data interpretation. The students will learn about different research approaches and how to achieve consistency in their research projects. We will guide students in how to begin and develop a written research proposal that will satisfy the requirements of their advisors, institution, and funding organizations. prereq: If you have less than 60 credits and are interested in this course, please contact the instructor.

CFAN 3093. Directed Studies in International Agriculture. (; 2-4 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process

in order to enroll. prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

CFAN 3096. Making the Most of your Professional Experience. (; 1 cr. [max 2 cr.] ; A-F only; Every Fall, Spring & Summer)

This course is designed to meet the CFANS Experiential Learning requirement which defines the importance and processes of learning through experience. This course also is a Diversity Enriched course. Students will undertake an experience in an authentic workplace setting related to agriculture, food or natural resource settings as a prerequisite to the course. The professional/internship experience will serve as a foundation for learning professional competencies including reflection, problem solving, managing interpersonal relationships, professional communication, and goal setting. Current theories of career development and career readiness will be introduced to help students construct meaning from their experiences to inform future goals and strategies. prereq: Secured internship, instr consent

CFAN 3201. Career and Internship Preparation. (; 1 cr. ; A-F only; Every Fall & Spring)

The aim of this course is to equip you with long-term skills and knowledge that will help you manage your career within a dynamic and exciting work world of agriculture, food and the environment. The focus will be on career opportunities and resources related to CFANS majors highlighting alumni, employers and events from those majors. You will learn to tailor communication about your unique skills and interests to the needs of employers, graduate schools, and others via resumes, cover letters, online media, interviews, and individual interactions. We will explore how to attend to your authentic identity and values as you consider career alternatives and to enter a workplace culture with grace and curiosity. Finally we will introduce career competencies needed for successful career management in the workplace including strategies to function as an effective employee and team member. prereq: Soph or jr or sr or grad student

CFAN 3293. Directed Study. (1-4 cr. [max 6 cr.] ; Student Option; Periodic Fall, Spring & Summer)

This course provides a service learning component for the Native American Environmental Knowledge minor. Through directed study students are expected to become familiar with community interests and needs under the direction of a faculty member through journaling, discussion, writing assignments, community presentations, and storytelling. Students enrolling in this directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

CFAN 3334. Parasites and Pestilence. (GP; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course is designed to provide students with a basic understanding of protozoan and metazoan parasites, focusing on the biology and epidemiology of parasitic diseases and on the parasite-host association. Parasites are explored in the context of transmission, associated disease, diagnosis and treatment options; and environmental, cultural, and socioeconomic drivers of disease epidemiology. The intent of this course is for students to see science as a tool for understanding the world and solving problems. Importantly, the course is not designed to promote skills to become a practicing parasitologist but rather aims to facilitate broad exposure to infectious disease dynamics to foster more informed global citizens?using parasitic diseases as examples. A key tenet of liberal education is that it does not ignore the sciences, as such topics are explored in a way that intertwines science, history, and politics. Liberal education also teaches students how to speak their mind, how to write, and how to learn. As a result, this course will teach students how to use fundamental biological principles to think critically about challenges facing their society and the world.

CFAN 3422. Introduction to Sustainable Akumal. (1 cr. ; A-F only; Fall Even Year)

This is the on-campus background prerequisite for CFAN 3522 Sustainable Akumal. We introduce Akumal and the history of coastal development in the Mexican Caribe along with coastal ecology and important biota from the area. We consider the cultural context, from ancient Maya to the recent development of a tourism economy and its effects on local communities. We cover required gear and have a pool snorkel session. prereq: Instructor approval, LAC admission to Sustainable Akumal study abroad course.

CFAN 3480. Topics in CFANS. (; 1-4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Lectures by visiting scholar or regular staff member. Topics specified in Class Schedule.

CFAN 3500. International Field Studies Seminar. (; 1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Interface of agriculture with various natural resource, environmental, economic, food safety, public policy, ethical issues transcending national borders. Seminars take place in other countries or regions of world, providing global perspective. Active learning, lectures, discussion tutorials, field trips, reports, exams. prereq: instr consent

CFAN 3502. Bahamas--Tropical Marine Biology and Shark Ecology. (; 2 cr. ; A-F or Audit; Every Spring & Summer)

Ecology of sharks and natural history of South Bimini Island. Marine ecosystems. Local flora and fauna. Local culture and development policy on the ecosystems. prereq: instr consent

CFAN 3504. Vertebrate Research Design and Field Survey Techniques. (GP,ENV; 3 cr. ; A-F or Audit; Every Spring)

Thai culture and conservation challenges. Two-day barge trip learning culture before traveling to Thailand's premier conservation

research site. Camera-trapping techniques, prey assessment methods, and radio telemetry approaches to the study of large mammals. prereq: instr consent

CFAN 3505. French Language and Culture. (1 cr. [max 3 cr.]; A-F or Audit; Every Spring & Summer)

French language/way of life. Heritage of French culture. prereq: instr consent

CFAN 3512. Sustainable Food Chains. (GP; 3 cr. ; A-F or Audit; Every Spring & Summer) Concentrated study in agriculture/agribusiness. Horticulture. Viticulture/wine making. Rural tourism. Gastronomy. prereq: instr consent

CFAN 3513. The Natural History of Norway. (ENV,GP; 3 cr. ; A-F only; Spring & Summer Odd Year)

The program will be based in the Nord Trøndelag region of central Norway where students will learn about Norway's physical geography, ecology, and management of natural resources, including its flora, fauna, and agricultural systems. Students will also gain an understanding of the region's rich culture, history, and close ties to Minnesota. prereq: instructor consent

CFAN 3514. Machu Picchu: Biodiversity & Climate Change in Peru. (ENV,GP; 3 cr. ; A-F only; Every Summer)

Southeastern Peruvian Andes. Inca civilizations. Biodiversity assessment in headwaters of Amazon. What it means to be World Heritage Site. Experience the magic of the Andes. Watch the sunrise over the mountains surrounding Machu Picchu. Climb steep trails deep in the forest to check cameras capturing Peccaries, Jaguars and Jaguarundis. Eat dinner with Macaws. Ask a question about the ecology of the forest ? and answer it. Have a unique experience in South America, and share a story about that experience back at home. Posing your own question about biodiversity, landscapes, specific plants or animals, or culture is an intensely rewarding experience. Learning about the ecology of a subset of the Amazon, framing questions and collecting information to address those questions helps us refine our creative and analytical abilities.

CFAN 3516. Sustainable Food Systems of Italy. (ENV,GP; 3 cr. ; A-F only; Every Spring & Summer)

This course examines the concepts of sustainability in relation to food production and culture in a country and place where food is a fundamental component of the regional and national culture. The course incorporates intercultural development concepts to introduce students to past and present Italian culture through the cultural importance of food systems, the ethics of food consumption and production and the concepts of sustainability.

CFAN 3517. Shires, Shorthorns and Sheep: Exploring Livestock Systems in England. (GP; 3 cr. ; A-F only; Spring & Summer Even Year)

This embedded study abroad course will directly examine the similarities and differences of livestock production practices, regulatory

policies, consumer (and export) demands and the ethics of animal agriculture in England and Minnesota while allowing students to explore the rich history and culture of England.

CFAN 3520. Germany: Leading the Renewables Revolution. (GP,ENV; 3 cr. ; A-F or Audit; Every Fall)

A bilateral agreement between Minnesota and Germany to pursue best practices in clean energy offers a unique opportunity for students to participate in an international delegation. Students meet government, business, academia and civil society leaders and see Germany's integrated approach to energy transition up close. Embedded fall semester with winter study abroad travel to Germany. CFAN 5520 is the graduate offering of this course. prereq: instructor consent

CFAN 3521. Borneo Global Seminar: Tropical Wildlife Conservation & Climate Change. (ENV,GP; 3 cr. ; A-F only; Summer Odd Year)

This seminar explores tropical conservation by focusing on three main themes in Borneo: climate change, rehabilitation and release of charismatic rare and endangered species, and remote camera surveys for environmental education. Each theme is supported with in-country lectures, exploration activities, and a student product. We explore and learn about marine, montane, and tropical forest ecosystems. Threats to ecosystem health in Borneo are multi-faceted. Habitat loss and fragmentation, due to logging a few decades ago and primarily now oil-palm agriculture, mean that wildlife populations are smaller and increasingly isolated. This class engages students in global issues of climate change and habitat loss, helping them explore and analyze their observations critically. It also brings students face-to-face with rehabilitation and reintroduction of the species that suffer most as forests are felled for logging followed by oil palm agriculture. Species we investigate most closely are orangutans and sun bears. We explore riparian habitat, discuss issues of fragmentation, and pressures on protected areas at the Danau Girang Field Centre (DGFC). DGFC is located in high-quality riparian habitat in the Kinabatangan Reserve, in patches of forest nestled in a matrix of oil-palm agriculture. This area is host to a truly incredible suite of wild species. The Kinabatangan River is home to clouded leopards, sun bears, orangutans, otters, proboscis monkeys, and crocodiles. At the field station, wild orangutans forage in the canopy overhead. If you follow the noise of rustling leaves, you will likely observe troops of long-tailed macaques moving in the canopy and hornbills feeding on forest fruits. Students learn wildlife monitoring techniques and design their own environmental education lesson. Students also connect issues of climate change and conservation in a range of ecosystems in Sabah, Borneo, and design enrichment projects for captive sun bears and orangutans.

CFAN 3522. Sustainable Akumal: Turtles, tourists, cenotes and coral reefs. (ENV,GP; 3 cr. ; A-F only; Fall Even, Spring Odd Year)

This Global Campus Partner seminar addresses coastal and marine ecology as affected by tourism and development and how these affect local communities. We will explore these issues in Akumal (Mayan: place of the turtle), Mexico on the Riviera Maya. Tourism and associated development have expanded exponentially in the past decade with subsequent effects on waste management and water quality in the local cenotes, groundwater, lagoons and reefs. In addition to the water quality effects, increased use by tourist is also directly affecting sea grass, turtles and coral reefs. We will explore the ecology of these systems, methods to assess their status and impacts, and strategies to reduce or mitigate the effects in a sustainable manner that involves local populations. Prereq: CFAN 3422

CFAN 3523. Greek Agriculture and Gastronomy: A Taste of the Mediterranean. (GP; 3 cr. ; A-F only; Every Spring & Summer)

This embedded course will be based in Thessaloniki, Greece and will examine Greek agriculture, food, and culture. Students will have hands-on experiences learning about the impact that Greek cuisine has on the rural development of the country, and how Greeks work to conserve many of their cultural traditions.

CFAN 3526. Two to Tango: Agricultural Marketing & Communication in Argentina. (GP; 3 cr. ; A-F only; Spring Odd Year)

Agricultural marketing and farming are global industries and communicators and marketers need to be able to understand how events on other continents can impact decisions made at the firm-level; even in a different hemisphere. This course will study the farming and ranching industries in Argentina that provide the technology, production, expertise, processing, and transformation of farm products into foods that are in global demand. Additionally, this course will explore how Argentinian culture shapes marketing and communication efforts in Argentina. This course will spend two weeks in Argentina to meet with international agricultural firms and farmers to learn how Argentina continues to be a global competitor in agricultural commodities. Students will also learn about the challenges limiting South American agricultural production and how this relates to U.S. agriculture.

CFAN 3527. Chile: Natural History of Patagonia. (ENV,GP; 3 cr. ; Student Option; Every Spring)

Co-production of sustainable knowledge: An exploration of human-wildlife conflict and a community artistic expression in southern Chile Conservation biology addresses the tradeoffs inherent in balancing human needs for extractable ecosystem goods and services with our need for biodiversity and natural conditions. Our discussions always include the biophysical science of ecosystems and the human resource science of decisions. This class engages you directly in understanding and communicating about sustainable resource management in Patagonia, the fabulously beautiful, highly diverse, end-of-the-world in South America. You will explore mountainous

and marine landscapes, places where you will (at least hope to see) Elephant seals, Mountain Lions, Emperor Penguins, Guanacos, and Patagonian Foxes. You also will encounter invasive rabbits and beavers, gigantic salmon aquaculture opens and an open pit mine. You will work with local community members to develop a permanent mural depicting all that. And you will work with peers to develop a video documenting your experience. Humans have inhabited Patagonia for at least 14,000 years. For thousands of years, the nomadic A?nikenk people were the principal humans in the landscape. The technologically superior Mapuche people were predominant during the 1500s; Europeans (primarily Spanish and English) colonized the area from the mid-1500s; Chile has been an independent country since 1826. The economy of the area has been dominated by mining and agriculture. Mining extracts minerals and low quality coal. Agriculture includes sheep ranching as well as large scale marine salmon aquaculture. Sheep ranching resulted in thousands of miles of barbed wire fence, and millions of hectares of degraded grasslands, with associated negative impacts on wildlife. Wool prices were strong from the late 1800s through the mid 1950s, then dropped precipitously. As a result, many sheep estnacias were abandoned or turned into tourist lodges. Patagonia today is a land of expansive landscapes of mountains, grasslands, glaciers and high altitude lakes. The wildlife characteristic of the area include all Guanacos (a South American camel), the Huemel deer, Patagonian fox, hog nosed skunk and Andean Condor. Native marine life include penguins, elephant seals, leopard seals, and the Patagonian skate.

CFAN 3528. Exploring The New Nordic: Food Seasonality and Sustainability in Denmark and Sweden. (GP; 3 cr. ; A-F only; Periodic Spring)

This embedded study abroad course will explore aspects of agriculture, food, and culture in Scandinavia in comparison to each student?s experience in the United States. This course will first meet on-campus, before our departure for a two-week experience in May. In English usage, Scandinavia can refer to Denmark, Norway, and Sweden, and sometimes used more broadly to include the Aland Islands, the Faroe Islands, Finland, and Iceland. The use of the term Nordic can also include the aforementioned countries along with Finland and Greenland. Throughout this course, we will embark on an experience through hands-on learning in Denmark and Sweden. Students will learn about, and reflect on, available food resources in Scandinavia, including how Scandinavian cuisine is intertwined with Scandinavian culture. CFANS has partnered with DIS for this course. DIS is a non-profit study abroad foundation established in Denmark in 1959, with locations in Copenhagen and Stockholm. DIS provides semester, academic year, and summer programs taught in English, and offers high-impact learning experiences for upper-division undergraduate students from distinguished North American colleges and universities. The intellectually challenging

curriculum is broad, cutting edge, and enriched by experiential learning components, including faculty-led study tours across Europe. It provides students with opportunities for meaningful cultural engagement and personal growth, which is further enriched through housing and extracurricular offerings. Activities and learning will take place at numerous locations throughout Scandinavia. Students will attend lectures and presentations taught by faculty who are experts in the field, and will have the opportunity to learn about the culture and cuisine in Scandinavia. In their exploration of Scandinavia, students will be exposed to a breadth of diverse cultural experiences in which they will be challenged to reflect on their emotional responses and active participation within Scandinavian culture and integrate these into their personal and professional worldview. Students will also visit important archaeological, sacred, and natural sites throughout Scandinavia to better understand the history of the region and the culture of its people. Students will be encouraged early on to identify a particular interest they want to learn more about in Scandinavia (e.g. precision agriculture, dairy production, sustainability, agro-tourism, etc.) and find opportunities to integrate this interest into the questions they ask in their blog posts, their final project, and at site visits.

CFAN 3529. From Rainforest to Reef: Wildlife Medicine and Conservation in Belize. (ENV,GP; 3 cr. ; A-F only; Every Spring)

Introduction to key topics in wildlife medicine. Students will learn medical issues and approaches, the role of the veterinarian in wildlife conservation, zoo medicine, and wildlife rescue & rehabilitation. This program is held at the Belize Wildlife & Referral Clinic????s (BWRC) teaching facility with BWRC????s founder and wildlife veterinarian, Dr. Isabelle Paquet-Durand. Labs include distance immobilization, suture, spay & neuter, necropsy, comparative anatomy, radiography, parasitology and blood analysis. Field visits are conducted with Dr. Isabelle to the Belize Zoo and to avian, reptile, primate, and manatee centers. Students are introduced to preventative medicine and common diseases for many of these species. A spay & neuter lab reviews theory and suture practice, this is followed by a spay & neuter clinic organized in the field or at BWRC. Students also have the opportunity to observe, and when possible, assist the BWRC veterinary staff during their daily operations.

CFAN 5480. Topics in CFANS. (; 1-4 cr. [max 8 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Lectures by visiting scholar(s) or regular faculty member. Topics specified in Class Schedule. prereq: Grad student

CFAN 5500. International Field Studies Seminar. (; 1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Interface of agriculture with natural resource, environmental, economic, food safety, public policy, ethical issues transcending national borders. Seminars take place in various

countries/regions. Active learning, lectures, discussion tutorials, field trips, reports, exams. prereq: instr consent

CFAN 5501. Costa Rica--Sustainable Development. (; 3 cr. ; A-F only; Every Spring)

Costa Rica's development strategy. Agriculture, tourism, energy, urbanization. Synergies/tension between economic, social, environmental impacts. How organizations maximize benefits associated with sustainable development. prereq: grad student, instr consent

CFAN 5518. Environmental Issues in New Zealand. (GP; 3 cr. ; A-F only; Every Spring)

This Global Seminar, Environmental Issues in New Zealand, is open to any undergraduate or graduate students regardless of major. Priority for enrollment is given to University of Minnesota students, but students from other institutions may attend if space is available. There are no course prerequisites and all instruction is in English. New Zealand is a modern country with friendly people and awesome scenery. Our daily news is filled with reports on climate change, water scarcity and pollution, soaring energy costs, and food shortages. Solutions must consider environmental, economic, and social implications of our management strategies. Frequently there are tradeoffs between benefits and costs. University students as future leaders of business, government, and social programs should understand how to analyze environmental issues. What are the issues? Who is affected? What alternatives exist to solve them? What are the environmental, economic, and social tradeoffs between these alternatives? What are reliable sources of information? How can each of us contribute to solutions? New Zealand has undergone significant changes in its plant and animal composition following the invasion of humans and the exotic species they introduced. Alarmed by these changes, New Zealanders recently have made significant strides in recognizing environmental issues and seeking sustainable solutions. They offer valuable lessons for U.S. students to bring home and apply to our own environmental issues.

CFAN 5520. Germany: Leading the Renewables Revolution. (; 1-3 cr. ; A-F only; Every Fall)

A bilateral agreement between Minnesota and Germany to pursue best practices in clean energy offers a unique opportunity for students to participate in an international delegation. Students meet government, business, academia and civil society leaders and see Germany's integrated approach to energy transition up close. Embedded fall semester with winter study abroad travel to Germany. CFAN 5520 is the graduate offering of this course. prereq: instructor consent

Coll of Science, Engineering (CSE)

CSE 1001. First Year Experience. (; 1 cr. ; A-F only; Every Fall)

Resources and strategies for college success. Majors and career opportunities offered

in the physical sciences, mathematics, and engineering. Personal responsibility, academic integrity, and level of academic rigor required for success. Personal action plan for achievement in CSE. prereq: CSE, fr

CSE 1002. CSE First Year Global Seminar - Taking CSE 1001 International!. (1-2 cr. ; A-F only; Every Spring & Summer)

The program will take place over 10 days in designated locations abroad. Daily activities will include site visits to relevant commercial and academic institutions. Significant cultural elements and activities will be a key component of this program as well. The specifics of each seminar will depend on the location and travel dates. Freshman global seminars are a chance for students to learn abroad during their first year in the College of Science and Engineering. These freshman Global Seminars are popular short-term study abroad programs customized for CSE students, tailored for their first year of study in CSE. Students get to know a faculty member and other students, earn one credit, and learn about a technical topic. Preparation begins prior to departure. Registration and billing during spring semester. Led by a faculty expert and a CSE professional staff member. There are no language prerequisites. prereq: CSE 1001 First Year Experience

CSE 1012. Project-based Inquiry. (2 cr. ; A-F only; Every Spring)

This experiential learning class introduces CSE freshmen to new skills that will be helpful in their coursework, extracurricular activities and internships, and develops those skills through a team project. Different sections of the course are devoted to different skill-based themes (e.g., 3D printing; 3D Printing and Microcontrollers). All sections follow the same format. In the first several weeks of the semester, students learn new skills by completing exercises and activities. Then, team projects begin. Student teams are given project constraints or specifications (i.e., size limitations, features) and then follow a series of design steps to create their projects. First, they define a problem or goal for their projects based on their interests and the skills they are learning. Next, they brainstorm possible ways to solve the problem or meet the goal and select one to pursue. Then, they create a prototype and test it. Based on the results, they redesign and refine their project as time allows, ultimately creating a final project. At key points along this sequence, the teams document their work with project memos, a presentation about their prototype, and a final project report.

CSE 4896. Cooperative Industrial Assignment I. (; 2 cr. ; A-F or Audit; Every Spring & Summer)

This course accompanies an industrial work assignment in engineering and applied science. It includes analysis of technical problems that require developing criteria, evaluating alternatives, and completing a final analysis. A final technical design report emphasizes design communication and describes the technical decision process, analysis, and final recommendations. This course is intended

for any College of Science and Engineering student who has been admitted to their major and is participating in the co-op program. There are no specific prerequisites for this course, though it is expected that students taking this course have a background in science or engineering appropriate for their industrial co-op position. Registration is by permission only. Please submit your application to the Co-op Program via Handshake to initiate the course access process. Detailed instructions can be found on the co-op website (<https://cse.umn.edu/coop/application-process>). This is the first course in a two-semester sequence. CSE 4896 is offered in the summer and spring semesters. CSE 4996 is offered in the Summer and fall semesters. It is expected that students complete a co-op experience back-to-back (i.e. summer/fall or spring/summer). If your co-op plan differs from that, please email co-op@umn.edu to receive permission to take the courses in reverse order.

CSE 4996. Cooperative Industrial Assignment II. (; 2 cr. ; A-F only; Every Fall & Summer)

This course accompanies an industrial work assignment in engineering and applied science. The course includes generation of a novel idea requiring developing criteria, evaluating alternatives, and completing a final analysis. A final invention disclosure report emphasizes innovation and communication and includes the technical creation process, hypothesis testing, analysis, and final recommendations. This is the second course in a two course series. While some content is similar between the courses, the first course focuses more on the design and problem solving in an industrial context, this course focuses on the idea creation process and intellectual property protection. This course also includes a section on diversity, equity and inclusion in corporate settings. This course is intended for any College of Science and Engineering student who has been admitted to their major and is participating in the CSE Co-op Program. There are no specific prerequisites for this course, though it is expected that students taking this course have a background in science or engineering appropriate for their industrial co-op position. Registration is by permission only. Please submit your application to the Co-op Program via Handshake to initiate the course access process. Detailed instructions can be found on the co-op website (<https://cse.umn.edu/coop/application-process>). This is the second course in a two semester sequence. CSE 4896 is offered in the summer and spring semesters. CSE 4996 is offered in the summer and fall semesters. It is expected that students complete a co-op experience back-to-back (ie. summer/fall or spring/summer). If your co-op plan differs from that, please email co-op@umn.edu to receive permission to take the courses in reverse order.

College of Liberal Arts (CLA)

CLA 1001. CLA First-Year Experience I. (; 1 cr. ; S-N only; Every Fall)

This course is designed to help students transition into the University of Minnesota and the College of Liberal Arts. The course will include various opportunities to engage, create, and reflect on your own unique experiences and identify effective strategies, skills, and tools to be successful in your first year and beyond.

CLA 1002. CLA First-Year Experience II. (; 1 cr. ; S-N only; Every Spring)

This course is designed to help each student achieve their individual goals by promoting proactive educational and career planning, introducing CLA's Core Career Competencies, and encouraging students to reflect on how they are developing them in their first year.

CLA 1005. Introduction to Liberal Arts Learning. (1 cr. [max 3 cr.] ; S-N only; Every Fall)

This course is about you: your identity, your dreams, your goals, your values, your strengths, and your first year university experience. This course is also about you? in the plural sense. More specifically, through a shared experience that includes dialogue, readings, videos, and a group project. We will explore how diverse US college students understand their college education, what they want from it, and how they negotiate and give meaning to their university experience. This course is designed to help you navigate the challenges of college, the workplace, and society and propel you towards personal excellence, fulfillment, and wellness. As active partners in the quest for educational and personal success, our teaching team will work with you to develop the knowledge and understanding of self, society, and the university required to successfully navigate college life in an increasingly diverse and interconnected world. prereq: CLA Presidents Emerging Scholars, freshman

CLA 1007. CLA First-Year Experience: Independent Study. (1 cr. [max 2 cr.] ; S-N only; Every Fall, Spring & Summer)
Independent study version of CLA 1001/1002. By permission number only.

CLA 1052. Dean's First-Year Research and Creative Scholars Program. (; 2-3 cr. ; Student Option; Every Spring)

Freshman research or creative opportunity with faculty. Prereq-Only available to CLA freshmen receiving a CLA Research Opportunity.

CLA 1053. Continuation of Dean's First-Year Research and Creative Scholars Program. (2-3 cr. [max 6 cr.] ; Student Option No Audit; Every Fall)

Continued work with matched faculty as part of their First Year Research or Creative opportunity with faculty. Prereq-Only available to CLA freshmen or transfer students who have completed CLA 1052.

CLA 1200. Topics. (; 1-5 cr. [max 20 cr.] ; Student Option; Periodic Fall & Spring)
Topics specified in Class Schedule.

CLA 1201. BA MD Medical Education Seminar I. (1 cr. ; Student Option No Audit; Every Fall)

This is the first course in a series of 4 required courses for students enrolled in the BA/MD

Joint Admissions Scholars Program. Students in the course will have the opportunity to be mentored and coached by Medical School faculty as they prepare for medical education.

CLA 1202. BA MD Medical Education Seminar II. (1 cr. ; Student Option No Audit; Every Spring)

This is the second course in a series of 4 required courses for students enrolled in the BA/MD Joint Admissions Scholars Program. Students in the course will have the opportunity to be mentored and coached by Medical School faculty as they prepare for medical education.

CLA 2005. Introduction to Liberal Education and Responsible Citizenship. (1 cr. [max 3 cr.]; S-N only; Every Spring)

This course will focus on the themes of identity, community and civic engagement. We will focus on developing dimensions of personal and social responsibility to include contributing to a larger community and taking seriously the perspectives of others. This course will take on big questions such as: What does it mean to contribute to a larger community? What does a college education prepare you for? How can critical thinking skills be applied to real life case studies? How do you navigate your identity in the workplace, academic, and service-learning settings? What is responsible citizenships and engage in diverse and competing perspectives? In this course, we will turn to real-world stories and voices to explore our potential for greater understanding, compassion, empathy, resilience, democratic imagination, and critical citizenship prereq: [CLA 1005], CLA Presidents Emerging Scholars, freshman

CLA 2200. Topics. (; 1-5 cr. ; Student Option; Periodic Fall & Spring)
Topics specified in Class Schedule.

CLA 2201. BA/MD Medical Education Seminar III. (1 cr. ; Student Option No Audit; Every Fall)

Students will identify important character qualities that enhance a person's capacity to be an effective physician and will solidify personal values associated with a passion for medicine. Students will further develop their communication skills by facilitating a seminar where they reflect upon their structured clinical or research experience.

CLA 2202. BA/MD Medical Education Seminar IV. (1 cr. ; Student Option No Audit; Every Spring)

Students will explore healthcare policy and the effect the policies have on health disparities and healthcare in Minnesota. Students will reflect upon their experiential development, enhance skills to facilitate lifelong personal introspection and identify strengths and challenges of their interpersonal attributes.

CLA 3001. CLA Transfer Semester Experience. (; 1 cr. ; S-N only; Every Fall & Spring)

This course will support first-semester College of Liberal Arts transfer students in making a smooth transition and connect them with campus resources. Although online, some in-

person assignments are required (available at various times) to help students benefit from resources, meet people, and develop a sense of belonging on campus. Time will also be dedicated to major exploration and career/post-graduation planning, so that students are well-prepared to meet their individual goals. Some weekly lessons will carefully relate to CLA's Career Readiness themes, and involve taking a personal assessment and finalizing a new resume. Prereq: Must be a new CLA transfer student in their first semester on the UMTC campus.

CLA 3002. Career Kickstarter: Finding Internships and Other Career-Related Experiences. (; 1 cr. ; Student Option No Audit; Every Fall & Spring)

For sophomores and juniors. This course helps you explore and apply for internships or other career-related opportunities for undergraduate students (e.g., undergraduate research, leadership, etc.). You'll have opportunities to begin learning and gaining experience through employer engagement within the class. Assignments include researching internship options, writing cover letters, and learning how to network as a student.

CLA 3101. Career Exploration for Transfer Students. (; 2 cr. ; Student Option; Every Fall & Spring)

For CLA transfer students or students considering transferring to CLA. This course helps you learn about campus career resources and your CLA core career competencies, write cover letters, and connect career fields and CLA majors with careers. Assignments include learning about and using campus career resources, writing cover letters, and exploring career fields common to CLA students.

CLA 3201. Career Planning: Preparing for Your Post-Graduation Plans. (; 1 cr. [max 2 cr.]; Student Option No Audit; Every Fall, Spring & Summer)

For juniors and seniors. This course helps you plan and prepare for your post-graduation plans, such as finding a job or applying for graduate school. Assignments include preparing for interviews, conducting informational interviews, and crafting your personal brand and online presence.

CLA 3500. Topics. (; 1-4 cr. [max 8 cr.]; Student Option; Every Fall & Spring)
Topics specified in Class Schedule.

CLA 3501. Spanish History on the Camino de Santiago: A Hiking Adventure. (GP; 3 cr. ; A-F only; Periodic Summer)

This seminar will combine the history of Spain, the history of the Camino de Santiago, art history, and architectural history with the practice of travel for transformation. While we will travel together, each of us will have the opportunity to experience something that holds unique and individual meaning. It may be a spiritual awakening, an educational epiphany, or a transformative personal moment. There will be ample time for personal reflection and contemplation as well as group experiences. You will be encouraged to use your time on the camino to discover something that holds

special meaning for you whether it is spiritual, a rite of passage, personal transformation or just openness to new experiences. We will all engage in reverent travel which is a practice that spans traditions and religions.

CLA 3890. Internship Reflection: Building on your Summer Internship Experience. (; 1 cr. [max 2 cr.]; Student Option; Every Fall)

In this 7 week, online fall course, students reflect on their summer internship experience to analyze and identify which components from their internship work, environment, and professional relationships energized them, and which core career competencies they developed. Students will intentionally examine multiple perspectives to crystallize their values, interests, and strengths, and create next steps for their career and life. Through this process, students will practice leveraging their internship experience for upcoming professional opportunities, as well as gain the tools for creating an authentic professional identity, grounded in their liberal arts education, in an evolving job market and world.

CLA 3896. Internship Reflection: Making Meaning of Your Experience. (; 1 cr. [max 4 cr.]; Student Option; Periodic Fall & Spring)

For any student with an internship. Allows students to examine, reflect on, and construct meaning from their internship experience through self assessment of personal and career needs and goals, examination of what it means to be a "professional" and operate within professional environments, evaluation of performance and accomplishments, and articulation of knowledge and skills via effective resume writing. prereq: dept consent

Commun Engage Scholars Program (CESP)

CESP 3901. Community Engagement Scholars Program Integrative Capstone Seminar. (1 cr. ; A-F only; Every Fall & Spring)

This one-credit seminar is designed to complement the Integrative Community Engagement Project (ICEP) as a capstone experience for you as a Community Engagement Scholar. The seminar will provide tools, guidance, support, and structure to help you successfully complete your ICEP. It will also provide opportunities for you to reflect on how your previous academic and community work have informed your ICEP, and how your experiences will inform and help prepare you for the next, post-graduation phase of your life. The first half of the semester will be focused primarily on project support, and the final half of the semester will be focused on reflection. Throughout the semester we are going to be preparing you to do a digital story as your Integration and Contextualization capstone reflection on your participation in the Community Engagement Scholars Program. During our seminar meetings, we will use a variety of teaching and learning strategies to achieve the course objectives, including: workshop space to discuss projects with your small group of peers, interactive reflection activities, and short readings. A number of our class periods will be spent using a learning

method called learning circles. Learning circles are a form of democratic education in which participants share stories about their experiences around a common theme to identify connections and insights about our work. As part of our digital storytelling process we will be doing several activities throughout the semester that will lead to a story circle, a part of the creative process that takes place during digital storytelling workshops. prereq: Departmental Consent based on program requirements completed or plan for completion determined with program staff.

CESP 3993. Directed Study for Community Engagement. (1-4 cr. ; A-F only; Every Fall, Spring & Summer)

Guided individual reading or study. prereq: instr consent, dept consent, college consent.

Communication Studies (COMM)

COMM 1101. Introduction to Public Speaking. (CIV; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Public communication processes, elements, and ethics. Criticism of and response to public discourse. Practice in individual speaking designed to encourage civic participation.

COMM 1101H. Honors: Introduction to Public Speaking. (CIV; 3 cr. ; A-F only; Every Fall & Spring)

Public communication processes, elements, and ethics. Criticism of and response to public discourse. Practice in individual speaking designed to encourage civic participation. prereq: Honors

COMM 1313W. Analysis of Argument. (WI; 3 cr. ; Student Option; Every Fall & Spring)

Strategies for analyzing, evaluating, generating arguments. Problems in listening/responding to argument.

COMM 1919. Communication & Migration. (; 3 cr. ; A-F only; Periodic Fall)

Humans have long been on the move. The motives, circumstances, and practices of migration, however, have changed over time. This course will introduce students to various ways in which communication can facilitate or hinder migration. It will examine how stories by migrants and about migrants interlock to shape the historical and current frameworks that make immigration an enduring social and political issue.

COMM 3110. Topics in Communication Studies. (; 3 cr. [max 15 cr.]; Student Option; Periodic Fall & Summer)

Cases illustrating communication studies, theory, underlying issues.

COMM 3190H. Honors Course: Research Seminar in Communication. (; 3 cr. [max 6 cr.]; A-F only; Every Fall & Spring)

Students conduct original research in rhetoric, communication theory, or media for honors thesis. Theory, methods, research writing. prereq: Honors candidate in comm, instr consent, dept consent

COMM 3201. Introduction to Electronic Media Production. (; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Students work as a team to plan, script, and shoot video productions in a hands-on multi-camera television studio. By creating their own productions and reviewing the productions of others, students learn how media aesthetics shape the presentation of themes and messages.

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COMM 3202. Audio Production and Media Literacy. (; 3 cr. ; Student Option; Every Fall)

Introductory experience with sound design and production in podcasting, soundscape composition, music, and film. How sound advances media narratives and communicates emotion. The role sound plays in the producer's and audience's construction of worlds. Field recording, Foley work, vocal recording, music, and team production of longform nonfiction narrative podcast.

COMM 3204. Advanced Electronic Media Production. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Video as communicative medium integrating visual/aural aesthetics. Creation of broadcast-quality production integrating message creation, audience analysis, argument development, and visual/audio scripting. Utilization of media aesthetics to develop/shape production content. prereq: 3201 or instr consent

COMM 3211. Introduction to Media Studies. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Historical development and current issues in electronic media technologies and programming. Effects of governmental, industrial, and public organizations on message content. Problem areas of electronic media.

COMM 3221. Musical Communication. (; 3 cr. ; Student Option; Periodic Fall)

A critical media studies perspective on the production, distribution, consumption, circulation, and regulation of popular music.

COMM 3231. Reality TV: History, Culture, and Economics. (; 3 cr. ; Student Option; Every Spring)

Social, visual, cultural, economic, historical, and ethical dimensions of reality television.

COMM 3263W. Media Literacy: Decoding Media Images and Messages. (WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Analysis of media images/messages. Principles of literacy. Media content/industries. Media and identity. Media effects. Textbook/packet readings, videos, small groups of peer writing workshops, media analyses.

COMM 3341. Asian American Images. (AH,DSJ; 3 cr. ; Student Option; Periodic Fall & Spring)

From 19th-century anti-Chinese political cartoons to Harold and Kumar, visual representations of Asians in the United States have long influenced how Asian Americans are seen and treated. What are some of the ways that photography, graphic arts, and digital culture have pictured Asian Americans as aliens, citizens, immigrants, workers, family and community members, entertainers, and artists? Course topics will relate visual images

to particular historical moments, including the early exclusion period and the "yellow peril" stereotype; WWII Japanese American incarceration and the drawings of Min? Okubo, and photo-journalism documenting U.S. military involvement in Southeast Asia and its aftermath. How do photographic and other images work to counter historical amnesia, heal traumatic loss, and document social injustice? Other weeks of the class will explore the ways that individuals, families, and communities use photographs, video, and other visual media to preserve a sense of connection and belonging. We will also look at how contemporary Asian American photographers such as Tseng Kwong Chi, Nikki Lee, and Wing Young Huie experiment with visual images to raise questions of racial and national identity, social inequality, gender, sexuality, and political agency. The course also includes a digital storytelling project that encourages students to create video images and sound reflecting Asian American immigration stories from local communities.

COMM 3351. Asian Americans and Popular Culture. (AH,DSJ; 3 cr. ; Student Option; Periodic Fall & Spring)

Over the past few decades, Asian Americans have become increasingly visible both as the subjects and producers of popular culture in the United States. This course will explore how this new recognition of Asian Americans in popular literature, cinema, television, and entertainment is related both to longer histories of Asian immigration and racial exclusion and to post-1960s efforts to forward racial awareness, community activism, and social justice. Our first unit will look at how particular stereotypes such as the yellow peril or the wartime enemy encouraged anti-Asian feeling and violence and legal restrictions on immigration and naturalization. We will then examine how throughout history, Asian immigrants and their descendants used song, dance, theater, writing, and other forms of popular culture to express personal desires and foster collective ties. Our final unit concentrates on contemporary popular culture and its relationship to the changing identities of Asian Americans. How do Asian Americans influence the current essays, films, and videos that are consumed by millions today? How are increasingly pan-ethnic, interracial, multiracial, transnational, and global experiences reflected in popular culture?

COMM 3401. Introduction to Communication Theory. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Social scientific theory in human communication. Logic of scientific communication theories in interpersonal, small group, organizational, intercultural, and mediated communication.

COMM 3402. Introduction to Interpersonal Communication. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Nature and function of communication between individuals in formal and informal relationships. Communicative interactions from theoretical and practical viewpoints.

COMM 3405. Language and Gender. (; 3 cr. ; Student Option; Periodic Spring)

Gender/communication. Interdisciplinary theory. Role of communication in creating, maintaining, reinforcing, and changing gender relations in society.

COMM 3409. Nonverbal Communication. (SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Nonverbal communication in interpersonal communication process. Nonverbal codes (touch, space, smell, eye contact) and their communicative functions (impression management, flirting, persuading, lying) in relational contexts (intimate relationships, friendships, work relationship). Theories, practices.

COMM 3411. Introduction to Small Group Communication. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Cooperative thinking in task-oriented groups. Planning, preparing for, and participating in small groups in private and public contexts.

COMM 3422. Interviewing and Communication. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Application of communication concepts in information interview. Planning, conducting, and evaluating informational, journalistic/elite, helping, persuasive, appraisal, and employment interviews. Class training, field experience.

COMM 3431. Persuasion Theories. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Sociological, psychological, and communication perspectives. Theoretical knowledge applied to persuasion problems. prereq: Soph recommended

COMM 3441. Introduction to Organizational Communication. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Functions of communication in work groups, in organizational hierarchies, and between organizations.

COMM 3451. Intercultural Communication - Theory & Practice: Business & Organizational Communication in Germany. (3 cr. ; A-F only; Periodic Summer)

A Global Seminar course in which you will learn how to communicate effectively interculturally generally and in German business settings specifically. The course combines theoretical knowledge about how culture affects communication with the lived experience of being in a foreign country and culture.

COMM 3451W. Intercultural Communication: Theory and Practice. (WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Theories of and factors influencing intercultural communication. Development of effective intercultural communication skills. prereq: Planning an intercultural experience

COMM 3601. Introduction to Rhetorical Theory. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Theoretical systems to explain/direct creation of public discourse. Traditional rhetoric to

contemporary perspectives. Using theory to explain practice of public discourse.

COMM 3605W. Persuasive Speaking and Speech Writing. (WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Performance/composition with critical inquiry into rhetoric theories. Writing, thinking, and speaking skills. prereq: 1101, soph

COMM 3614. Advanced Public Policy and Debate. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)

Instruction in advanced theories and practices of both public and NDT/CEDA policy debate.

COMM 3615W. Argumentation. (WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course explores how arguments help us manage uncertainties in various contexts, straddling the space between inquiry (knowledge making), and advocacy (change making). By combining theory and practice, the class provides students with strategies for thoughtfully analyzing and producing critical judgments. It cultivates their ability to read critically and charitably, to write and argue creatively, cogently and appropriately, and to participate ethically and constructively in various deliberative environments.

COMM 3625W. Communication Ethics. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

Applying concepts/theories from philosophy and social science to ethical issues in interpersonal, group, organizational, intercultural, and media communication.

COMM 3631. Freedom of Speech. (CIV; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Communication theories and principles that underlie the concept of freedom of speech in the United States. A variety of contexts and practices are examined in order to understand how communicative interaction should be described and, when necessary, appropriately regulated.

COMM 3635W. Famous Speeches. (WI; 3 cr. ; A-F only; Every Fall)

Speeches that became famous because of the occasion, issue, or speaker. Students analyze texts, research the issue's history and the speaker's biography/opposition, and evaluate the speech's artistry, ethical principles, effects on society, and contribution to history of ideas.

COMM 3645W. How Pictures Persuade. (WI; 3 cr. ; A-F only; Every Fall)

How words/pictures interact in graphic memoirs, political cartoons, and science to create/communicate meaning. How this interaction bears on public advocacy. Reading examples of comprehensive cognitive model of visual communication.

COMM 3666. Greek Intellectual Revolution. (3 cr. ; Student Option; Periodic Spring)

This course is a three-week study abroad experience in Greece with the objective to examine how this ancient culture revolutionized its self-understanding of certain eternal human questions. Students will first acquire a degree of cultural competence in understanding the ancient culture, secondly understand how that revolution shaped our own western cultural

foundations, and thirdly to use the ancient answers to provoke a critical assessment our answers to those same human questions.

COMM 3676W. Communicating Terrorism. (GP,WI; 3 cr. ; Student Option; Every Fall)

Terrorism as an ethical and international problem. Different cultures' historical trajectories for terrorism. Contrasts between Algerian, Irish, and Arab terrorism.

COMM 3681W. Rhetorical Fictions and 20th Century Conflicts. (GP,WI,LITR; 4 cr. ; Student Option; Every Fall & Spring)

Analysis of selected 20th-century documentary novels. Nature of artistic truth in relation to historical truth. Cross-cultural comparisons of responses to impact of Anglo-American policies.

COMM 3682W. Communicating War. (AH,WI,CIV; 3 cr. ; Student Option; Every Spring)

Claim: if ethics (right/wrong) exists in war, then right/wrong exist everywhere. Students experience this claim through its expression in various arts/humanities media of history, memoir, philosophical meditation, and film.

COMM 3896. Internship for Academic Credit. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

An applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals, which may be related to a student's major field or area of interest. The work can be full or part time, paid or unpaid, primarily in off-campus environments. Internships integrate classroom knowledge and theory with practical application and skill development in professional or community settings. The skills and knowledge learned should be transferable to other employment settings and not simply to advance the operations of the employer. Typically the student's work is supervised and evaluated by a site coordinator or instructor.

COMM 3993. Directed Study. (1-3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. An opportunity in which a student completes a reading project, and/or designs and carries out a research project under the direction of a faculty member.

COMM 3994. Directed Research. (; 1-3 cr. [max 6 cr.] ; Student Option; Every Fall & Spring)

How communication research is designed, implemented, and published. Focus is on working with senior faculty on their current research projects.

COMM 3996. Directed Instruction. (; 3 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Supervised planning/teaching of undergraduate courses.

COMM 3999W. Capstone Project. (WI; 1 cr. ; S-N only; Every Fall & Spring)

The Capstone is fulfilled by completing a 10-20 page capstone paper. Students seeking honors in communication studies may fulfill the capstone requirement with the honors thesis. The honors thesis is completed by taking 6

credits of COMM 3190H, which counts towards the Additional Electives requirement. Students who double major and choose to complete the capstone requirement in their other major may waive the communication studies BA capstone, and they do not need to replace the 1 credit. Take COMM 3999W concurrently with any COMM 4xxx or 5xxx course. COMM 3999W is taken S-N only and must be taken during the same semester in which the capstone paper is written. The instructor sets the criteria for standards of quality and conceptual/theoretical content. Prerequisites: COMM major; instructor consent

COMM 4204. Producing for Television: Theory and Practice. (; 4 cr. ; Student Option; Every Fall)

Producing media content based on audience, design, and story. Developing a thematic design. Evaluating and choosing a projected audience based on story concept and program bible. Each student completes a television program, including writing a script, preproduction planning, and considering crew and talent needs. Media producer responsibilities. prereq: 3201, 3204

COMM 4235. Electronic Media and Ethnic Minorities--A World View. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer) Representation and involvement of various ethnic groups (e.g., African-Americans, Native Americans in United States and Canada, Maori, Turks in Europe) in radio, TV, cable, Internet. Roles of government, industry, public organizations, and minority groups in regulating, managing, and financing ethnic media activities.

COMM 4251. Environmental Communication. (ENV; 3 cr. ; A-F only; Every Spring)

Historical, cultural, material contexts within which environmental communication takes place. Understand environmental communication as well as develop communication strategies that lead to more sustainable social practices, institutions, and systems.

COMM 4263. Feminist Media Studies. (DSJ; 3 cr. ; A-F only; Every Spring)

Issues, controversies, and practices of gender and their relationship to U.S. media. Ways in which gender is represented in and comes into play with media texts/institutions. Histories of feminism, theories/methods/political economy, case studies. prereq: 3211 or instr consent

COMM 4291. New Telecommunication Media. (; 3 cr. ; A-F or Audit; Periodic Fall) Development and current status of new telecommunication media such as cable TV, satellites, DBS, MDS, and video disk/cassettes. Technology, historical development, regulation, and programming of these media and their influence on individuals, organizations, and society. prereq: 3211 or instr consent

COMM 4404W. Language Borderlands. (WI; 3 cr. ; Student Option; Every Fall)

Effect of multilingualism on self identity/sense of community. Subjective/social dimensions of being multilingual. Experience of language loss.

COMM 4407. Communication and Conflict. (; 3 cr. ; A-F or Audit; Every Fall)

Aspects of conflict common across types of relationships. Theories as alternative lenses to illuminate aspects of conflict. Communication strategies to manage or resolve conflict. prereq: 3401 or instr consent

COMM 4461. Prosocial Communication and Health. (3 cr. ; A-F or Audit; Periodic Spring)

There has been a shift in how we think about and study human health and well-being. This shift also emphasizes the cultivation of positive emotions, behaviors, and practices into our daily lives so that we may improve our relationships with others and ultimately our well-being. In this senior-level undergraduate seminar we will examine a) the meaning and importance of prosocial communication in our lives; b) the communicative and relational contributions of prosociality to our health and well-being; and c) how the popular press presents happiness research.

COMM 4471. Communication in Marriage and Family. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Contemporary theories of marriage/family communication using life-cycle approach. Role/function of communication in changing relational contexts. Ways of improving marriage/family relationships. prereq: 3401 or 3402 or instr consent

COMM 4602W. Contemporary Political Persuasion. (WI; 3 cr. ; Student Option; Periodic Fall)

Contemporary political speech. Ideologies in political persuasion. prereq: 1101, 3431 or instr consent

COMM 4616. African American Civil Rights Rhetoric. (; 3 cr. ; Student Option; Every Spring)

Uses the struggle of African Americans to explore and analyze philosophical concepts, political issues, moral complexities, and discursive characteristics of civil rights rhetoric. prereq: Jr

COMM 4621W. Rhetoric of Feminism.

(DSJ,WI; 3 cr. ; Student Option; Every Fall) History/criticism of rhetoric of feminism from 19th century to present.

COMM 5110. Special Topics in Communication Theory. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Summer) Advanced theoretical problems. See department office for current offering.

COMM 5211. Critical Media Studies: Theory and Methods. (; 3 cr. ; A-F only; Every Spring)

Survey of theories, research methods, and scholars dominating critical media studies since late 1920s. prereq: Graduate students or undergraduates who have completed COMM 3211 (Introduction to Media Studies) or its equivalent

COMM 5221. Media, Race, and Identity. (3 cr. ; Student Option; Periodic Fall)

Critical media studies perspective on cultural politics of race and ethnicity. Social construction of race, politics of racism, media representations of race. prereq: 3211 or instr consent

COMM 5231. Media Outlaws. (; 3 cr. ; Student Option; Fall Even Year)

People working outside of mainstream media institutions who find creative/provocative ways to use media as space for cultural, political, or economic critique/resistance.

COMM 5261. Political Economy of Media Culture. (; 3 cr. ; Student Option; Every Fall & Spring)

Organizational practices of media communicators. Media content as link between communicators and audiences. How viewers use/process media content. prereq: 3211 or instr consent

COMM 5411. Small Group Communication Research. (; 3 cr. ; A-F or Audit; Every Spring)

Survey of small group communication research; theory and practice. Group decision-making and leadership. prereq: 3411 or instr consent

COMM 5431. The Process of Persuasion. (; 3 cr. ; Student Option; Every Fall & Spring)

Communication campaigns (e.g., advertising, political) illustrating persuasive processes and theories. Research paper required. prereq: 3431

COMM 5441. Communication in Human Organizations. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Communication in organizational settings. Organizational structure and dynamics and their effect upon the communication process. Individual projects.

COMM 5451W. Intercultural Communication Processes. (WI; 3 cr. ; Student Option; Periodic Fall)

Theory and research on cultural differences in values, norms, behaviors, and perceptions that affect communication across cultures internationally and domestically.

COMM 5611. Survey of Rhetorical Theory.

(3 cr. ; Student Option; Periodic Fall) Rhetorical theory, from ancient to contemporary period. Application to public discourse.

COMM 5615W. Introduction to Rhetorical Criticism. (WI; 3 cr. ; Student Option; Every Spring)

Analysis of public discourse using various theoretical perspectives. prereq: 1101; 3601 recommended

COMM 5617. History and Criticism of U.S. Public Discourse: 1630-1865. (; 3 cr. ; Student Option; Periodic Fall)

How discourse has been used to establish or maintain power. Speeches and public debates used to examine American public address from 17th century (e.g., Puritan sermons) to the Civil War. prereq: Jr

COMM 5970. Directed Study. (1-3 cr. [max 18 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. Instructor and department consent is required.

COMM 5994. Communication Research Practicum. (; 1-3 cr. [max 9 cr.] ; S-N or Audit; Every Fall, Spring & Summer)

Students participate in research group. prereq: instr consent

Compar Study in Discourse/Soc (CSDS)

CSDS 5302. Aesthetics and the Valuation of Art. (3 cr. ; Student Option; Periodic Fall & Spring)

Society, ideology, aesthetic value in light of recent critical theories of visual art, music, literature. Mediations of place, social class, gender, ideology on aesthetic judgment in post-renaissance Western culture.

Comparative & Molecular Biosci (CMB)

CMB 5200. Statistical Genetics and Genomics. (4 cr. ; A-F or Audit; Fall Even Year)

Statistical issues in genomics. Gene detection, including statistical analysis/designs for linkage study and for mapping quantitative trait loci. Linkage analysis using pedigree data for codominant/dominant markers. Using radiation hybrid mapping and single cell typing. Design issues in linkage analysis, parentage testing, and marker polymorphism.

CMB 5201. Stopping the next pandemic: vaccines and drugs for battling viral infections. (2 cr. ; A-F only; Every Spring)

The COVID-19 pandemic underscores the importance of understanding viruses and developing vaccines and drugs to battle them. This course presents basic mechanisms of viruses including the COVID-19 virus, covers principles and applications of viral vaccines and antiviral drugs, and introduces methods for developing viral vaccines and antiviral drugs. This course also highlights scientific advances on viral vaccines and antiviral drugs. The overall goal of the course is to foster students' interest in virology, help students understand viruses in life situations, and prepare interested students for potential virology-related careers. Targeted students: graduate students, professional students and senior undergraduate students who are interested in clinical and basic medicine, veterinary medicine, microbiology, virology, biological scientific research, and vaccine and pharmaceutical industries.

CMB 5303. Comparative Models of Disease. (2 cr. ; A-F only; Every Spring)

Disease processes in organ systems. Examples of animal models. Comparative medicine. Clinical relevance of problem/disease. Animal models used to study disease process/problem. Lectures.

CMB 5340. Structural Biology in Biomedical Research. (2 cr. ; A-F only; Every Spring)

Structural biology plays a central role in biomedical research, but it is a challenging field to learn. This course teaches basic structural biology and its applications to biomedical research in an accessible and practical fashion. We will cover the principles and procedures of structural biology as well as structural biology databases and software. Students will also

learn how structural biology is used to solve scientific problems (e.g., elucidating molecular mechanisms and designing drugs and vaccines) and acquire skills that may facilitate their own research (e.g., reading structural biology literature and designing mutations). Student learning is achieved through classroom lectures, computer labs, written critique and oral presentation of research literature, and participation in discussion. The overall goal of this course is to help students understand structural biology and use it in their own research.

CMB 5571. Pathogenomics and Molecular Epidemiology - Learning to Fly. (3 cr. ; A-F only; Every Spring)

This course is designed provide an introduction to the use of molecular methods in our understanding of the pathogenesis, etiology, and transmission of infectious diseases that are important to both animals and public health. This is intended as a hands-on course for the student to learn techniques related to genome sequencing, pangenome analysis, phylogenetic analysis, and metagenomic analysis, and then apply these techniques towards their own research.

CMB 5594. Directed Research in Comparative and Molecular Biosciences. (1-4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Independent study as determined by instructor. Usual activity includes conducting research in instructor's lab. prereq: Jr, instr consent

CMB 5910. Grantwriting: What Makes a Winning Proposal?. (2 cr. ; Student Option; Every Spring)

Components of a strong proposal. Grant submission process. What reviewers look for. How to locate grant announcements that match reserach interests.

CMB 5912. Creativity. (1 cr. ; Student Option; Every Spring)

Creativity will be explored and used to provide new perspectives on a variety of professional goals, activities and challenges. Lectures will be followed by a mixture of individual and group activities to provide a guided exploration of how these creative approaches can be applied to many situations. Students will learn skills to expand their vision, become more adept at problem solving, design more innovative research, inspire themselves and others and become more fascinating communicators.

CMB 5915. Essential Statistics for Life Sciences. (3 cr. ; A-F or Audit; Every Fall)

This course is a broad overview of the principles and methods of statistical analysis used in life sciences research, including biological, veterinary, and translational research, and provides the background a new researcher needs to understand and apply commonly used statistical methods and the preparation needed for more advanced coursework. Classes will include general instruction and background information, detailed examples of how to perform the analyses, with actual data sets, and discussion

on how the topic has been applied in biological research, including reading and assessing papers in the field. Computing will be performed using the R software environment, though students may use alternate software with permission. Topics will include: ? Descriptive statistics and exploratory graphics ? Understanding statistical inference and interpreting P-values and confidence intervals. ? One and two sample inference, including t-tests, proportion tests, and non-parametric alternatives ? Linear regression, including the effects of confounders ? ANOVA methods, including pairwise comparisons and multiple comparisons

Comparative Literature (CL)

CL 5992. Directed Reading in Comparative Literature. (1-3 cr. [max 9 cr.] ; Student Option; Every Fall & Spring)
Guided individual reading and study. prereq: instr consent

Computer Science (CSCI)

CSCI 1001. Overview of Computer Science. (MATH,TS; 4 cr. ; Student Option; Every Spring)

Foundations/limits of today's computing/information technology. How to reason about applications/technological advances. Policy issues. Algorithms for automating solutions. Abstraction in design/problem solving. Concepts of computer databases, networks, expert systems human-computer interaction, Internet, Web, desktop software, personal computers. prereq: Non-CSci major, non-CompE major, non-EE major

CSCI 1103. Introduction to Computer Programming in Java. (4 cr. ; Student Option; Every Fall)

Fundamental programming concepts/software development using Java language. Problem solving skills. Algorithm development techniques. Use of abstractions/modularity. Data structures/abstract data types. Substantial programming projects. Weekly lab.

CSCI 1113. Introduction to C/C++ Programming for Scientists and Engineers. (4 cr. ; Student Option; Every Fall, Spring & Summer)

Programming for scientists/engineers. C/C++ programming constructs, object-oriented programming, software development, fundamental numerical techniques. Exercises/examples from various scientific fields. prereq: Math 1271 or Math 1371 or Math 1571H or instr consent

CSCI 1115. Exploring Computer Science Exercises in C++. (1 cr. ; S-N only; Every Fall & Spring)

This course is designed as a complement to CSCI 1113 for students who elect to devote additional time to get a broader exposure to concepts and practice of computer science. Students will work in small groups to sharpen their problem solving and computational skills, and be exposed to a variety of applications of computing.

CSCI 1133. Introduction to Computing and Programming Concepts.

(4 cr. ; Student Option; Every Fall, Spring & Summer)
Fundamental programming concepts using Python language. Problem solving skills, recursion, object-oriented programming. Algorithm development techniques. Use of abstractions/modularity. Data structures/abstract data types. Develop programs to solve real-world problems. prereq: concurrent registration is required (or allowed) in MATH 1271 or concurrent registration is required (or allowed) in MATH 1371 or concurrent registration is required (or allowed) in MATH 1571H or instr consent

CSCI 1133H. Honors Introduction to Computing and Programming Concepts.

(; 4 cr. ; A-F only; Every Fall)
Programming concepts using Python language. Real world problem solving, recursion, object-oriented programming. Algorithm development techniques. Abstractions/modularity. Optional honors topics: programming robots, programming paradigms, artificial intelligence. prereq: [concurrent registration is required (or allowed) in MATH 1271 or concurrent registration is required (or allowed) in MATH 1371 or concurrent registration is required (or allowed) in MATH 1571H], CSci majors, pre-majors in CSE/CLA, honors student

CSCI 1135. Exploring Computer Science Exercises in Python.

(1 cr. ; S-N only; Every Fall & Spring)
This course is designed as a complement to CSCI 1133 for students who elect to devote additional time to get a broader exposure to concepts and practice of computer science. Students will work in small groups to sharpen their problem solving and computational skills, and be exposed to a variety of applications of computing.

CSCI 1913. Introduction to Algorithms, Data Structures, and Program Development.

(4 cr. ; Student Option; Every Fall, Spring & Summer)
Advanced object oriented programming to implement abstract data types(stacks, queues, linked lists, hash tables, binary trees) using Java language. Searching/sorting algorithms. Basic algorithmic analysis. Scripting languages using Python language. Substantial programming projects. Weekly lab. prereq: (EE major and EE 1301) or (CmpE major and EE 1301) or 1103 or 1113 or instr consent

CSCI 1923. Python as a Second Programming Language.

(1 cr. ; Student Option; Every Fall & Spring)
Fundamental programming concepts and scripting using the Python language for students already familiar with programming concepts and syntax in C, C++, or Java. File IO and the use of libraries. Develop programs to solve real-world problems. This course is not intended for students who have taken CSCI 1133. Prereq: CSci 1103 or CSci 1113

CSCI 1933. Introduction to Algorithms and Data Structures.

(; 4 cr. ; Student Option; Every Fall, Spring & Summer)
Advanced object oriented programming to implement abstract data types (stacks, queues,

linked lists, hash tables, binary trees) using Java language. Inheritance. Searching/sorting algorithms. Basic algorithmic analysis. Use of software development tools. Weekly lab. prereq: 1133 or instr consent

CSCI 1933H. Honors Introduction to Algorithms and Data Structures.

(; 4 cr. ; A-F only; Every Spring)
Advanced object oriented programming to implement abstract data types (stacks, queues, linked lists, hash tables, binary trees) using Java language. Inheritance. Searching/sorting algorithms. Basic algorithmic analysis. Use of software development tools. Weekly lab. Optional honors topics: Advanced Java topics, GUI programming, CS research examples. prereq: [1133 or 1133H] and honors student, or inst consent

CSCI 2011. Discrete Structures of Computer Science.

(; 4 cr. ; Student Option; Every Fall & Spring)
Foundations of discrete mathematics. Sets, sequences, functions, big-O, propositional/predicate logic, proof methods, counting methods, recursion/recurrences, relations, trees/graph fundamentals. prereq: MATH 1271 or MATH 1371 or instr consent

CSCI 2011H. Honors Discrete Structures of Computer Science.

(; 4 cr. ; A-F only; Every Spring)
Foundations of discrete mathematics. Sets, sequences, functions, big-O, propositional/predicate logic, proof methods, counting methods, recursion/recurrences, relations, trees/graph fundamentals. Advanced topics in discrete structures as time permits. prereq: [MATH 1271 or MATH 1371 or MATH 1571H], honors student.

CSCI 2021. Machine Architecture and Organization.

(4 cr. ; Student Option; Every Fall & Spring)
Introduction to hardware/software components of computer system. Data representation, boolean algebra, machine-level programs, instruction set architecture, processor organization, memory hierarchy, virtual memory, compiling, linking. Programming in C. prereq: 1913 or 1933 or instr consent

CSCI 2033. Elementary Computational Linear Algebra.

(4 cr. ; Student Option; Every Fall & Spring)
Matrices/linear transformations, basic theory. Linear vector spaces. Inner product spaces. Systems of linear equations, Eigenvalues, singular values. Algorithms/computational matrix methods using MATLAB. Use of matrix methods to solve variety of computer science problems. prereq: [MATH 1271 or MATH 1371], [1113 or 1133 or knowledge of programming concepts]

CSCI 2041. Advanced Programming Principles.

(4 cr. ; Student Option; Every Fall & Spring)
Principles/techniques for creating correct, robust, modular programs. Computing with symbolic data, recursion/induction, functional programming, impact of evaluation strategies, parallelism. Organizing data/computations around types. Search-based programming,

concurrency, modularity. prereq: [1913 or 1933], 2011

CSCI 2081. Introduction to Software Development.

(4 cr. ; Student Option; Every Fall & Spring)
techniques for design and development of software using Java. Introduction to object-oriented programming and design, integrated development environments, inheritance, and polymorphism. Software design principles, testing and debugging, and use of project management tools. Implementation of a software project using data structures, files, and I/O. This course is intended for non-CS Majors. prereq: CSCI 1133 or CSCI 1133H

CSCI 2915. Teaching Methods in Computer Science.

(1 cr. ; S-N only; Every Spring)
This is a seminar on teaching and learning for undergraduate teaching assistants (TAs) of CSci classes. Enrollment is by instructor or department permission. The course's main goal is to help TAs improve their knowledge of teaching and learning in computer science so they can be effective TAs. Topics covered include educational issues in computer science, TA professionalism, best practices in giving effective feedback, inclusive teaching, online teaching and learning, and how to communicate well with students and other course staff. Its secondary goals are to help TAs improve their own communication skills, leadership skills, and knowledge of computer science as a field.

CSCI 2980. Special Topics in Computer Science.

(; 1-4 cr. [max 8 cr.]; A-F or Audit; Periodic Fall & Spring)

Special topics. Lectures, informal discussions.

CSCI 2999. Special Exam.

(4 cr. ; Student Option;)
CSCI 3003. Introduction to Computing in Biology. (; 3 cr. ; Student Option; Every Spring)
This course builds computational skills needed to carry out basic data analysis tasks common in modern biology. Students will learn computing concepts (algorithm development, data structures, complexity analysis) along with practical programming skills in Python and R. No previous programming knowledge assumed. Prereq: introductory biology course.

CSCI 3041. Introduction to Discrete Structures and Algorithms.

(4 cr. ; Student Option; Every Fall & Spring)
Overview of strategies and techniques for the design and analysis of algorithms. Logic and proof techniques, asymptotic notation, recurrences, graphs and relations. Algorithm design strategies and examples from graph algorithms, greedy, divide-and-conquer, and dynamic programming. This course is intended for non-CS Majors. prerequisite: CSci 2081, concurrent registration with CSci 2081 and upper class standing, or instructor permission.

CSCI 3061. Introduction to Computer Systems.

(4 cr. ; Student Option; Every Fall & Spring)
Overview of the organization and interfaces of computing systems. Basics of machine organization, data representation, memory

hierarchy and assembly language/ISA. Systems programming in C/C++, including memory management, files, processes and interprocess communication. This course is intended for non-CS Majors. prereq: CSci 2081 or instructor permission

CSCI 3081W. Program Design and Development. (WI; 4 cr. ; Student Option; Every Fall & Spring)

Principles of programming design/analysis. Concepts in software development. Uses a programming project to illustrate key ideas in program design/development, data structures, debugging, files, I/O, testing, and coding standards. prereq: [2021, 2041]; CS upper div, CS grad, or dept. permission

CSCI 3921W. Social, Legal, and Ethical Issues in Computing. (CIV,WI; 3 cr. ; Student Option; Every Fall)

Impact of computers on society. Computer science perspective of ethical, legal, social, philosophical, political, and economic aspects of computing. prereq: At least soph or instr consent

CSCI 3970. Industrial Student Co-op Assignment. (; 2 cr. [max 4 cr.]; S-N or Audit; Every Fall & Spring)

Industrial work assignment in a co-op program involving advanced computer technology. Reviewed by a faculty member. Grade based on final written report. prereq: CSci, in co-op program, instr consent

CSCI 4011. Formal Languages and Automata Theory. (4 cr. ; Student Option; Every Fall & Spring)

Logical/mathematical foundations of computer science. Formal languages, their correspondence to machine models. Lexical analysis, string matching, parsing. Decidability, undecidability, limits of computability. Computational complexity. prereq: 2041 or instr consent

CSCI 4041. Algorithms and Data Structures. (4 cr. ; Student Option; Every Fall & Spring)

Rigorous analysis of algorithms/implementation. Algorithm analysis, sorting algorithms, binary trees, heaps, priority queues, heapsort, balanced binary search trees, AVL trees, hash tables and hashing, graphs, graph traversal, single source shortest path, minimum cost spanning trees. prereq: [(1913 or 1933) and 2011] or instr consent; cannot be taken for grad CSci cr

CSCI 4061. Introduction to Operating Systems. (; 4 cr. ; Student Option; Every Fall & Spring)

Processes/threads, process coordination, interprocess communication, asynchronous events, memory management/file systems. Systems programming projects using operating system interfaces and program development tools. prereq: 2021 or EE 2361; CS upper div, CS minor, CompE upper div., EE upper div., EE grad, ITI upper div., Univ. honors student, or dept. permission; no cr for grads in CSci.

CSCI 4131. Internet Programming. (; 3 cr. ; Student Option; Every Fall & Spring)

Issues in internet programming. Internet history, architecture/protocols, network

programming, Web architecture. Client-server architectures and protocols. Client-side programming, server-side programming, dynamic HTML, Java programming, object-oriented architecture/design, distributed object computing, Web applications. prereq: 4061, 4211 recommended, cannot be taken for grad CSci cr

CSCI 4203. Computer Architecture. (; 4 cr. ; Student Option; Every Fall & Spring)

Introduction to computer architecture. Aspects of computer systems, such as pipelining, memory hierarchy, and input/output systems. Performance metrics. Examines each component of a complicated computer system. prereq: 2021 or instr consent

CSCI 4211. Introduction to Computer Networks. (; 3 cr. ; Student Option; Every Fall & Spring)

Concepts, principles, protocols, and applications of computer networks. Layered network architectures, data link protocols, local area networks, routing, transport, network programming interfaces, networked applications. Examples from Ethernet, Token Ring, TCP/IP, HTTP, WWW. prereq: 4061 or instr consent; basic knowledge of [computer architecture, operating systems] recommended, cannot be taken for grad CSci cr

CSCI 4271W. Development of Secure Software Systems. (WI; 4 cr. ; A-F or Audit; Every Spring)

Overview of threat modeling and security assessment in the design and development of software systems. Techniques to identify, exploit, detect, mitigate and prevent software vulnerabilities at the design, coding, application, compiler, operating system, and networking layers. Methods for effectively communicating system designs and vulnerabilities. Prerequisites: 3081W

CSCI 4511W. Introduction to Artificial Intelligence. (WI; 4 cr. ; Student Option; Every Fall & Spring)

Problem solving, search, inference techniques. Knowledge representation. Planning. Machine learning. Robotics. Lisp programming language. Cannot be taken for grad CSci credit. prereq: 2041 or instr consent

CSCI 4611. Programming Interactive Computer Graphics and Games. (3 cr. ; Student Option; Every Spring)

Tools/techniques for programming games/interactive computer graphics. Event loops, rendering/animation, polygonal models, texturing, physical simulation. Modern graphics toolkits. History/future of computer games technology. Social impact of interactive computer graphics. prereq: 2021 or instr consent

CSCI 4707. Practice of Database Systems. (; 3 cr. ; Student Option; Every Fall & Spring)

Concepts, conceptual data models, case studies, common data manipulation languages, logical data models, database design, facilities for database security/integrity, applications. prereq: 4041 or instr consent

CSCI 4921. History of Computing. (HIS,TS; 3 cr. ; Student Option; Fall Even Year)

Developments in last 150 years; evolution of hardware and software; growth of computer and semiconductor industries and their relation to other businesses; changing relationships resulting from new data-gathering and analysis techniques; automation; social and ethical issues.

CSCI 4950. Senior Software Project. (; 3 cr. [max 6 cr.]; A-F only; Every Fall & Spring)

Student teams develop a software system, distribute system to users, and extend/maintain it in response to their needs. Software engineering techniques. Software development, team participation, leadership. prereq: Upper div CSci, instr consent

CSCI 4970W. Advanced Project Laboratory. (WI; 3 cr. [max 9 cr.]; Student Option; Every Fall & Spring)

Formulate and solve open-ended project: design, implement, interface, document, test. Team work strongly encouraged. Arranged with CSci faculty. prereq: Upper div CSci, 4061, instr consent; cannot be taken for grad cr

CSCI 4980. Special Topics in Computer Science for Undergraduates. (; 1-3 cr. [max 9 cr.]; A-F or Audit; Periodic Fall & Spring)

Lectures and informal discussions on current topics in computer science. prereq: Undergrad, instr consent; no cr for grads in [CSci or CompE]

CSCI 4994H. Honors Thesis. (; 1-3 cr. [max 6 cr.]; A-F only; Every Fall, Spring & Summer)

Research work for an honors thesis arranged with a CS faculty member who is the adviser or coadviser. prereq: Honors student, instr consent

CSCI 5103. Operating Systems. (; 3 cr. ; Student Option; Every Fall)

Conceptual foundation of operating system designs and implementations. Relationships between operating system structures and machine architectures. UNIX implementation mechanisms as examples. prereq: 4061 or instr consent

CSCI 5105. Introduction to Distributed Systems. (; 3 cr. ; Student Option; Periodic Spring)

Distributed system design and implementation. Distributed communication and synchronization, data replication and consistency, distributed file systems, fault tolerance, and distributed scheduling. prereq: [5103 or equiv] or instr consent

CSCI 5106. Programming Languages. (; 3 cr. ; Student Option; Every Fall)

Design and implementation of high-level languages. Course has two parts: (1) language design principles, concepts, constructs; (2) language paradigms, applications. Note: course does not teach how to program in specific languages. prereq: 4011 or instr consent

CSCI 5115. User Interface Design, Implementation and Evaluation. (; 3 cr. ; Student Option; Every Fall)

Theory, design, programming, and evaluation of interactive application interfaces. Human

capabilities and limitations, interface design and engineering, prototyping and interface construction, interface evaluation, and topics such as data visualization and World Wide Web. Course is built around a group project. prereq: 4041 or instr consent

CSCI 5117. Developing the Interactive Web. (; 3 cr. ; Student Option; Spring Even Year) Hands-on design experience using modern web development tools. Students work in teams to develop software programs using each of four toolkits. Analyze developments in forum posts and classroom discussions. prereq: 4131 or 5131 or instr consent; upper div or grad in CSci recommended

CSCI 5123. Recommender Systems. (3 cr. ; Student Option; Fall Odd Year) An overview of recommender systems, including content-based and collaborative algorithms for recommendation, programming of recommender systems, and evaluation and metrics for recommender systems. prereq: Java programming and 2033 and 3081, or instructor consent.

CSCI 5125. Collaborative and Social Computing. (; 3 cr. ; Student Option; Spring Even Year) Introduction to computer-supported cooperative work, social computing. Technology, research methods, theory, case studies of group computing systems. Readings, hands-on experience. prereq: 5115 or instr consent

CSCI 5127W. Embodied Computing: Design & Prototyping. (WI; 3 cr. ; Student Option; Fall Even Year) In this course, you will learn and apply the principles of embodied computing to human-centered challenges. Through a semester-long team project, you will learn and demonstrate mastery of human-centered embodied computing through two phases: (1) investigating human needs and current embodied practices and (2) rapidly prototyping and iterating embodied computing solutions. One of the ways you will demonstrate this mastery is through the collaborative creation of a written document and project capstone video describing your process and prototype. prereq: CSci 4041, upper division or graduate student, or instructor permission; CSci 5115 or equivalent recommended.

CSCI 5143. Real-Time and Embedded Systems. (; 3 cr. ; A-F only; Periodic Spring) Real-time systems that require timely response by computer to external stimulus. Embedded systems in which computer is part of machine. Increasing importance of these systems in commercial products. How to control robots and video game consoles. Lecture, informal lab. prereq: [4061 or instr consent], experience with C language

CSCI 5161. Introduction to Compilers. (3 cr. ; Student Option; Every Spring) Techniques for translating modern programming languages to intermediate forms or machine-executable instructions/their organization into compiler. Lexical analysis, syntax analysis, semantic analysis, data flow analysis, code generation. Compiler project for

prototypical language. prereq: [2021, 5106] or instr consent

CSCI 5204. Advanced Computer Architecture. (; 3 cr. ; Student Option; Every Fall) Instruction set architecture, processor microarchitecture, memory, I/O systems. Interactions between computer software and hardware. Methodologies of computer design. prereq: 4203 or EE 4363

CSCI 5211. Data Communications and Computer Networks. (; 3 cr. ; Student Option; Every Fall) Concepts, principles, protocols, and applications of computer networks. Layered network architectures, data link protocols, local area networks, network layer/routing protocols, transport, congestion/flow control, emerging high-speed networks, network programming interfaces, networked applications. Case studies using Ethernet, Token Ring, FDDI, TCP/IP, ATM, Email, HTTP, and WWW. prereq: [4061 or instr consent], basic knowledge of [computer architecture, operating systems, probability], grad student

CSCI 5221. Foundations of Advanced Networking. (; 3 cr. ; Student Option; Spring Even Year) Design principles, protocol mechanisms. Network algorithmics, implementation techniques. Advanced network architectures, state-of-art/emerging networking technologies/applications, network modeling. Simulation, experiments. prereq: 4211 or 5211 or equiv; intro course in computer networks recommended

CSCI 5271. Introduction to Computer Security. (; 3 cr. ; Student Option; Every Fall) Concepts of computer, network, and information security. Risk analysis, authentication, access control, security evaluation, audit trails, cryptography, network/database/application security, viruses, firewalls. prereq: 4061 or 5103 or equiv or instr consent

CSCI 5302. Analysis of Numerical Algorithms. (; 3 cr. ; Student Option; Every Spring) Additional topics in numerical analysis. Interpolation, approximation, extrapolation, numerical integration/differentiation, numerical solutions of ordinary differential equations. Introduction to optimization techniques. prereq: 2031 or 2033 or instr consent

CSCI 5304. Computational Aspects of Matrix Theory. (; 3 cr. ; Student Option; Every Fall) Perturbation theory for linear systems and eigenvalue problems. Direct/iterative solution of large linear systems. Matrix factorizations. Computation of eigenvalues/eigenvectors. Singular value decomposition. LAPACK/other software packages. Introduction to sparse matrix methods. prereq: 2031 or 2033 or instr consent

CSCI 5421. Advanced Algorithms and Data Structures. (; 3 cr. ; Student Option; Every Fall & Spring) Fundamental paradigms of algorithm and data structure design. Divide-and-conquer, dynamic programming, greedy method, graph

algorithms, amortization, priority queues and variants, search structures, disjoint-set structures. Theoretical underpinnings. Examples from various problem domains. prereq: 4041 or instr consent

CSCI 5451. Introduction to Parallel Computing: Architectures, Algorithms, and Programming. (; 3 cr. ; Student Option; Every Spring) Parallel architectures design, embeddings, routing. Examples of parallel computers. Fundamental communication operations. Performance metrics. Parallel algorithms for sorting. Matrix problems, graph problems, dynamic load balancing, types of parallelisms. Parallel programming paradigms. Message passing programming in MPI. Shared-address space programming in openMP or threads. prereq: 4041 or instr consent

CSCI 5461. Functional Genomics, Systems Biology, and Bioinformatics. (; 3 cr. ; Student Option; Every Spring) Computational methods for analyzing, integrating, and deriving predictions from genomic/proteomic data. Analyzing gene expression, proteomic data, and protein-protein interaction networks. Protein/gene function prediction, Integrating diverse data, visualizing genomic datasets. prereq: 3003 or 4041 or instr consent

CSCI 5465. Introduction to Computing for Biologists. (3 cr. ; Student Option; Fall Odd Year) This course is designed for graduate students in biology or other related sciences that wish to learn fundamental computing skills that will enable them to develop their own computational approaches for meaningful interpretation of scientific data. Students will complete programming assignments in Python and R. No previous programming knowledge assumed. Prereq: Introductory biology course; non-CSE students only.

CSCI 5471. Modern Cryptography. (; 3 cr. ; Student Option; Periodic Fall & Spring) Introduction to cryptography. Theoretical foundations, practical applications. Threats, attacks, and countermeasures, including cryptosystems and cryptographic protocols. Secure systems/networks. History of cryptography, encryption (conventional, public key), digital signatures, hash functions, message authentication codes, identification, authentication, applications. prereq: [2011, 4041, [familiarity with number theory or finite fields]] or instr consent

CSCI 5481. Computational Techniques for Genomics. (; 3 cr. ; Student Option; Every Fall) Techniques to analyze biological data generated by genome sequencing, proteomics, cell-wide measurements of gene expression changes. Algorithms for single/multiple sequence alignments/assembly. Search algorithms for sequence databases, phylogenetic tree construction algorithms. Algorithms for gene/promoter and protein structure prediction. Data mining for micro array expression analysis. Reverse engineering

of regulatory networks. prereq: 4041 or instr consent

CSCI 5511. Artificial Intelligence I. (3 cr. ; Student Option; Every Fall)
Introduction to AI. Problem solving, search, inference techniques. Logic/theorem proving. Knowledge representation, rules, frames, semantic networks. Planning/scheduling. Lisp programming language. prereq: [2041 or instr consent], grad student

CSCI 5512. Artificial Intelligence II. (; 3 cr. ; Student Option; Every Spring)
Uncertainty in artificial intelligence. Probability as a model of uncertainty, methods for reasoning/learning under uncertainty, utility theory, decision-theoretic methods. prereq: [STAT 3021, 4041] or instr consent

CSCI 5521. Machine Learning Fundamentals. (; 3 cr. ; Student Option; Periodic Fall)
Problems of pattern recognition, feature selection, measurement techniques. Statistical decision theory, nonstatistical techniques. Automatic feature selection/data clustering. Syntactic pattern recognition. Mathematical pattern recognition/artificial intelligence. Prereq: [2031 or 2033], STAT 3021, and knowledge of partial derivatives

CSCI 5523. Introduction to Data Mining. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Data pre-processing techniques, data types, similarity measures, data visualization/exploration. Predictive models (e.g., decision trees, SVM, Bayes, K-nearest neighbors, bagging, boosting). Model evaluation techniques, Clustering (hierarchical, partitional, density-based), association analysis, anomaly detection. Case studies from areas such as earth science, the Web, network intrusion, and genomics. Hands-on projects. prereq: 4041 or equiv or instr consent

CSCI 5525. Machine Learning: Analysis and Methods. (; 3 cr. ; Student Option; Fall Even Year)
Models of learning. Supervised algorithms such as perceptrons, logistic regression, and large margin methods (SVMs, boosting). Hypothesis evaluation. Learning theory. Online algorithms such as winnow and weighted majority. Unsupervised algorithms, dimensionality reduction, spectral methods. Graphical models. prereq: Grad student or instr consent

CSCI 5527. Deep Learning: Models, Computation, and Applications. (3 cr. ; Student Option; Every Fall)
This course introduces the basic ingredients of deep learning, describes effective models and computational principles, and samples important applications. Topics include universal approximation theorems, basics of numerical optimization, auto-differentiation, convolution neural networks, recurrent neural networks, generative neural networks, representation learning, and deep reinforcement learning. Prerequisite: CSCI 5521 or equivalent
Maturity in linear algebra, calculus, and basic probability is assumed. Familiarity with Python is necessary to complete the homework assignments and final project.

CSCI 5541. Natural Language Processing. (; 3 cr. ; Student Option; Periodic Spring)
Computers are poor conversationalists, despite decades of attempts to change that fact. This course will provide an overview of the computational techniques developed in the attempt to enable computers to interpret and respond appropriately to ideas expressed using natural languages (such as English or French) as opposed to formal languages (such as C++ or Python). Topics in this course will include parsing, semantic analysis, machine translation, dialogue systems, and statistical methods in speech recognition. Suggested prerequisite: CSCI 2041

CSCI 5551. Introduction to Intelligent Robotic Systems. (; 3 cr. ; Student Option; Periodic Fall)
Transformations, kinematics/inverse kinematics, dynamics, control. Sensing (robot vision, force control, tactile sensing), applications of sensor-based robot control, robot programming, mobile robotics, microrobotics. prereq: 2031 or 2033 or instr consent

CSCI 5552. Sensing and Estimation in Robotics. (; 3 cr. ; Student Option; Periodic Spring)
Bayesian estimation, maximum likelihood estimation, Kalman filtering, particle filtering. Sensor modeling and fusion. Mobile robot motion estimation (odometry, inertial, laser scan matching, vision-based) and path planning. Map representations, landmark-based localization, Markov localization, simultaneous localization/mapping (SLAM), multi-robot localization/mapping. prereq: [5551, Stat 3021] or instr consent

CSCI 5561. Computer Vision. (; 3 cr. ; Student Option; Every Spring)
Issues in perspective transformations, edge detection, image filtering, image segmentation, and feature tracking. Complex problems in shape recovery, stereo, active vision, autonomous navigation, shadows, and physics-based vision. Applications. prereq: CSci 5511, 5521, or instructor consent.

CSCI 5563. Multiview 3D Geometry in Computer Vision. (3 cr. ; A-F or Audit; Every Spring)
The 3D spatial relationship between cameras and scenes in computer vision. Application to tasks such as planning robots, reconstructing scenes from photos, and understanding human behaviors from body-worn cameras data. Multiview theory fundamentals, structure-from-motion, state-of-the-art approaches, and current research integration. Prereq: Students enrolling in this course must have completed CSCI 5561 or have instructor consent.

CSCI 5607. Fundamentals of Computer Graphics 1. (3 cr. ; Student Option; Every Fall)
Fundamental algorithms in computer graphics. Emphasizes programming projects in C/C+++. Scan conversion, hidden surface removal, geometrical transformations, projection, illumination/shading, parametric cubic curves, texture mapping, antialiasing, ray tracing.

Developing graphics software, graphics research. prereq: concurrent registration is required (or allowed) in 2033, concurrent registration is required (or allowed) in 3081

CSCI 5608. Fundamentals of Computer Graphics II. (3 cr. ; Student Option; Periodic Spring)
Advanced topics in image synthesis, modeling, rendering. Image processing, image warping, global illumination, non-photorealistic rendering, texture synthesis. Parametric cubic surfaces, subdivision surfaces, acceleration techniques, advanced texture mapping. Programming in C/C++. prereq: 5607 or instr consent

CSCI 5609. Visualization. (3 cr. ; Student Option; Fall Even Year)
Fundamental theory/practice in data visualization. Programming applications. Perceptual issues in effective data representation, multivariate visualization, information visualization, vector field/volume visualization. prereq: [1913, 4041] or equiv or instr consent

CSCI 5611. Animation & Planning in Games. (3 cr. ; Student Option; Fall Odd Year)
Theory behind algorithms used to bring virtual worlds to life. Computer animation topics. Real-time, interactive techniques used in modern games. Physically-based animation, motion planning, character animation, simulation in virtual worlds. prereq: 4041 or 4611 or instr consent

CSCI 5619. Virtual Reality and 3D Interaction. (3 cr. ; Student Option; Spring Odd Year)
Introduction to software, technology/applications in virtual/augmented reality, 3D user interaction. Overview of current research. Hands-on projects. prereq: 4611 or 5607 or 5115 or equiv or instr consent

CSCI 5707. Principles of Database Systems. (; 3 cr. ; Student Option; Every Fall)
Concepts, database architecture, alternative conceptual data models, foundations of data manipulation/analysis, logical data models, database designs, models of database security/integrity, current trends. prereq: [4041 or instr consent], grad student

CSCI 5708. Architecture and Implementation of Database Management Systems. (; 3 cr. ; Student Option; Every Spring)
Techniques in commercial/research-oriented database systems. Catalogs. Physical storage techniques. Query processing/optimization. Transaction management. Mechanisms for concurrency control, disaster recovery, distribution, security, integrity, extended data types, triggers, and rules. prereq: 4707 or 5707 or instr consent

CSCI 5715. From GPS, Google Maps, and Uber to Spatial Data Science. (3 cr. ; Student Option; Spring Even Year)
Spatial databases and querying, spatial big data mining, spatial data-structures and algorithms, positioning, earth observation, cartography, and geo-visualization. Trends such as spatio-temporal, and geospatial cloud

analytics, etc. prereq: Familiarity with Java, C++ or Python

CSCI 5751. Big Data Engineering and Architecture. (3 cr. ; Student Option; Every Fall)

Big data and data-intensive application management, design and processing concepts. Data modeling on different NoSQL databases: key/value, column-family, document, graph-based stores. Stream and real-time processing. Big data architectures. Distributed computing using Spark, Hadoop or other distributed systems. Big data projects. prereq: 4041, 5707, or instructor consent.

CSCI 5801. Software Engineering I. (3 cr. ; Student Option; Every Fall)

Advanced introduction to software engineering. Software life cycle, development models, software requirements analysis, software design, coding, maintenance. prereq: 2041 or instr consent

CSCI 5802. Software Engineering II. (3 cr. ; Student Option; Periodic Spring)

Introduction to software testing, software maturity models, cost specification models, bug estimation, software reliability models, software complexity, quality control, and experience report. Student groups specify, design, implement, and test partial software systems. Application of general software development methods and principles from 5801. prereq: 5801 or instr consent

CSCI 5980. Special Topics in Computer Science. (1-3 cr. [max 27 cr.] ; Student Option; Periodic Fall & Spring)

Lectures and informal discussions on current topics in computer science. prereq: instr consent; may be repeated for cr

CSCI 5991. Independent Study. (1-3 cr. [max 9 cr.] ; Student Option; Every Fall, Spring & Summer)

Independent study arranged with CS faculty member. prereq: instr consent; may be repeated for cr

CSCI 5994. Directed Research. (1-3 cr. [max 9 cr.] ; Student Option; Every Fall, Spring & Summer)

Directed research arranged with faculty member. prereq: instr consent; may be repeated for cr

CSCI 5996. Curricular Practical Training. (1 cr. [max 3 cr.] ; S-N or Audit; Every Fall, Spring & Summer)

Industrial work assignment involving advanced computer technology. Reviewed by faculty member. Grade based on final report covering work assignment. prereq: [CSci or CompE] major, instr consent

CSCI 5997. Curricular Practical Training Extension. (1 cr. [max 3 cr.] ; S-N only; Every Fall, Spring & Summer)

Extension of an industrial work assignment involving advanced computer technology. Grade based on final report covering work assignment. prereq: [CSci or CompE] major, instr consent

CMGT 2019. AutoCAD for Construction Managers. (2 cr. ; Student Option; Every Fall & Spring)

Most current version of AutoCAD software skills and construction concepts. 2-D techniques and business applications of computer-aided drafting (CAD) at job entry level. prereq: 30 sem cr

CMGT 3001W. Introduction to Construction. (WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

A wide range of construction-related topics and an overview of the industry itself are presented: type and size of projects, where the industry has come from and where it appears to be heading, and roles and responsibilities of participants. Through assignments and projects, the course defines project and construction sequences, materials and building systems, and project scheduling and delivery methods. Students will conduct research into construction materials, sustainability, and self-selected topics. As a writing intensive course focused on developing skills crucial to professionals, it requires the production and revision of a variety of construction documents, including drawings and specifications.

CMGT 3011. Construction Plan Reading. (2 cr. ; Student Option; Every Fall, Spring & Summer)

Intro to construction plan reading and construction documents (using architectural, civil, mechanical, electrical drawings and project manual). Read, understand, and interpret commercial construction plans and project manuals, including notes, symbols, and plan layout.

CMGT 3024W. Facility Programming and Design. (WI; 2 cr. ; A-F or Audit; Every Fall)

Facility Programming and Design moves through the process of defining a building-related need, evaluating the existing facility, exploring design solutions, and presenting a business case for the final project. This course is constructed from the viewpoint of the facility manager, and each step of the instruction and each assignment builds to the final project and presentation. It is a requirement for Construction Management degree and certificate students. It can also be used as an elective for undergraduate or graduate students pursuing degrees in architecture, civil engineering, facility management, interior design, housing studies, and other related majors. There are no formal prerequisites, but it is recommended that students have completed at least one of the following: 1. CMgt 3011 (Construction Plan Reading) or CMgt 3001/3001W (Introduction to Construction) taken before or simultaneously with this course; 2. completion of a first or second year architecture or interior design studio; 3. relevant prior experience in the facility management industry; 4. approval of the instructor.

CMGT 4000. The Construction Industry through Time and Tomorrow. (2 cr. ; A-F or Audit; Every Fall)

This course centers on the construction industry in all its facets. The intention is to

ensure that students taking it are provided with an in-depth understanding of how the industry evolved from early times to the present day and where the industry may be heading in the future. Equipped with this knowledge, graduates will be in a better position to understand their role in whichever sector of the industry they choose to build their careers and to contribute to positive change and improvement in how the industry serves its clients. It should be emphasized that this course is neither a history of architectural or engineering design, nor of construction technology, but concentrates rather on industry structure, organization, and the way it delivers its products.

CMGT 4001. Innovative Contracting. (1 cr. ; A-F or Audit; Fall Odd Year)

The triple constraint of time/cost/quality has often been challenged by traditional design/bid/build delivery methods. The private sector has had a unique advantage in its ability to negotiate contracts in the absence of firm bidding rules, including the extensive use of design/build delivery methods, while the public sector has been required by statute to bid to the lowest responsible bidder using design/bid/build. In an attempt to find the right balance that respects the competitive public bidding process while taking advantage of alternative project delivery strategies, the public sector has used enabling legislation to aggressively find new ways to contract project delivery, improving quality, speed of delivery, and cost management while reducing risk. This course will explore the methods of innovative contracting used by MnDOT and their underlying strategies, techniques, metrics, and outcomes, using a case study approach.

CMGT 4002. Lean Construction. (1 cr. ; A-F or Audit; Spring Odd Year)

An introduction to lean principles and how they can be applied to the design and construction industries. Prerequisites: None, although planning/scheduling coursework or experience is recommended.

CMGT 4003. Managing with Building Information Modeling. (2 cr. ; A-F or Audit; Every Fall & Spring)

For 5,000 years we have used hand drawings to communicate ideas and methodologies, from Egyptian hieroglyphs to computer technology. Building information modeling (BIM) computer models act as simulators, analyzing architectural programs, materials, energy usage, constructability, construction sequencing, and more, down to tens of micrometers. Today, building systems such as sheet metal and steel are fabricated directly from 3D models; material quantities are extracted from modeled objects and tied to cost early in the design process; coordinated models are visualized by project teams, clarifying scope, and providing a vehicle for communication. This course combines high-level technical training in BIM software with theoretical processes for managing a construction project using BIM techniques and tools. Prereqs: None. However, if you have no prior experience with construction, we

Construction Management (CMGT)

recommend CMgt 3001 - Intro to Construction and CMgt 4021 - Construction Planning and Scheduling for knowledge of industry project delivery. Basic computer skills are required.

CMGT 4011. Construction Documents and Contracts. (; 3 cr. ; Student Option; Every Fall & Spring)

Definition, interpretation, and utilization of drawings. Specifications, agreements, bidding forms, general conditions. Bonds, contracts, subcontracts, and related documents. Appropriate provisions for minority business participation, such as tax exempt status and wage rates. prereq: 3001, 45 sem cr

CMGT 4021. Construction Planning and Scheduling. (; 3 cr. ; Student Option; Every Fall & Spring)

Project planning, scheduling, and control. Considering/understanding alternatives. Industry techniques. Introduction to critical path method. Using commercial software on personal computers. Updating/analyzing project schedules. prereq: 3001, 3011, 45 sem cr

CMGT 4022. Construction Estimating. (; 3 cr. ; Student Option; Every Fall & Spring)

Purposes/uses of various estimates. Performing quantity take-off, organizing bidding process. Requesting/analyzing subcontractor proposals. Unit pricing. Using published resources. Preparing systems-based estimates. Related software, spreadsheets, custom applications. Linkages among estimates, budgets, cost control systems, and cost records. prereq: 3001, 3011, 45 sem cr

CMGT 4031. Construction Safety and Loss Control. (; 3 cr. ; Student Option; Every Fall & Spring)

Introduction to construction safety, health, and loss control. Hazard recognition. Control procedures. Management systems for measuring/evaluating loss-control performances in construction industry. prereq: 3001, 45 sem cr

CMGT 4041W. Specifications and Technical Writing for Construction Professionals. (WI; 3 cr. ; Student Option; Every Spring)

Develop/enhance appropriate oral/written communication necessary for use in the construction process from planning phase through contract closeout. Develop construction-specific practical applications to facilitate the process and avoid common pitfalls. prereq: 4011 or concurrent registration is required (or allowed) in 4011

CMGT 4073. Building Codes for Construction Managers. (; 1 cr. ; Student Option; Every Spring)

Building codes history, foundation, structure, and organization. Importance to the built environment throughout building life cycle: design, construction, occupancy, demolition. Code compliance and role of building code official. Interpretation and application to specific scenarios. Recognizing and correcting code deficiencies. prereq: 45 cr or instr consent

CMGT 4081. Managing Erosion and Sediment Control on Construction Sites. (; 1 cr. ; A-F or Audit; Every Fall & Spring)

Designed for those who will supervise, run, or direct construction site operations, grading, culvert replacement, and bridge construction. Best management practices to reduce or control erosion and sedimentation. Topics include permit requirements, stakeholder roles and responsibilities, sample specifications, and using the Storm Water Pollution Prevention Plan (SWPPP). Soil erodibility, turf establishment techniques, grading techniques to minimize erosion, timing of installations, and proper application of best management practices are also covered. Students will learn how to implement an erosion and sediment control plan, the requirements of various regulatory agencies, and consequences of permit violations. Can be used to achieve the Erosion and Stormwater Construction Site Management Certification, which is required by the Minnesota Department of Transportation Standard Specifications on construction sites. prereq: CMGT 3001- Introduction to the Built Environment OR relevant experience

CMGT 4193. Directed Study. (1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Independent project. Topic arranged with/supervised by construction management faculty. prereq: Admitted to CMgt major or minor or certificate

CMGT 4196. Construction Management Internship. (; 1 cr. [max 3 cr.] ; S-N only; Every Fall, Spring & Summer)

Hands-on work experience within a construction company, applying previous coursework in the workplace, contributing knowledge of best practices, and participating in career and business development exercises. prereq: [[CMgt] major or minor or certificate student], [jr or sr], dept consent

CMGT 4201. Construction Accounting. (; 2 cr. ; A-F or Audit; Every Fall)

Unique characteristics and dissimilarities crucial for all parties involved to understand/manage the construction process. Unique aspects of construction financial accounting, managerial accounting, tax planning, and auditing. prereq: 3001, Acct 2050, ABus 4101

CMGT 4215. Facility Quality Assessment and Commissioning. (; 2 cr. ; A-F or Audit; Every Spring)

How to assess condition/quality of building site, exterior/interior of facility, and building equipment. Evaluating effectiveness/efficiency of facility operations/maintenance program. What to look for during building audits. How to write professional assessment reports. How to make useful recommendations for improvements. Value/purpose of building commissioning/ re-commissioning. prereq: 3001, [4213 or concurrent registration is required (or allowed) in 4213], 4542, 4562

CMGT 4301. Occupational Health and Safety Principles. (; 3 cr. ; A-F or Audit; Every Fall)

While OSHA (Occupational Safety and Health Administration) remains the governmental regulatory agency, the responsibility for occupational safety and health of employees has evolved into an integral part of a variety of industries, including construction, health

care, oil and gas extraction, and many more. The course provides a comprehensive understanding of environmental health and safety standards and their application to the management of workplace injury prevention and health promotion. prereq: 45 credits

CMGT 4302. Environmental Health Principles. (; 3 cr. ; A-F or Audit; Every Spring)

The construction industry has one of the highest morbidity and mortality rates among professions, and there is also an economic implication. Companies can reduce the risk of injuries, diseases, and death due to environmental hazards by implementing an appropriate health and safety plan. Plans must be continually reviewed to ensure they are current with new products, scientific evidence, legal parameters, and cultural changes. This course will review requirements and provide direction in controlling regulations related to environmental and occupational health, chemical and biological safety, hazardous materials, and other health hazards. prereqs: 45 credits completed. Some knowledge of construction management principles is strongly recommended.

CMGT 4303. Industrial Hygiene Principles. (; 3 cr. ; A-F or Audit; Every Spring)

Overview of the practice of industrial hygiene: the science of anticipating, recognizing, evaluating, and controlling workplace conditions that may cause workers' injury or illness. Presents critical topics to enhance technical skills, deepen understanding, and gain the necessary knowledge and tools to apply the principles of Industrial hygiene effectively, efficiently, and reasonably, including hazard types, routes of exposure, and determination of exposure levels. Also explores the industrial hygiene hazard evaluation process and how it applies to the goal of workplace safety, as well as related federal and state regulations. Students will examine specific workplace problems related to worker health and safety. Prerequisites: None

CMGT 4304. Fire and Life Safety Principles. (; 3 cr. ; A-F or Audit; Every Fall)

Provides an overview of the fire and life safety requirements for new and existing buildings, as indicated in the National Fire Protection Association (NFPA) Life Safety Code. The Code addresses life safety for fire emergencies, but also other types of emergencies, such as bomb threats. The purpose of the Code is to establish minimum requirements that will provide a reasonable degree of safety during emergencies in any structure. To apply the Code effectively, one must understand its legal authority in various jurisdictions, Code navigation, and the ways proper application of the Code can minimize the effects of a devastating fire or other emergency. Specific topics include building classification, types of construction, fire protection, means of egress, and occupancy features. The course will enhance technical skills and provide knowledge and tools to apply the Code effectively, efficiently, and reasonably. Students will prepare a facility compliance checklist that can be used in

everyday execution of the principles learned in this course. Prerequisites: None

CMGT 4305. Health and Safety Planning and Management. (; 3 cr. ; A-F or Audit; Every Fall)

Companies can reduce the risk of injury, disease, and death due to environmental hazards by implementing an appropriate health and safety plan. Each plan must be continually reviewed to ensure it is current with new products, scientific evidence, legal parameters, and cultural changes. This course is a comprehensive study of the essential components of an effective safety planning and management system. It also examines the cultural aspects of integrating total safety planning and management into all levels of an operation. Prerequisites: None

CMGT 4422. Advanced Construction Cost Estimating. (; 2 cr. ; Student Option; Every Spring)

Advanced estimating concepts, including procurement, productivity, and value engineering. Working in teams, students develop and deliver a competitive bid for a real project and examine strategies to meet the owner's budget and expectations through value engineering approaches. prereq: CMGT 4022 or instr consent

CMGT 4471. Sustainability for Construction Managers. (; 2 cr. ; A-F or Audit; Every Spring)

Building industry's impact on the environment; sustainable building initiatives; environmental principles and practices in pre-con, construction, close-out and operations; impact on construction manager role, procurement methods, contracts, estimating and scheduling, and team structure; green adoption issues; current technologies; future trends.

CMGT 4542. Building Energy Systems. (; 3 cr. ; A-F or Audit; Every Spring)

Functions of building mechanical systems, their integration with other building components. Residential/commercial HVAC systems, alternative energy sources, energy efficiency, structural implications of mechanical systems, indoor air quality, environmental strategies. Case studies. prereq: [3001, [jr or sr]] or instr consent

CMGT 4544. Materials and Structures I. (4 cr. ; A-F or Audit; Every Fall)

First part of the two-semester statics/materials/structures sequence. Introduces basic statics as it relates to structural analysis, including a fundamental understanding of forces, loads, shears, and moments applied to structural elements. These principles will be applied through the development of beam diagrams using load path analysis. Provides an introduction to building structural systems and their design and construction process, and covers building loads and the methods of analyzing and designing structural elements such as beams and columns. Discusses the path of loads applied to a building and the structural materials specifically, wood and steel that are commonly used to support these loads in building construction. Finally, the course provides an overview of the tools and

techniques used by the structural engineer in the course of building design, as well as basic procedures for choosing materials and member sizes for use in a building system.

CMGT 4545. Materials and Structures II. (4 cr. ; A-F or Audit; Every Spring)

Building on the engineering, materials, and structural concepts of Materials and Structures I, this course explores concrete as a material (components, manufacture, installation, and mix design), and in terms of its structural uses. Soils and aggregates (origin, analysis, and classification) and earthwork/compaction concepts are also surveyed. Laboratory testing of these materials is included. These two broad topics are then combined with masonry concepts to discuss foundations, retaining walls, slabs, and footings. Finally, lateral systems within a structure are discussed. An overall curriculum project (which will refer back to M&S I) will examine a real-world structural system, including loading, engineering, materials, and construction aspects. prereq: CMGT 4544

CMGT 4550. Topics in Construction Management. (; 1-2 cr. [max 12 cr.] ; A-F or Audit; Periodic Fall & Spring)

Seminar. Timely issues/themes in construction management.

CMGT 4562. Building Envelope Design and Construction. (2 cr. ; A-F or Audit; Every Fall)

Science behind design of a weather-tight building envelope. Construction principles for foundations, exterior walls, windows, opening, roofs. Consequences of poor design/construction. Component review of building envelope (shell) elements. Testing/quality control strategies. Construction issues/envelope sequencing. prereq: None, but 4542 or 4572 or professional experience recommended

CMGT 4861. Construction Management Capstone. (; 3 cr. ; A-F or Audit; Every Spring)

Using a case study approach, explores concepts of project management, decision theory, and leadership needed to solve critical, complex, and even routine problems within construction businesses and their projects. Students will be required to think critically and creatively about the possible solutions and be able to effectively articulate those solutions. It will apply all prior construction management-related coursework into a comprehensive construction and facility project management capstone intended to demonstrate mastery of the construction and facility management body of knowledge prior to graduation. prereqs: CMGT 4011, 4021, 4022, and 4031 (which may be taken concurrently with instructor permission).

Coptic (COPT)

COPT 5001. Elementary Coptic. (; 3 cr. ; Student Option;)

Introduction to Coptic grammar and vocabulary, chiefly in the Sahidic dialect.

Ctr for Spirituality/Healing (CSPH)

CSPH 1000. Topics in Whole Life Wellbeing. (; 1-4 cr. [max 16 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Special topics offerings in Integrative Health/Wellbeing. Contact department for semester offerings.

CSPH 1001. Principles of Health and Wellbeing. (; 2 cr. ; Student Option; Every Fall & Spring)

This course explores models of health and wellbeing, investigating the interconnection of our body, mind, and spirit, as well as our connections with other people and the environment. Students will read popular and scholarly articles and watch videos on aspects of health and wellbeing. Students will also practice short weekly wellbeing activities and apply learnings to their own and societal health and wellbeing.

CSPH 1101. Self, Society, and Environment: An Integral Systems Approach to Personal Wellbeing and Engagement. (; 3 cr. ; Student Option; Every Fall & Spring)

Complexity theory approach to internal/external systems that influence lives/health. Interrelated workings of mind, psyche, and body. Means of bringing these into dynamic balance. Environmental/social systems.

CSPH 1202. Music for Wellbeing in Times of Stress and Anxiety. (; 1 cr. ; Student Option; Every Fall)

In this course, we will explore music's tremendous potential to influence our moods and overall wellbeing. Specifically, we will examine (a) the ways in which music profoundly affects the brain and body, (b) how people around the world have used music to support emotional healing, throughout history, (c) current research on music for the reduction of anxiety and distress, and (d) specific ways for using music to promote your own calmness and equilibrium, even in times of high stress.

CSPH 3001. Introduction to Integrative Healing. (; 3 cr. ; Student Option; Every Fall & Spring)

This course provides an overview of the current US healthcare system and US cultural views of health and wellness. Within this context it also provides students with an introduction to various complementary and alternative medical systems (also known as complementary and integrative approaches) that might be integrated into the current way of thinking about health and wellness and treatment of illness/disease. Examples include: whole systems of thinking about health such as traditional Chinese medicine or Native American healing; manual therapies like spinal manipulation and massage therapy; energy therapies like reiki and qigong; mind body therapies like yoga and meditation; and biologically based therapies like botanicals and aromatherapy. prereq: Junior or senior undergraduates (60+ credits), or instructor consent.

CSPH 3101. Creating Ecosystems of Well-Being. (; 2 cr. ; Student Option; Every Fall & Spring)

This course focuses on information, practices, and tools that enable individuals and communities to build capacity for wellbeing.

Students will examine factors and ecosystems that contribute to health, happiness, and wellbeing and will develop a personal plan for health and wellbeing, a critique of an existing ecosystem and ideas for a community yet to be developed. prereq: sophomore, junior or senior undergraduates (30+ credits) or instructor consent

CSPH 3201. Introduction to Mindfulness-Based Stress Reduction. (; 2 cr. ; Student Option; Every Fall & Spring)

The class will introduce students to a variety of techniques by which the stress endemic in a fast-paced competitive culture can be both reduced and worked with constructively. Students will practice and apply experiential techniques of stress-reduction through ? mindfulness? ? the steady, intentional gathering of a non-judgmental awareness into the present moment in various activities ? and examine medical / scientific literature on physiological and psychological elements in the stress response.

CSPH 3211. Living on Purpose: An Exploration of Self, Purpose, and Community. (; 2 cr. ; Student Option; Every Fall & Spring)

Exploring our purpose in life means asking and answering the essential question, ? What makes me want to get out of bed in the morning?? Purpose is that deepest belief within us where we have a strong sense of who we are, where we came from, and where we're going. It is the ability to know yourself, know what you know, to reflect on it, and base your judgments, choices and actions on it. Living on Purpose is a course designed to help students explore questions of meaning and purpose in college and in their lives. In this class, students will examine the context and meaning of their own lives, explore other people's ways of living on purpose, and consider the big questions that shape their present and future. Through three retreats, readings, reflections, experiential exercises, and assignments, the course will offer students time to define their own purpose at this time in their lives and to help build a framework to lead a purposeful life now and into the future. prereq sophomore, junior or senior undergraduates (30+ credits) or instructor consent

CSPH 3301. Food Choices: Healing the Earth, Healing Ourselves. (; 3 cr. ; Student Option; Every Fall & Spring)

Food production in our current industrial system feeds the world, but at a cost to the environment. In nutrition, we often talk about a healthy diet, but only occasionally do we link our food and diet choices to agricultural practices and the health of the planet. This class will link the concepts of human health and planetary health in terms of food. Starting with the framework of complexity theory and gentle action, we will cover human food/nutrition needs and food security, how food is produced from farm to fork, labor, equity and race issues within agriculture and the food system, food choices and the earth's biodiversity, land and water use, climate change, organic and sustainable agriculture, marketing,

processing and distribution, fair trade, and economic policies. prereq: junior or senior undergraduates (60+ credits) or instructor consent

CSPH 4311. Foundations of Hatha Yoga: Alignment & Movement Principles. (; 3 cr. ; Student Option; Every Fall & Spring)

This course is the first course in a sequence of three (3) courses in the University of Minnesota Yoga Teachers? Education & Training Sequence. Students who complete the three courses A-F or S/N may be qualified to register with Yoga Alliance (YA) as a 200 hour Registered Yoga Teacher (RYT). Students who audit the course cannot use the course to be registered with Yoga Alliance. This course will introduce students to the anatomical considerations and understanding critical to executing safe and effective Hatha Yoga instruction. This course includes, as essential to Hatha Yoga, an overview of human gross anatomy and bodily systems (specifically neuro-musculoskeletal and respiratory systems). Students will learn and practice foundational concepts of Hatha Yoga and movement, as related to Yoga Asana. Additionally, students will be introduced to methods of effectively communicating these principles as a Hatha Yoga instructor. prereq: KIN 3027 Human Anatomy for Kinesiology Students (or equivalent, with instructor permission). Recommended: DNCE 1331 for students with no prior yoga experience. These courses can be taken concurrently.

CSPH 4312. Hatha Yoga Philosophy, Lifestyle, & Ethics. (; 3 cr. ; Student Option; Every Fall & Spring)

This course is the second course in a sequence of three (3) courses in the University of Minnesota Yoga Teachers? Education & Training Sequence. Students who complete the three courses A-F or S/N may be qualified to register with Yoga Alliance (YA) as a 200 hour Registered Yoga Teacher (RYT). Students who audit the course may not use the course to be registered with Yoga Alliance. This course will introduce students to the history, tradition, and philosophy of Hatha Yoga with an emphasis on the ethical practice of Hatha Yoga. Through study of classical and modern text alike, students will learn foundational concepts of how to use this knowledge to facilitate a strong Yoga Asana, Pranayama, and meditation practice as well as how to apply these principles in everyday life. Additionally, students learn and practice methods of effectively introducing these principles as a Hatha Yoga teacher. prereq: CSPH 4311 Foundations of Hatha Yoga: Alignment & Movement Principles. These courses can be taken concurrently.

CSPH 4313. Hatha Yoga Teaching Principles & Methodology. (; 2 cr. ; Student Option; Every Fall & Spring)

This course is the third course in a sequence of three (3) courses in the University of Minnesota Yoga Teachers? Education & Training Sequence. Students who complete the three courses A-F or S/N may be qualified to register with Yoga Alliance (YA) as a 200 hour

Registered Yoga Teacher (RYT). Students who audit the course cannot use the course to be registered with Yoga Alliance. This course will provide students the opportunity to study communication and sequencing principles necessary for teaching effective, safe Hatha Yoga classes. Using knowledge and skills gained during the first two Hatha Yoga courses, students will develop skills to design and facilitate Hatha Yoga Asana, Pranayama, and meditation techniques. Students will have the opportunity to practice their learned skills through participation in Service Learning. prereq: CSPH 4311 Foundations of Hatha Yoga: Alignment & Movement Principles and CSPH 4312 Hatha Yoga Philosophy, Lifestyle, & Ethics

CSPH 5000. Explorations in Integrative Therapies and Healing Practices. (; 1-4 cr. [max 16 cr.] ; Student Option; Every Fall & Spring)

Research and practice on therapies, delivery of complementary therapies, and regulatory issues. prereq: Jr or sr or grad student or instr consent

CSPH 5101. Introduction to Integrative Healing Practices. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

By the end of the course, students will demonstrate an understanding of the overall field of integrative healing practices, which includes both integrative and alternative (CAM) therapies. The course will cover theoretical framework, safety, efficacy, and evidence for various therapies and practices. The online version of this course is an approved 1Health Interprofessional Education (IPE) activity. prereq: Jr or sr or grad student; or instructor consent

CSPH 5102. Art of Healing: Self as Healer. (; 1 cr. ; Student Option; Every Fall & Spring)

The initiation of a healer in ancient cultures was a rigorous process that included a personal journey of inner development and transformation that paralleled the learning of the cognitive and physical healing techniques. This course will introduce the student to the concept of the individual transformational journey. The science of mind-body-spirit approaches will be explored through a variety of methods including lecture, scientific literature review, meditation, imagery, journal writing and social support through group interaction. The students will have an opportunity to explore various aspects of self-knowledge, self-awareness, transpersonal (non-local) experiences, and the paradoxical mysteries that will prepare them for their student and personal lives. prereq: Jr or sr or grad student or instr consent

CSPH 5111. Ways of Thinking about Health. (; 2 cr. ; S-N or Audit; Every Fall)

This course is your opportunity to examine, challenge and critically reflect upon your thinking about health. The class meets in a hybrid model that includes in-person, field-trip ?micro-immersion experience? to explore different understandings of health through visits to cultural communities. We include with field trips virtual experiential glimpses into

fundamentally different systems of knowledge often conflicting with the scientific/professional models emphasized in many professional fields on campus. Frameworks for critical thinking, critical self-reflection, cultural self-study, intellectual virtues and supplemental readings are offered to support your effort to step into culturally different knowledge systems and mental models of health and well-being. These frames and approaches offer you a mirror through which your own perspective, thinking and background assumptions of health become more visible and explicit. I ask you to challenge your own thinking and better recognize the culture you carry in your thinking as you attempt to inhabit different cognitive worlds. You will also apply this examination to the professional fields of your interest, sharing your insights with learners in other professions. In this way, we bring together interdisciplinary and intercultural learning. On the dates that we meet virtually, our goal is to create a space that encourages us to share with sincerity our thoughts and emerging insights with one another in Zoom conversations. The synchronous Zoom sessions allow you to benefit from each other's personal and professional take on the immersion experiences as you develop your philosophy, narrative and understanding of health. prereq: jr, sr, grad, or instr consent

CSPH 5115. Cultural Awareness, Knowledge and Health. (3 cr. ; Student Option; Every Spring)

How knowledge can become resource for individual, family, community health. Interactive glimpse of wisdom of cultural communities. Develop capacity to see culture within professional education/practice. Cultural constructs underpinning medical system, role of culture in interaction between practitioner/patient, role of reconnection to cultural heritage in healing. prereq: Jr or sr or grad student or instr consent

CSPH 5118. Whole Person, Whole Community: The Reciprocity of Wellbeing. (3 cr. ; Student Option No Audit; Every Fall & Spring)

This course explores the symbiotic and reciprocal relationship between individual and community health and wellbeing, as well as the many factors/forces which influence that relationship. Drawing upon recent studies in the area of reciprocal/symbiotic effects between individual wellbeing and community wellbeing, this course will include the following core topics: definitions of community and related dimensions of wellbeing, importance of Individual/Community reciprocity (Social Justice, Equity, Safety, and Trust), historical trauma and healing, and individual action and personal empowerment in community transformation. Utilizing elements of the Center for Spirituality & Healing's Wellbeing model and modes of contemplative practice, this course will ultimately assist learners through phases of individual reflection and mindfulness for the purpose of creating more open and reciprocal relationships with entities they describe as their communities. An extension of recent studies in the area of the reciprocal (or rippling) effect

between individual wellbeing and community wellbeing this course will guide individuals in identifying the various communities in which they live or participate, the roles they "play" within those communities and why/ how this knowledge can help prepare them for action and leadership. Main themes of the course will include: - Mindfulness, Reflection and Healing: Historical Trauma and Marginalization. - Roles and Reciprocity: Justice, Equity, Security and Trust between individuals and their communities. - Transformation: Individual Action/Leadership as Bridge between Personal and Community Wellbeing.

CSPH 5121. Planetary Health & Global Climate Change: A Whole Systems Healing Approach. (2 cr. ; Student Option; Every Fall)

Our personal health, along with the health of the human social systems we inhabit, are inextricably entwined with the wellbeing of local and global environmental systems. Living systems (including social, biological, and environmental) are complex adaptive systems that are self-organizing and give rise to emergent properties within a wider ? ecosystemic? context. To effect beneficial and sustainable changes within such systems, leaders must apply (and embody) ecosystemic principles. This course will help students learn how to understand?and to effect sustainable change in?the complex systems in their lives: personal, social, and environmental. Students will explore and develop leadership strategies and skills, using complexity theory as a theoretical framework. We are facing a multifaceted global/planetary crisis. The evidence is clear that Global Climate Change is primarily driven by human behaviors. Drawing upon the new science of Complex Systems, it is also evident that human social systems (economic, political, and cultural) are impelling us towards a planetary ?bifurcation point.? Our only hope to avoid multiple systems collapse is to make deep changes in these systems. Rigid, top-down approaches based on linear and mechanistic paradigms are ill-suited to transformative leadership, which facilitates an open-ended process of organic change. This course helps students develop transformative leadership capacities that are applicable within all types of organizations, within a wide variety of roles and positions. prereq: Jr or sr or grad student, or instructor consent

CSPH 5201. Spirituality and Resilience. (2 cr. ; Student Option; Every Spring)

In-depth exploration of resilience, spirituality, and the link between them. Specific applications of resilience and health realization principles applied to students' personal and professional lives. Relevant literature, theory and research will be explored. This class examines natural resilience and our inner landscape. Discussions are reflective, instructive, and thought provoking. We explore life experiences, examine relevant resilience and spiritual literature, and discover how we operate from the inside out in ordinary life. We learn, live, and share basic principles behind resilience. The study is applicable in a wide variety of disciplines from helping professions,

scientific endeavors, education, to business and more. These lessons are applicable in both personal and professional life. prereq: Jr or Sr or Grad, or instructor consent

CSPH 5212. Peacebuilding Through Mindfulness: Transformative Dialogue in the Global Community. (3 cr. ; Student Option; Every Spring & Summer)

This course is designed to provide a basic understanding of the core principles and practices of peacebuilding through restorative dialogue, using a mindfulness-based approach, in the context of multiple interpersonal, community, national, and international settings. prereq: Jr or Sr or Grad, or instructor consent.

CSPH 5215. Forgiveness and Healing: A Journey Toward Wholeness. (3 cr. ; Student Option; Every Fall)

This course will examine the impact of forgiveness on the process of interpersonal and intrapersonal healing, as well as healing of conflict and trauma at the intergroup level. Forgiveness and healing will be examined in the context of intense interpersonal and intrapersonal conflicts in multiple health care and social work settings, including in families, between physicians and nurses, between patients/clients and nurses/social workers, within communities, among friends, between co-workers, or within ourselves. Forgiveness will also be examined in the larger global context and how principles and practices of forgiveness are being applied in some of the most entrenched political and violent conflicts, such as in Northern Ireland, South Africa, Liberia, Rwanda, and Israel/Palestine. This course is designed to provide a basic understanding of the central elements of forgiveness and healing in the context of multiple micro and macro life settings. The concepts of forgiveness and healing will be examined from multiple spiritual and secular traditions. The underlying philosophical elements of forgiveness and healing will be critically assessed and beliefs and rituals from numerous indigenous and European traditions will be presented and examined. The focus will be upon gaining a more grounded understanding of the process of forgiveness and its potential impact upon emotional and relational healing. The concepts of forgiveness and healing will be addressed in a very broad and inclusive manner, with no assumptions made related to their specific cultural context or meaning. Empirical studies that have examined the impact of forgiveness upon emotional and physical healing will be reviewed. Concepts such as forgiveness and healing are inseparable from the concept of spirituality. For the purposes of the course, spirituality is not synonymous with the dogma and creeds of the major religious traditions in the world, even though religion for many may serve as a pathway to spirituality. Practices within the major religions of the world that foster forgiveness and healing, however, will be explored, along with practices within Native American, Canadian Aboriginal, Native Hawaiian, African, New Zealand Maori, and Eastern cultural traditions. prereq: Jr or sr or grad student or instr consent

CSPH 5225. Meditation: Integrating Body and Mind. (; 2 cr. ; Student Option; Every Fall)
The class approaches meditation as a physical, emotional, intellectual, and spiritual inquiry. Students read selections in a variety of relevant texts and develop the ability to enter a state of calm, meditative awareness. prereq: Jr or sr or grad student or instr consent

CSPH 5226. Advanced Meditation: Body, Brain, Mind, and Universe. (; 1 cr. ; Student Option; Periodic Fall, Spring & Summer)
Students will work to integrate meditation practice into daily life, cultivating awareness of the fundamental oneness of body, brain, mind, and universe. Attention will be given to mind-body synergy in health, the "hard problem" of consciousness in neuroscience, and the emergence of compassion, wisdom, and healing in non-discursive awareness. prereq: CSPH 5225, jr or sr or grad student, or instr consent

CSPH 5303. Pain Management and Evidence Based Complementary Health Approaches. (; 3 cr. ; A-F only; Every Fall & Spring)
This course will cover the evidence regarding effectiveness and safety of CIH practices, and the relationship of CIH to contemporary views of pain, health, and healing. There is a growing evidence base to support some complementary and integrative healing (CIH) approaches for pain management including yoga, mindfulness meditation, chiropractic, and others. In the US, chronic pain impacts over one third of the population and affects more individuals than heart disease, diabetes, and cancer combined. While there is a wide range of conventional medical treatments available to manage pain, many are only marginally effective and are associated with troublesome side effects. Of growing concern is the endemic problem of opioids associated with misuse, addiction, and fatal overdose. Pain sufferers and health providers need effective and safe options for pain management. Some complementary and integrative healing (CIH) approaches have a growing evidence base to support their use, particularly for pain management. This course will introduce students to the theories, mechanisms, use, effectiveness, and safety of commonly used complementary and integrative healing practices. The relationship of CIH approaches to contemporary views and research regarding pain, health and healing, and placebo effects will also be explored. Through reading, reflection, discussion, and critical appraisal, students will develop the necessary skills to synthesize different forms of information, including research, to reach evidence-informed and balanced conclusions regarding CIH for managing pain, restoring function, and enhancing overall health and wellbeing. CIH approaches covered will include: whole systems (Traditional Chinese Medicine, osteopathy, chiropractic, Ayurvedic Medicine, etc.); mind-body practices (contemplative and meditative practices; yoga, tai chi, Qigong, etc.); manipulative and body-based approaches (massage therapy, acupuncture, manipulation); and energy-based approaches (energy medicine, Reiki, therapeutic touch, healing touch). Upon

completion of the course, students will have a foundational knowledge of CIH for pain management and the skills to critically appraise and determine the trustworthiness of different information sources. Prerequisite: Graduate or Professional program student.

CSPH 5305. Introduction to Integrative Mental Health. (; 2 cr. ; Student Option; Every Spring)
Prerequisite: Graduate or Professional student. This course focuses on introducing students to the concept of integrative mental health (IMH). Definitions of IMH, the history and background of the concept, and how it relates to psychiatric care and health care in general will be explored. Students will explore and practice risk-benefit profiles of different modalities in the context of evidence-based mental health care. An emphasis will be placed on the connection between physical and mental health and how that can be approached from an integrative perspective. Topics such as mindfulness and mental health, nutrition and mental health, herbs and supplements in psychiatric care, and the role of functional medicine in IMH will be covered, as well as how psychotherapy and psychotropic medications fit in the IMH framework. Students will review the current diagnostic system for mental health disorders and that can both help and hinder an integrative approach to mental health care. Integrative approaches for assessing mental health concerns will be reviewed, and how to use these approaches alongside a traditional medical approach for maximum benefit will be explored. Students will further review specific modalities for mental health and wellbeing that are less focused on specific systems and more focused on holism and the interplay of systems. Students will also identify and explore different ways of viewing mental health and wellbeing based on cultural and geographical issues, and how these may impact the approaches.

CSPH 5307. Integrative Nursing: Application across Settings and Populations. (; 1 cr. ; Student Option; Every Fall & Spring)
Prerequisites: registered nurse, graduate level registration only. Principles and application of integrative nursing will provide learners with skills that can be immediately applied to nursing practice, advanced nursing practice, and nurse leadership. Clinical case studies and interactive discussion will be used for students to learn how to practice integratively in their current healthcare role or to develop into a new role or paradigm. Case studies will be individualized to fit the needs of all learners for applicable skill building.

CSPH 5313. Acupressure. (; 1 cr. ; Student Option No Audit; Every Spring & Summer)
Open to health professional graduate students or practicing healthcare professionals. Undergraduate students with specific prior coursework may be admitted with instructor approval. By the end of the course students will be able to demonstrate an understanding of the basic principles and applications of Acupressure as a component within the theory of East Asian Medicine. Students will learn the location, indications for use and techniques of

stimulation of acupressure points in sequences specific to common physical, mental, and emotional symptoms. Methods for both self-care and the care of others will be the primary focus of learning. Special focus will be given to the treatment of pain conditions, chronic health conditions, palliative care, oncology, women's health care, and mental-emotional wellbeing. Current literature and research findings will also be discussed.

CSPH 5315. Traditional Tibetan Medicine: Ethics, Spirituality, and Healing. (; 2 cr. ; Student Option; Every Fall & Spring)
This course will introduce students to ethics, spirituality, and healing from the perspective of traditional Tibetan medicine. Traditional Tibetan doctors believe that illness results from imbalance and that treating illness requires correcting the underlying imbalance. Students will learn how to apply these principles personally, integrate them into clinical practice, and consult with a traditional Tibetan doctor. prereq: Jr or sr or grad student or instr consent

CSPH 5317. Yoga: Ethics, Spirituality, and Healing. (; 2 cr. ; Student Option; Every Fall, Spring & Summer)
This course will introduce students to ethics, spirituality, and healing from the perspective of Yoga, an ancient Indian discipline. Students will examine the claim that systematic Yoga practice leads to optimal health. Using critical thinking, students will evaluate philosophical knowledge, scientific evidence, and practical application, and propose research-based programs for integrating Yoga into personal and professional life. Prereq jr or sr or grad; or instructor consent

CSPH 5318. Tibetan Medicine, Ayurveda, and Yoga in India. (; 4 cr. [max 12 cr.] ; Student Option No Audit; Periodic Summer)
Tibetan Medicine, Ayurveda, and Yoga are interrelated, ancient, holistic, Tibetan and Indian traditions that integrate ethics, spirituality, and healing. While studying with expert practitioners in India, students will examine the claim that systematic practice of these traditions promotes optimal health. Using critical thinking, students will evaluate philosophical knowledge, cultural practices, and scientific evidence, and propose research-based programs for integrating these traditions into personal and professional life. prereq: CSPH 5315, jr or sr or grad, or instr consent

CSPH 5319. Yoga and Ayurveda in India. (4 cr. ; Student Option No Audit; Every Spring)
Yoga and Ayurveda are interrelated, ancient, holistic Indian traditions that integrate ethics, spirituality, and healing. While studying with expert practitioners at the University of Minnesota and in India, students will examine the claim that the systematic practice of these traditions promotes healing and optimal health. prereq: CSPH 4311 (and instructor approval), CSPH 5317 or CSPH 5318 or instructor consent.

CSPH 5331. Foundations of Shamanism and Shamanic Healing. (; 2 cr. ; S-N or Audit; Periodic Fall)
In this fundamentals course, students will learn essential elements of the non-biomedical

shamanic ?life-way? at the foundation of all shamanism. Participants will study shamanic beliefs about the individual?s role in life, community, and the universe, and how these ideas are at the core of all shamanic healing practices. They will study cross-cultural healing beliefs and practices, the unique psychology necessary to understand them, and how these approaches may be used with contemporary healing practices and for personal growth. This course provides a core understanding of shamanic philosophies and ritual etiquette, properly preparing students to continue in deeper personal study and/or to more optimally participate in an experiential cultural immersion (e.g. via a Global Healing Traditions course.) Prereq: Jr or sr or grad student, or instr consent

CSPH 5341. Overview of Indigenous Hawaiian Healing. (; 2 cr. ; Student Option; Every Fall)

This course focuses on an introduction to traditional Hawaiian healing including ho?olomilomi (massage), la?au lapa?au (herbal medicine), and ho?oponopono (conflict resolution). Cultural traditions such as oral history and the hula are examined in the context of their contribution to overall wellbeing and sustainability. Hawaiian cultural values are compared and contrasted with western values. Students will have the opportunity to meet with Hawaiian healers, visit culturally relevant sites and reflect on ways that indigenous and conventional practices contribute to health, healing and wellbeing. Prereq: Graduate students in health sciences programs, or instructor consent.

CSPH 5343. Ayurveda Medicine: The Science of Self-healing. (; 2 cr. ; Student Option; Every Fall, Spring & Summer)

This course will introduce students to the basic principles of Ayurveda, the Science of self-healing. It will also cover evidence-based information available on Ayurvedic Medicine. Ayurveda emphasizes the balance of body, mind, and spirit to achieve the optimum health through natural means. Course content will include Ayurvedic constitutional types and practices including food, herbal medicine, detoxification, and massage. Students will examine how Ayurvedic principles and practices can be integrated into personal plans for health and well-being and how Ayurveda is being integrated into healthcare settings.

CSPH 5401. People, Plants, and Drugs: Introduction to Ethnopharmacology. (; 3 cr. ; Student Option; Every Spring)

Ethnopharmacology is the interdisciplinary science of medicinal plants or natural products utilized by humans. These people-plant (typically) relationships have historically and imminently have produced important medicines integral to modern medicine. Ethnopharmacology integrates aspects of botany, natural products chemistry, pharmacology, pharmacognosy, anthropology, medicine, psychology, and comparative religious study. The discipline researches human interactions with biologically active plants (and other living things) as medicines, poisons, and intoxicants with a primary focus on indigenous and non-?Western cultures.

Ethnopharmacology seeks to document plants and animals used by various cultures, and describe their use and preparation. These plants and their preparations are then studied to identify, isolate, and characterize the active compounds responsible for the plants actions on people. This introductory ethnopharmacology course will cover both the ethnographic and scientific aspects critical to the process of drug discovery and the evolution of modern medicine. Students will compare cross-cultural perspectives on human interactions with drugs and examine the variety of human interaction with biologically active organisms in their environment. prereq: Jr or Sr or Grad, or instructor consent. Courses in Botany, Chemistry and Pharmacology are useful but not required.

CSPH 5421. Botanical Medicines in Integrative Healthcare. (; 3 cr. ; Student Option; Every Fall)

Botanical medicines have been used since ancient times in many cultures yet it is still not a significant part of what is considered ? traditional? medicine in our current healthcare model in the United States. Yet there is a growing interest among people in the U.S. looking for alternative treatments for a variety of common illnesses due to concerns of safety, efficacy, and a desire for more ? natural? products than more conventional pharmaceuticals. However, despite this growing interest, healthcare providers may have little to no knowledge regarding botanical medicines in regards to their therapeutic properties, efficacy (or lack thereof), and/or adverse effects. This is further compounded by a wealth of information on botanical medicines in the media and internet, much of which may be misleading and can lead to confusion regarding botanical medicines. The goal of this course is to learn basic properties and preparations of the most common botanical medicines in addition to their therapeutic effects for common disease states. Students will also learn about regulations, quality control, and safety concerns regarding use of botanical medicines. Included in this course is a discussion on the frequently overlooked botanical medicine we use everyday: our food! Relevant plant-based foods will be discussed periodically throughout the course to provide a practical application of the material learned in this course. prereq: Jr or sr or grad student, or instructor consent

CSPH 5423. Botanical Medicines: Foundations and Practical Applications. (; 1 cr. ; Student Option; Periodic Spring & Summer)

There is an accumulating body of scientific evidence supporting the use of some botanicals for preventive or therapeutic purposes. This experiential course offers health professional students and others an integrative and practical approach to medicinal plants that includes theoretical underpinnings and obtaining the skills to gather, process, and apply selected local plants and herbs. Methods are multi-sensory, following an eclectic tradition practiced by many modern herbalists. Review of empirical scientific evidence is included for

key plants. Prereq: Jr or sr or grad in the health professions or instructor permission.

CSPH 5431. Functional Nutrition: An Expanded View of Nutrition, Chronic Disease, and Optimal Health. (; 2 cr. ; Student Option; Every Fall, Spring & Summer)

This course will present a novel approach to the principles of nutrition as they relate to optimal health and the prevention, control or intervention in a disease process. This is a model of nutrition application that complements and expands beyond normal growth and development, an approach that attempts to reduce chronic disease by looking for underlying factors or triggers of disease. This model of nutrition considers system dysfunction a pre-disease state and looks for ways to apply nutrition and restore function. The purpose of the course is to provide an overview of this novel application of nutrition. The course will emphasize the importance of nutrition as a component of self-care. prereq: [Jr or sr or grad student] in Health Sciences or instr consent

CSPH 5503. Aromatherapy Fundamentals. (; 1 cr. ; Student Option; Every Spring & Summer)

This course will provide an overview of essential oil therapy and current aromatherapy practices in clinical settings. Students will examine key safety and toxicity issues with the use of essential oils, and they will critique the scientific and historical evidence about the therapeutic qualities of six essential oils in common use by the public and in clinical settings. prereq: Jr or Sr or Grad, or Inst consent

CSPH 5521. Therapeutic Landscapes. (; 3 cr. ; Student Option; Periodic Fall)

This course will introduce students to the theoretical foundations of healing environments and their application based on the six dimensions of wellbeing. It is a unique course offered only through the Bakken Center for Spirituality & Healing? but carries a wide interdisciplinary application ? such as with the department of horticulture, landscape architecture, therapeutic recreation, botany, public health and other health science. During the past six decades, the field of therapeutic landscapes has grown extensively in multiple settings throughout North American, Europe, Asia, and Africa. The theory and practice focus upon the application of environments and landscapes to benefit the individual or group. Therapeutic Landscapes are a plant-dominated environment (indoor or outdoor) designed to provide numerous and varied therapeutic interactions and purposeful outcomes. It fosters wellbeing through designed and prescribed encounters with plants that stimulate the senses and engage the understanding of the people who visit it. This course is designed to provide a basic understanding of the central elements of therapeutic landscapes in the context of the latest scientific evidence using the Bakken Center for Spirituality & Healing model of wellbeing as a guide. Prereq jr or sr or grad student or instr consent

CSPH 5522. Therapeutic Horticulture. (; 3 cr. ; Student Option; Periodic Summer)

An introduction into the purposeful delivery of plants and plant related activities for therapeutic benefits. This course is designed to provide a basic understanding of the central elements of therapeutic horticulture in the context of multiple health care settings. Students will learn the evidence-based history, principles, precepts, and practical application of therapeutic horticulture. A variety of plant and plant related modalities from current research findings will be discussed related to various populations using therapeutic horticulture as a treatment intervention. Prereq junior, senior, or graduate student or instructor consent

CSPH 5535. Reiki Healing. (; 1 cr. ; S-N only; Periodic Fall, Spring & Summer)

Students will learn the history, principles, education, and practical application of Reiki energy healing. Alternative energy healing modalities and current research findings will be discussed. Following activation of the Reiki energy, participants will learn the hand positions used to perform a self, seated, and full session. A portion of each class meeting will be used to perform Reiki sessions and to discuss experiences. prereq: Jr or sr or grad student or instr consent

CSPH 5536. Advanced Reiki Healing: Level II. (; 1 cr. ; S-N only; Periodic Fall, Spring & Summer)

Students will learn advanced principles and application of Reiki energy healing. The four levels of healing will be further explored, with emphasis on healing at the spiritual level. Following activation of the Reiki energy, participants will learn the energy symbols that allow for energy transfer through space and time. Students will learn to use second level Reiki energy for both distance healing and the standard Reiki session. A portion of each class meeting will be used to provide Reiki sessions and to discuss findings. Current literature and research findings will also be discussed. prereq: CSPH 5535 or instr consent. Students must wait 4-6 months after taking CSPH 5535 before taking CSPH 5536.

CSPH 5541. Emotional Healing and Happiness: Eastern and Western Approaches to Transforming the Mind. (; 2 cr. ; Student Option; Every Fall)

This course will provide in-depth, experiential training in the cultivation of happiness, emotional health and healing for multi-disciplinary professions. Students will learn highly effective, ancient, and contemporary methods for the transformation of afflictive emotions, unhealthy patterns, and behaviors. Students will learn how to increase positive emotions and mind states including: compassion, joy, and equanimity. They will explore meditation and other integrative approaches that bring balance and wellbeing to the mind. Students will practice and explore the applications of these modalities. Students will learn how to creatively apply and integrate them into their lives, relationships, and work with a wide range of patient /client populations and settings. The class content draws on eastern and western approaches to emotional health and healing in a mindfulness-

based, integrative model including: Buddhist and Transpersonal Psychology, meditation practices, spirituality, expressive, creative, & ritual arts. Case examples and neuroscience research on emotions will also be included in the course. Prereq: Jr, Sr or grad student, or instructor consent

CSPH 5555. Introduction to Body and Movement-based Therapies. (; 2 cr. ; Student Option; Every Spring)

This course will cover basic theories and approaches of selected Somatic Therapies and Somatic Psychotherapy (Dance/Movement and body-based therapies). It will include 1) western historic and theoretical perspectives on the use of movement, dance and somatic re-patterning for well-being, 2) introductions and demonstrations of specific somatic approaches, and 3) brief introduction of the application of these techniques to specific populations and settings. The experiential part of the course will include individual, partner and group exercises intended to embody and deepen the topics covered in the class. Prereq: jr or sr or grad student; or instructor consent

CSPH 5561. Overview of the Creative Arts in Health and Healing. (; 2 cr. ; Student Option; Every Fall)

In this course we will explore how professionals in music therapy, art therapy, dance and movement therapy, and poetry/spoken word therapy work in healthcare and community settings to promote healing and well-being. Artist-therapists representing each of these fields, and/or related fields in creative arts in healing, will present their work in synchronous sessions, and guide you in experiential exercises to give you firsthand experience of each modality. You will also read in depth about each of the healing arts modalities in our textbook and research articles, participate in online discussions, and document your experiences with the modalities through journaling and a final paper. prereq: Jr or sr or grad student

CSPH 5601. Music, Health and Healing. (; 2 cr. ; Student Option; Every Spring)

For centuries, people in virtually every known culture in the world have recognized the tremendous potential of music to promote health and healing. In this course, we will explore music's power to heal body, mind, and spirit through examining the main music healing disciplines used today: music therapy, music medicine, clinical musicianship, medical musicianship, music-thanatology, vibroacoustic harp therapy, sound healing, and community music. You will also learn some easy music healing techniques you can use for yourself. prereq: Jr or sr or grad student or instr consent

CSPH 5631. Healing Imagery I. (; 2 cr. ; Student Option; Every Spring & Summer)

In this course you will learn how imagery and imagery interventions are implemented for healing and to promote optimal health and wellbeing. You will experience a wide variety of imagery interventions in class and work on creating your own imagery intervention. The primary instructional strategies that will be utilized for this course include: experiential,

online discussions, readings, lectures, and individual learning interventions. prereq: Jr or Sr or Grad, or instructor consent

CSPH 5641. Animals in Health Care: The Healing Dimensions of Human/Animal Relationships. (; 3 cr. ; Student Option; Periodic Spring)

This online course is designed to introduce students to the core principles of Animal-Assisted Interventions (AAI) in the context of multiple healthcare and social service related settings. Students will learn the history, identify safety guidelines, apply best practices to a variety of species, and evaluate peer-reviewed literature. prereq: jr or sr or grad student, or instructor consent

CSPH 5642. Nature Heals: An Introduction to Nature-Based Therapeutics. (; 3 cr. ; Student Option; Every Fall & Spring)

This graduate level course will cover the basic theories and approaches of Nature-Based Therapeutics including restorative environments, therapeutic horticulture, animal assisted interactions, therapeutic landscapes, forest bathing, green care farming, facilitated green exercise, wilderness therapy, and ecopsychology. The course includes: 1. historic and theoretical perspectives 2. research into specific techniques 3. application of techniques to specific population and setting prereq: Jr, Sr or Grad, or instructor consent

CSPH 5643. Horse as Teacher: Introduction to Equine-Assisted Services (EAS). (; 3 cr. ; Student Option; Periodic Fall & Spring)

This course is designed to introduce students to the field of Equine-Assisted Services (EAS) and to the range of therapeutic and learning opportunities found within equine interactions. The course presents historical and theoretical concepts which helped develop various types of EAS, and how the growth of EAS nationally and internationally has continued to mold the profession. Students will learn to describe safety guidelines, best practices as they are currently known, and precautions and contraindications in EAS sessions. During a one-day face-to-face class, students will observe demonstrations with horses and apply course concepts and topics during this intensive. Students will evaluate peer-reviewed literature in EAS research to identify the strengths and weaknesses of such published material. Students will synthesize reading, lecture and experiential learning to develop an EAS plan for an assigned target group population. prereq: jr or sr or grad or instr consent

CSPH 5701. Fundamentals of Health Coaching I. (; 4 cr. ; A-F only; Every Fall)

This course provides a foundation of Health Coaching theory and practice. We will explore basic tenets of the health coaching model (a 4-pillared construct), including deep listening, effective and empathic communication, and tools for self-development. We examine the core building blocks for optimal health from a holistic perspective. In Health Coaching, each person is recognized as an intrinsically healthy, whole, and wise being, who is the ultimate expert in his or her healing journey.

As a student and coach in training, your own self-development becomes an organic part of your professional evolution, and you will receive support in this. It is the role of the Health Coach to provide a safe environment and professional expertise to support this journey. In this course you will learn how to facilitate the client's process by identifying and benchmarking stages and patterns of change, effectively interfacing with a wide range of interdisciplinary health care providers, and educating clients on a variety of self-care practices. Prereq admitted to Master of Arts in Integrative Health and Wellbeing Coaching; or, Integrative Therapies and Healing Practices Certificate-Health Coaching track; or, Doctor of Nursing Practice; or, non-degree seeking graduate students or students from other graduate degree programs may enroll with permission of the course instructors.

CSPH 5702. Fundamentals of Health Coaching II. (; 4 cr. ; A-F or Audit; Every Spring)

Basic tenets of health coaching model. Tools for self development, deep listening, and effective communication. Core building blocks for optimal health from a holistic perspective. Identifying/benchmarking stages/patterns of change, interfacing with interdisciplinary health care providers, locating resources to assist clients in decision making, and educating clients on self-care practices. prereq: CSPH 5701; admitted to Integrative Health and Wellbeing Coaching MA program; or, Integrative Therapies and Healing Practices Certificate-Health Coaching track; or, instr consent.

CSPH 5703. Advanced Health Coaching Practicum. (; 3 cr. ; A-F only; Every Fall)

This course is designed to provide additional case-based learning in Health Coaching as a means to deepen and mature the process skills that were introduced in Fundamentals of Health Coaching I and II. Increasing confidence in the application of theory and process from earlier courses will be emphasized. Additionally, students will have the opportunity to hone their abilities to identify and utilize broad-based resources in guiding and supporting individual clients. Students are given the opportunity to integrate and apply all previous areas of learning and to explore their resistance, learning edges, and competencies in a supportive supervisory environment. Students will be encouraged to deepen their own style of health coaching as well as their own growth processes. Ethical issues, professional boundaries, and awareness of additional community and professional resources will be introduced here and furthered in internships. Over the course of the semester, students will be coaching 3 community volunteer clients for 5 sessions each. One client for each student will be coached during the weekend classes. prereq: Admission to the Post-Baccalaureate Certificate in Integrative Therapies and Healing Practices--Health Coaching track; or, Masters of Arts in Integrative Health and Wellbeing Coaching. CSPH 5701, 5702, 5706, 5707.

CSPH 5704. Business of Health Coaching. (; 2 cr. ; A-F only; Every Fall)

This course is designed to enable and empower students to apply health coaching skills in structures such as a private coaching business or an existing organization through discussion, reflection and writing. We will explore legal, ethical, and financial issues through visioning, marketing, strategic planning, and energetic intending necessary to start and sustain a Health Coaching practice. prereq: Admission to the Post-Baccalaureate Certificate in Integrative Therapies and Healing Practices-Health Coaching track; or, Masters of Arts in Integrated Health and Wellbeing Coaching program or instructor permission; CSPH 5701, 5702, 5706, 5707

CSPH 5705. Health Coaching Professional Internship. (; 2 cr. ; S-N only; Every Spring)

This course will be for those students actively enrolled in the Health Coaching Track of the post-baccalaureate Certificate in Integrative Therapies and Healing Practices or in the MA program in Integrative Health and Wellbeing Coaching through the Bakken Center for Spirituality and Healing. This internship will be 108 hours of health coaching practice in the field, with 12 hours of supervision. The internship experience offers students the creative opportunity to apply and integrate coaching skills and knowledge gained in the preceding semesters of the program. All encounters will require students to integrate previous experience and knowledge to recruit, schedule, coach and educate individual clients. All students will do 2 group educational sessions to promote health coaching in the organization. Prereq: CSPH 5101, 5701, 5702, 5703, 5706, 5707 (MA only); admitted to Integrative Health and Wellbeing Coaching MA; or, Integrative Therapies and Healing Practices Certificate-Health Coaching track.

CSPH 5706. Lifestyle Medicine. (; 2 cr. ; Student Option; Every Fall & Summer)

This course provides a foundation in the theory and clinical application of lifestyle medicine. Lifestyle medicine aims to address the behavioral and lifestyle bases of common illnesses through health promoting activities and reducing harmful behaviors. In this course, we will explore optimal nutrition, lifestyle, physical activity, and attitude. We will examine the emerging evidence base of lifestyle medicine and how it relates to health promotion and disease prevention. Participants will be introduced to common laboratory and imaging findings, and how they relate to optimal health. prereq: jr or sr or grad, or instr consent

CSPH 5707. Coaching People with Clinical Conditions. (; 2 cr. ; Student Option; Every Summer)

This course provides students with a basic awareness and expanded perception of prevalent clinical conditions, and supports the development of empathy related to these conditions. It continues to build coaching skills specific to coaching clients with clinical conditions. Also supports the development of professional oral and written communication skills. Prereq CSPH 5701, 5702 and 5706; Admitted to one of the following programs: Master of Arts in Integrative Health and Wellbeing Coaching, Integrative Therapies and

Healing Practices Certificate-Health Coaching track, or instructor consent.

CSPH 5708. Mind-Body Science and the Art of Transformation. (; 1 cr. ; Student Option; Every Spring & Summer)

Modern technology has provided deeper insight into how our minds and bodies change based on our focus, intentions, cell environment, habits, stress, and behaviors. We will investigate these new perspectives and how to apply them through transformative practices to change our thoughts, beliefs, bodies, emotions, and paradigms to create sustainable shifts towards optimal health, wellness, and living. Prereq: Jr or Sr or Grad; or instructor consent

CSPH 5709. Health and Wellbeing Group Coaching. (; 2 cr. ; Student Option No Audit; Every Spring)

The Health and Wellbeing Group Coaching Practicum enables the student to learn and apply the theory and practice of group health and wellbeing coaching in a community site-based practicum setting, and to communicate their learning in a professional manner. Upon successful completion of this course, students will be able to: ? Explore and demonstrate how to apply the four pillars into the structure of group coaching. ? Identify and practice skills and tools of group facilitation and coaching. ? Demonstrate the art of managing group dynamics successfully. Prereq: - Admission to the Master of Arts in Integrative Health and Wellbeing Coaching program; or - Admission to or graduation from the Integrative Therapies and Healing Practice Certificate program Health Coaching track; or - Special permission by the Instructors - Satisfactory completion of each of the following courses with a 3.0 or better: CSPH 5701, CSPH 5702, CSPH 5703, CSPH 5705, CSPH 5706, CSPH 5707.

CSPH 5711. Optimal Healing Environments. (; 3 cr. ; Student Option; Every Fall)

This course focuses on the development and implementation of optimal healing environments (OHE) as a healthcare innovation. You will examine the evidence base supporting design, human and care processes and begin to explore how OHE are created. An emphasis will be placed on identifying models of optimal healing environments and leadership strategies that support the diffusion of innovation. prereq: Jr or sr or grad student or instr consent

CSPH 5712. Supervised Health Coaching Skills Advancement. (; 1 cr. [max 3 cr.]; S-N only; Periodic Summer)

This course will provide a health-coaching student the opportunity to advance coaching skills/strategies through individual client practice with the supervision of an experienced health-coaching instructor. The student health coach will engage in recorded in-person and/or telephonic coaching sessions, and receive live feedback from the instructor. The student will assess their own integration of coaching skills through completion of self-skills assessment (level appropriate) that includes self-reflection. A final skills assessment (level appropriate) will be completed utilizing the standardized

tool developed for the UMN Health Coaching program (developed in alignment with guidelines the International Consortium for Health and Wellness Coaching). Prereq CSPH 5701, CSPH 5702; Admitted to Integrative Health and Wellbeing Coaching Master of Arts, Integrative Therapies and Healing Practices Certificate-Health Coaching Track; or instructor consent.

CSPH 5713. Health Coaching for Health Professionals. (; 2 cr. ; A-F only; Every Summer)

This course will explore the basic tenets of 4 Pillars of Health Coaching model--self-awareness, mindful presence, authentic communication, and safe/sacred space. Students will learn to identify/benchmark stages/patterns of change, respectfully collaborate with interdisciplinary health care providers and facilitate clients' ability to achieve sustainable lifestyle changes. Consistent, nonjudgmental application of a holistic perspective of optimal health and wellbeing in patient encounters will be discussed and demonstrated. Students will have the opportunity to see demonstrated and to practice applying tools and practices from motivational interviewing, appreciative inquiry, non-violent communication, and other authentic communication tools. Interprofessional dialogues and exercises will be guaranteed through targeted participation of second year Health Coaching students, who are not taking this course for credit but are volunteering to increase the interprofessional understanding of coaching and team work. This course is not considered preparatory for becoming a professional health coach and does not meet educational hour requirements toward eligibility for the National Board of Health and Wellness Coaching exam, or for Continuing Education hours for NBHWC recertification. Prereq: Admitted to the Doctor of Nursing Practice-Integrative Health and Healing specialty; Admitted to other Doctor of Nursing Practice specialties; Graduate or professional students in health sciences programs; Practicing health professionals; or instructor consent.

CSPH 5805. Wellbeing in the Workplace. (; 3 cr. ; Student Option No Audit; Every Fall) Work and experiences in the workplace have a profound impact on many dimensions of individual and collective wellbeing, including a sense of purpose and meaning, financial and emotional security, quality of relationships and community, physical and emotional health, and the local and global environments. In this course, students will learn multi-disciplinary perspectives on key challenges in creating workplaces that contribute to greater wellbeing. Students will also reflect on their own personal experiences with wellbeing in their current and past work environments and examine strategies for enhancing wellbeing based on interdisciplinary theory and research. Specific topics include the importance of purpose and meaning at work, challenges in achieving work-life integration, the impact of technology on work expectations, and organizational change. This course is based on a whole-life, integrative model of wellbeing and draws from research

and theory across the social, behavior, and health sciences. prereq: jr or sr or grad, or instructor consent

CSPH 5806. Wellbeing and Resiliency for Health Professionals. (; 1 cr. ; Student Option; Every Fall & Spring)

This course will teach health professional students and health professionals self-care strategies that will improve their individual wellbeing and reduce the stress and burnout often experienced in these professions. Improving individual wellbeing will also contribute to greater wellbeing in the teams and systems in which these professionals work prereq: jr or sr or grad, or instructor consent

CSPH 5807. Mindfulness in the Workplace: Pause, Practice, Perform. (; 2 cr. ; Student Option; Every Fall & Spring)

Mindfulness in the Workplace is an experiential course designed to teach core mindfulness skills while also exploring specific applications to the workplace setting. The course explores key mindfulness traits and how they relate to essential workplace skills, such as resilience, task execution, critical analysis, intra/interpersonal growth, leadership, and other related topics. In addition, the course explores how corporate culture can be a barrier or a catalyst for adoption of mindfulness principles. By exploring the above topics from the perspective of the workplace and academic literature, students will gain an understanding of how to apply evidence-informed techniques to help them on the job. prereq jr or sr or grad, or instructor consent

CSPH 5905. Food Matters: Cook Like Your Life Depends On It. (; 1 cr. ; Student Option; Every Fall & Spring)

Food Matters is an experiential-learning, applied nutrition & culinary skills course for health professional students. The course addresses the role of food in specific health conditions and its function in health promotion and disease prevention. The course guides future health professionals in the procurement, preparation, and consumption of sustainably raised whole foods for self care and how this translates to patient care. prereq: Graduate student in a health professions field, or instructor consent

Cultural Study/Comparative Lit (CSCL)

CSCL 1001W. Introduction to Cultural Studies. (AH,WI,DSJ; 3 cr. ; Student Option; Every Fall & Spring)

Culture is a site of struggle, over meanings, values, history, and reality. This course introduces students to cultural studies as a conceptual, interpretive, and interdisciplinary approach to the role that culture plays in defining reality and to the possibilities for contesting those definitions. Through exploring the rituals and practices of culture that shape our perceptions of the world, often in ways we take for granted, the course seeks to develop a critical understanding of the relationships between individual and society, representation and reality, as well as theory and practice

CSCL 1101W. Literature. (LITR,WI; 3 cr. ; Student Option; Every Fall & Spring)

What is literature? Today the term literature embraces all things printed, from fiction to nonfiction to advertising (yes, even your junk mail), from highbrow to low. This course will take a comparative view of the term literature as well as its ideas, practices, and forms. Given that literature historically has been tied to writing, to print, or to the book, what does it mean to study literature today? in an age when the book (and possibly print itself) may be vanishing?

CSCL 1201V. Honors Course: Cinema. (AH,WI; 4 cr. ; Student Option; Every Fall & Spring)

Introduction to the critical study of the visual in modernity, presented through sustained analysis of the cinema and cinematic codes. Emphases on formal film analysis and major film movements and conventions in the international history of cinema. Students develop a vocabulary for formal visual analysis and explore major theories of the cinema. *Students will not receive credit for CSCL 1201V if they have already taken CSCLW, SCMC 1201W, ARTH 1921W, CSCL 1921W, CSCL 1201 or SCMC 1201

CSCL 1201W. Cinema. (AH,WI; 4 cr. ; Student Option; Every Fall & Spring)

Introduction to the critical study of the visual in modernity, presented through sustained analysis of the cinema and cinematic codes. Emphases on formal film analysis and major film movements and conventions in the international history of cinema. Students develop a vocabulary for formal visual analysis and explore major theories of the cinema. *Students will not receive credit for CSCL 1201W if they have already taken SCMC 1201W, CSCL 1201V, SCMC 1201V, ARTH 1921W, CSCL 1921W, CSCL 1201 or SCMC 1201

CSCL 1202W. Media: Word, Image, Sound. (AH,WI,TS; 4 cr. ; Student Option; Every Fall & Spring)

Introduction to the critical and theoretical study of media and technology from Aristotle to the modern world. The first half of the course emphasizes theoretical readings in dialogue with historical apparatuses (printing press, photography, radio, cinema, television) and various expressive objects (the bible, early film, ethnographic sound recordings). The second half turns to the modern culture industry since World War II, and introduces students to the critical study of mass culture, the concept of ideology, and of the relationship between corporate power and media conglomerates.

CSCL 1301W. Reading Culture: Theory and Practice. (AH,WI; 3 cr. ; Student Option; Every Fall & Spring)

Culture and cultural conflict. Reading cultural theory/texts such as film, literature, music, fashion, commercial art, and built environment.

CSCL 1401W. Reading Literature: Theory and Practice. (LITR,WI; 3 cr. ; Student Option; Every Fall & Spring)

How can we read/understand different ways that literature is meaningful? Emphasizes

practice in reading a broad spectrum of world literature, literary theory.

CSCL 1501W. Reading History: Theory and Practice. (HIS,WI; 3 cr. ; Student Option; Every Fall & Spring)

What is history? How can we understand its meanings/uses? Emphasizes practice in reading cultural texts from various historical perspectives.

CSCL 1914W. What is a Poem?. (WI; 3 cr. ; A-F only; Periodic Fall)

This is a course for people who love reading poetry as well as for people who would love to learn how to love reading poetry?and it should be much fun for both! We will examine some of the basic issues in the study of poetry, such as the changing meanings of the term ? poetry,? the distinction between epic poetry and lyric poetry, the importance of the question of love for poetry, and so on. We will study a great variety of poems from different historical periods, literary traditions, and cultural contexts across the globe (including pop songs and music videos by contemporary singers and bands, some of which will be selected by the students). Above all, this is a course in close reading: we will study in detail how poems work, what it is that they do, and why. Ultimately, the question we will attempt to answer is why it is that poetry always has been and still continues to be one of the fundamental forms of human expression. To this purpose, we will discuss how to conduct literary analysis and students will have the opportunity to try their hand at literary criticism, i.e., by writing essays focused on one single poem. (This course fulfills the Writing Intensive requirement).

CSCL 1918. The Hollywood Musical, in one term. (; 3 cr. ; A-F only; Periodic Fall)

Musicals, in theatrical form, span the globe and in cinema, date from the inception of recorded and projected sound. This course limits itself to the Hollywood Musical from 1927 onward, while staying in discussion with Bollywood musicals, Jacques Demy?s French musical masterpieces, the musicals of sub-Saharan Africa (Come Back Africa, Sanknofa, etc.) as well as examples including Carlos Saura?s Carmen. Because of its clear stages, i.e. early/pre-code, classical, punk, and DV, Hollywood musicals map a clear line that is crucial to know, to understand, to criticize and to deviate from in order to understand the genre?s discrete characteristics and how they interact world-wide.. We will study these stages and their filmic examples, with attention to how music has come to specifically affect the film industry in regard to politics, economics, gender, sexual orientation, age, class, and race.

CSCL 3005. Seminar in Critical Thought. (3 cr. ; A-F only; Every Fall)

Exploration of concepts and problems foundational to the practice of critique. Focus on paradigmatic concerns and shifts underpinning humanistic inquiry, from the past to the present, such as representation, narrative, ideology, subjectivity, power and violence, and transformation. Groundwork for

understanding the European critical tradition and key challenges from non-European sources.

CSCL 3111W. Close Reading. (LITR,WI; 3 cr. ; Student Option; Every Fall & Spring)
History/theory of 'close reading' (i.e., the most intense encounter between reader and text) exemplified through critical texts. Students perform close readings of various texts.

CSCL 3117. Concepts of Literary Study. (LITR; 3 cr. ; Student Option; Every Fall & Spring)

This course begins by asking what this strange thing we call literature is, this six-thousand year old form of writing that brings into existence, each time a work is read, a world that did not previously exist. Sometimes that world is one in which we long to live, sometimes it is dark and foreboding, all death and despair; sometimes we seek it out as an escape from our daily lives, sometimes we enter it to be able to better understand those same lives, to come back to them refreshed, not just emotionally but intellectually -- for if literature does involve an immersion in the not-actually-existent, a departure from the everyday world, it does so by engaging us from within the world and in such a way that it is able to recast our everyday world and make us think it in new ways. And literature does all this with that most everyday of things, language. By attending to the ways authors and scholars mobilise language?s expressive, analytic and conceptual resources, with this course we shall learn various methods of critically appreciating and engaging complex literature, while gaining insight into how the practices of literary criticism and theory relate to, and help us understand, the world in which we live, how language shapes and forms that world and literature?s unique place and role in that world and its forming.

CSCL 3120. Poetry as Cultural Critique. (; 3 cr. ; Student Option; Periodic Spring)

Examines the status of "poetry" in several cultures of the Americas bringing together techniques of close reading and broad cultural inquiry.

CSCL 3122. Movements and Manifestos. (LITR; 3 cr. ; Student Option; Every Fall & Spring)

Movements that emerge when a group of writers, filmmakers, artists, composers, or musicians puts forth a new definition of literature, film, art, or music?and sets in motion new relations (aesthetic and social) of word, image, sound. Manifestos?statements of position?that articulate or counter such definitions. Movements created by scholars or critics after the fact. Focuses on one or two related movements (e.g., romanticism and realism, surrealism and negritude, new wave and third cinema).

CSCL 3123. Jewish and German Writing at the Margins: Multilingualism, Race, Memory. (; 3 cr. ; Student Option; Periodic Fall)

How are minority stories, novels, and poems constructed at the margins of a majority culture's language? This course addresses

this question by exploring the complexity of Jewish culture in modernity, with a focus on 20th and 21st century German and American literature. We will first tackle the open-ended and endlessly productive question of what is meant by Jewish culture. What is a Jewish writer and is there such a thing as Jewish writing? What makes a text ? How do Jewish authors challenge the assumptions of majority culture in their work? What role do multilingualism and translation play in the formation of Jewish cultures at the margins? We will trace the lines of affinity between the U.S. and Europe to explore the entangled histories of Germans and Jews, and between German Jews and Turkish Germans, as we look at works that challenge and expand the definition of Jewishness in the 20th century. Additional topics to be considered include how the legacies of American slavery and European colonialism shape our understandings of the Nazi genocide of the Jews, and whether Jewish writing should be understood under the rubric of whiteness? Moving beyond the approach to German Jewish literary studies anchored in Weimar Germany, we will explore the circulation of Jewish memory between Europe and the U.S. in the aftermath of the Holocaust. We will read works by, among others, Franz Kafka, Paul Celan, Gershon Scholem, Hannah Arendt, Benjamin Stein, Walter Benjamin, Barbara Honigmann, H??ne Cixous, Raymond Federman, W.G. Sebald, Allen Ginsberg, Adeena Karasick, Alfred Kazin, Saul Bellow, Philip Roth, Bernard Malamud, Avram Sutzkever, Zafer Senocak. prereq: No knowledge of German required; some work in German must be done in order to count this course toward a German minor or a German, Scandinavian, Dutch major.

CSCL 3130W. Colonial and Postcolonial Literatures and Theory: 1700 to the Present. (GP,WI,LITR; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

Readings in colonial/postcolonial literatures/theory from at least two world regions: Africa, the Americas, the Arab world, Asia, Europe, and the Pacific. Cultural/psychological dynamics and political economy of world under empire, decolonization, pre- vs. post-coloniality, globalization.

CSCL 3141. Classics of World Literature. (LITR; 3 cr. ; A-F only; Every Fall)

This will be an introduction to the concept of world literature ? that is, literature from the Arab, Asian, African, Latin American and Oceanic worlds, not only the English-speaking countries of England and its former colonies. And it will introduce students to some of the basic methods of comparative literary study such as close reading, genre analysis, etymology, stylistics, and translation. We will discuss classic problems confronted within comparative literature such as collective authorship, the spirit of a people, the historical reconstruction of the past through the study of language, comparative cultural value, and the effects on language and learning prompted by technology (in the form, for example, of the ?digital humanities?). We will ask how comparative literature differs from other forms

of literary study, but most of all concentrate on the low-tech (but not anti-technological) reading of literary texts – the student alone with a book in their hand – while mastering as one's own a handful of the enduring classics of world literature – books that have influenced many generations of thinkers and writers but that, oddly, are not typically covered in any college curriculum: not in English classes, humanities introductions, or general knowledge courses. Our focus will be on books that happen both to be central to Western and world culture as part of the inheritance of its educated citizens, but also that happen to be lost at the same time, known about rather than known, invoked but not studied, quoted from but not generally understood. We will be addressing books, in other words, that deeply inspired, but also shaped the thinking of many of the scientists, artists, and scholars of the past, and which were once common knowledge – the expected points of departure for all educated men and women. In our own day, their influence has hardly waned – although not in their original form. Modern film and television industries, for instance, rely heavily on their stories, even as philosophers and theologians cannot express themselves without drawing on their characters, languages, and plots. Even the basic elements of advertising would be unthinkable without being able to draw on their repertoire of common stories, mythological settings, and cast of heroes. In an age of radical departures and brave new worlds, we are interested here in invaluable traditions, which have not lost their relevance.

CSCL 3210. Cinema and Ideology. (AH; 4 cr. ; Student Option; Every Fall & Spring)
The cinema as a social institution with emphasis on the complex relations it maintains with the ideological practices that define both the form and the content of its products. Specific films used to study how mass culture contributes to the process of shaping beliefs and identities of citizens.

CSCL 3211. Global & Transnational Cinemas. (GP; 4 cr. ; Student Option; Every Fall & Spring)
This course explores Global and Transnational Cinemas as alternative traditions to the dominant Hollywood-centered accounts of film history. Students will grapple with the historical, social, and political motivations of cinematic projects that critique traditions of national cinema, or that resist the hegemonic force of neocolonial cultural centers. Italian Neo-realism and the French New Wave will be examined as movements that challenge politics and mass culture. Third Cinema in Latin America and pan-African cinematic movements will be examined through their struggles with both colonialism and the rise of post-colonial dictatorships. Indian and Japanese cinemas of the 50s & 60s will mark out new possibilities of filmmaking and distribution. Finally, counter-hegemonic and experimental movements in U.S.-based film, such as the L.A. Rebellion and Fluxus, will allow students to understand how opposition to Hollywood style could exist within the very centers of cultural power while also reaching out to larger global communities.

CSCL 3212W. Documentary Cinema: History and Politics. (AH,WI,CIV; 4 cr. ; Student Option; Periodic Fall & Spring)
This course explores the ethics and aesthetics of documentary cinema, arguably the very first genre of film. We will track the history of documentary from largely instructional and experimental uses early in its history to become a distinct genre among today's familiar feature films. We will screen early documentaries, which may include shocking ethnographies (Nanook of the North, The Mad Masters). Over the course of the term, the syllabus makes its way to recent exemplars of the genre (films may include: Amy, American Teen, I Am Not Your Negro, A Jihad for Love, Generation Wealth, Fetish, Blackfish and so on). One of our aims will be to explore students' relations as viewers and documentarians themselves (via smartphones, Instagram, etc.) to this participatory, revelatory, and always controversial, politically fraught film practice. Documentary Cinema includes both full class lectures and discussions as well as small group discussion of films and readings, and may include the opportunity for students to create their own personal documentary. Intellectually, the course balances out a study of the grammar of documentary as an artistic practice with explorations of the ways the genre reflects broader currents of cinematic and cultural history. By the end of the semester, students should have a stronger understanding of the ways documentary cinema opens our senses to the world around us.

CSCL 3220W. Screen Cultures. (AH,WI,TS; 3 cr. ; Student Option; Every Spring)
Screens increasingly define the ways that we communicate with one another and how we encounter the world. This course will offer a critical, historical approach to the emergence of 'screen cultures' from the beginning of photography and cinema to our own age of ubiquitous touch screen displays. We will pay a great deal of attention to the ways that such technologies drive our patterns of consumption and production as well as how they create and define our social environments.

CSCL 3221. On Television. (CIV; 3 cr. ; Student Option; Every Fall & Spring)
We will study writings on television and specific TV shows from a variety of angles to understand the rise of American broadcast technologies, how race and class are crafted on TV, representations of gender and the home, postmodernity and late capitalism, the rise and demise and of taste, global television and the public sphere, the production of 'reality' in our present historical moment, and changes in televisual technologies. Throughout the course, we will also consider what constitutes television?the technology, the form, and the content?and learn to read these three facets of it concurrently.

CSCL 3231. Comedy: Media, Politics & Society. (AH; 3 cr. ; Student Option; Every Fall & Spring)
What makes some jokes so funny? And why do we laugh? In this course, we will approach the topic of comedy from every angle. We will study theories and philosophies of humor,

and will survey many different forms of the genre?film, television, viral web videos, internet memes, stand-up, improv, sketch comedy, absurdist theater, and political satire. And, of course, we will write and perform our own comedy in the classroom. By studying the history and formations of comedy, we will think about how jokes can help us change the rules of everyday life and imagine a new way forward.

CSCL 3251. Popular Music and Mass Culture. (AH; 3 cr. ; Student Option; Every Fall & Spring)

This course investigates the ways popular music is imbricated with the our identities, social affiliations and attitudes towards others on the scale of millions of people?what we might call 'mass culture.'? We will explore how popular music produces emotion, a sense of intoxication, and erotic desire; how it can be linked with self-discipline, bodily exercise, state security, sovereign authority, patriotism, courage, punishment, and violence; and how music might be heard related to labor and work, consumerism and consumption, and capitalism more broadly. We will puzzle over the ways music can give coherence to a cultural group, accompany moral education and action, challenge or reinforce gender conventions, mobilize and disperse political resistance, or lead one into a trance of spiritual and religious ecstasy. While we will still attend to a variety of 'purely?' musical elements both large and small (chords, verses, choruses, singing styles, lyrics, etc.), our central focus will be on forming a more philosophical view of its functions within popular culture. Genres to be discussed include rock, pop, hip-hop, R&B, electronic dance music, performances of the national anthem, and experimental music.

CSCL 3282. European Intellectual History: The Modern Period, 1750-Present. (3 cr. ; Student Option; Spring Even Year)
Second of a two-semester course. European thought in its historical/cultural context. Emphasizes development of philosophical/scientific thought, its relation to thinking about the individual and the community. Readings are from original sources.

CSCL 3310W. The Rhetoric of Everyday Life. (CIV,WI; 3 cr. ; Student Option; Every Fall & Spring)
How discourse reproduces consciousness and persuades us to accept that consciousness and the power supporting it. Literary language, advertising, electronic media; film, visual and musical arts, built environment, and performance. Techniques for analyzing language, material culture, and performance. (previously 3173W)

CSCL 3322. Visions of Nature: The Natural World and Political Thought. (ENV; 3 cr. ; Student Option; Every Spring)
Scientific and cultural theory concerning the organization of nature, human nature, and their significance for development of ethics, religion, political/economic philosophy, civics, and environmentalism in Western/other civilizations.

CSCL 3323. Science and Culture. (AH; 3 cr. ; Student Option; Every Spring)

Science and technology engaged through historical and cultural manifestations from film, literature, and YouTube to scientific and philosophical essays. Relations among humanities, science, economics, politics, philosophy and history. Psychiatry and drugs, food and agriculture, sexuality, religion and science, climate change.

CSCL 3334. Monsters, Robots, Cyborgs. (LITR; 3 cr. ; Student Option; Every Fall & Spring)

Historical/critical reading of figures (e.g., uncanny double, monstrous aberration, technological hybrid) in mythology, literature, and film, from classical epic to sci-fi, cyberpunk, and Web. (previously 3461)

CSCL 3335. Aliens: Science Fiction to Social Theory. (DSJ; 3 cr. ; Student Option; Every Fall & Spring)

In English, the word "alien" designates both immigrants from other countries and beings from other worlds. Aliens of all sorts are everywhere; they tend to provoke fascination, fantasy, and for many, fear and anxiety. But the deeper philosophical significance of aliens says as much about us as it does about them. In this course, we will explore these questions through a range of novels, films, and artworks from the 1890s to the present day, with an emphasis on science fiction and American popular culture.

CSCL 3350W. Sexuality and Culture. (DSJ,WI; 3 cr. ; Student Option; Periodic Fall & Spring)

Historical/critical study of forms of modern sexuality (heterosexuality, homosexuality, romance, erotic domination, lynching). How discourses constitute/regulate sexuality. Scientific/scholarly literature, religious documents, fiction, personal narratives, films, advertisements.

CSCL 3351W. The Body and the Politics of Representation. (HIS,WI; 3 cr. ; Student Option; Every Fall & Spring)

Western representation of the human body, 1500 to present. Body's appearance as a site and sight for production of social and cultural difference (race, ethnicity, class, gender). Visual arts, literature, music, medical treatises, courtesy literature, erotica. (previously 3458W)

CSCL 3352W. Queer Aesthetics & Queer Critique. (DSJ,WI,LITR; 3 cr. ; Student Option; Periodic Fall & Spring)

Is there such a thing as global queer aesthetic? If so, how do various modes of representation and expression (novels, poetry, and sophisticated uses of language across film, television and video, digital media, pop music and punk) elaborate and enact queerness in particular material ways while also helping to create a larger, intermedial queer culture?

CSCL 3405. Marx for Today. (AH,DSJ; 3 cr. ; Student Option; Every Spring)

A century and a half after the publication of Karl Marx's *Capital*, Vol. 1 (1867), this course will reflect on the political urgency of our current moment in order to understand the relevance and complexity of Marx and the Marxist tradition. We will pursue an intensive study of primary readings written by Karl Marx himself,

exploring the social, philosophical, and political history of Marxist thought and familiarizing ourselves with key concepts such as labor-power, primitive accumulation, the commodity, use value, exchange-value, surplus-value, crisis, money, and capital. As we study Marx as a theoretician, we will also examine his work as a political revolutionary, writer, and correspondent with many of the most important revolutionary figures of his day. Here we will foreground his analysis of the labor of enslaved Black persons in the plantation economies of the Southern United States—which he ties to the labor markets of capitalism in Europe—as well as his more explicit critiques of slavery and colonialism. Following this close reading of Marx and the Marxist tradition, we will consider the ways that critical thinkers and political activists, both in the United States and globally, continue to resist, create, and dream under the banner of Marxism throughout the twentieth century and into our own new century. We will center questions of racial justice through the writings of W. E. B. Du Bois and contemporary Marxist scholars of race, indigeneity, and diaspora, focusing on Du Bois's attention to the links between race and social class in America. Alongside critical reappraisals of Marx's thought, we shall think about the influence of Marx's writings on political activists in the Black Panther Party and the American Indian Movement, and on American labor, as well as on South American revolutionaries like Carlos Marighella. We will then move to a study of Marxist feminism, linking race and gender in U.S. and global Marxisms through readings by Black Panther activist and intellectual Angela Davis, the social historian Nancy Fraser, and Italian Marxist feminist Silvia Federici. We will revisit the question of gender oppression and feminist resistance through a Marxist frame, with reference to the revival of socialist prospects in the work of Jodi Dean and Mackenzie Wark. Finally, we will examine the contemporary fight over reproductive rights and the history of the "Wages for Housework" movement. From these readings and conversations we will think about how Marx's ideas and their larger legacy can help us to understand our current moment and our political, social, and ecological futures. In as much as this is a course on theoretical perspectives, it will also be one that seeks to use Marx, and the Marxist tradition, to develop critical perspectives and solutions to pressing issues of racial injustice, social inequality, and environmental devastation.

CSCL 3412W. Psychoanalysis. (WI; 3 cr. ; Student Option; Every Fall)

The work of Sigmund Freud has withstood years of controversy to install itself as foundational to the way we understand the relationship between individual desires, social structures, and cultural practices. This is in part because Freud's writings were not restricted to the domain of psychology. His writings also renewed grand philosophical questions in ways that dramatically transformed them. He asked: What is a human subject? What are the causes of her actions? What are the nature and motivations of her engagement with others? In the many decades since his early

publications, Freud's key concepts like the ego, the superego, the id, the unconscious, and the significance of dreams and jokes have had an enduring influence in Western culture. This course introduces students to a range of psychoanalytic writings from Freud's early theories of mental structure and human development to contemporary applications, re-workings, and critiques of psychoanalysis. We will discuss concepts like the unconscious, sexuality, disavowal, repression, neurosis, melancholia, the pleasure principle and the death drive. By the end of the course, we will have developed a sense of the uses and limitations of psychoanalysis for understanding pressing global issues such as sexual identification and its formation, racism, neo-fascism, extreme political division, war and nationalism, climate change, and the destruction of democratic ideals. Authors read may include Melanie Klein, Franz Fanon, Jacques Lacan, Julia Kristeva, David Eng, Slavoj Žižek, Henry Stack Sullivan, Kalpana Sheshadri-Crooks and Margaret Mahler. Readings will be complemented with short stories, literary excerpts, film clips, as well as discussion of current political issues.

CSCL 3425W. Critical Theory and Social Change. (AH,WI,DSJ; 3 cr. ; Student Option; Every Fall & Spring)

This course introduces influential thinkers in the field of Critical Theory who wield theory to document and drive social change. As philosopher James Bohman notes, critical theory "has a narrow and a broad meaning." Narrowly, the term designates twentieth-century German theorists "in the Western European Marxist tradition known as the Frankfurt School," who define "a critical theory [as] critical to the extent that it seeks human emancipation from slavery, acts as a liberating influence, and works to create a world which satisfies the needs and powers of human beings." So conceived, critical theory is intimately entwined with an anti-slavery, emancipatory politics. This twinning anticipates a second, broader compass of critical theory, as Mark Christian Thompson and others argue, in which U.S. and global Black, Indigenous, and other thinkers of color marshal theory to decode and dismantle power and to articulate anti-racist visions of social justice and social change. This course braids these strands of twentieth- and twenty-first-century critical theory to examine the ways in which our lives are conditioned by systems, ideologies, and histories of power relations that reflective critique can illuminate. We begin by reading pivotal theorizations of culture (Georg Simmel), critical theory (Max Horkheimer), and intersectionality (Patricia Hill Collins): the notion that race, class, gender, sexuality, and other social determinants are mutually constitutive and thus produce ever-shifting dynamics of power and oppression. Unit 1, "Symptom and Structure," draws on the work of Jackie Wang, Angela Y. Davis, Malcolm X, Sheldon George, Alfredo Carrasquillo, and Joshua Javier Guzman to look under the hood of the carceral and mental health systems and see how the structural logics of these institutions engender racial disparities and psychic trauma. With the

psychoanalytic theory of Sigmund Freud, we explore?via Willy Apollon, Jean Rouch, and Michael Taussig?how spirit-possession as anti-slavery and anti-colonial resistance may imagine race and consciousness differently. In Unit 2, ?Poetics and Practice,? we turn to the making of history in two sites of knowledge production?the archive and the university?and reimaginings of the past as a revolutionary force in the present and for the future. Bridging Frankfurt School (e.g., Walter Benjamin and Theodor Adorno) and contemporary theorists (e.g., Michel-Rolph Trouillot, Saidiya Hartman, bell hooks, ?douard Glissant, Aurora Levins Morales, Michael Rothberg), we listen for the ways in which Black, Latinx, and other marginalized histories in the United States and the Americas (e.g., Haiti and Puerto Rico) speak through and against the silences of dominant archives, turning history into poetry that repairs and reclaims the past. Our final unit, ?Language and Liberation,? studies how language defines race and culture in the shadow of coloniality and decolonization. In dialogue with key thinkers of the past century (W. E. B. Du Bois, Frantz Fanon, Herbert Marcuse), we bring contemporary scholars Nelson Maldonado-Torres, Christopher Pexa, and Yuichiro Onishi?who theorize the work of language in Black being, Indigenous peoplehood, and Black-Asian solidarity? and Kwame Anthony Appiah, Lewis Gordon, and Barbara Christian, who problematize ? culture? and probe the potentials and the limits theory poses for liberation. Throughout, we tie our discussions to local context: the police murder of George Floyd in Minneapolis and the Movement for Black Lives, the Ojibwe and Dak?ta struggle for self-determination, the fight for Black studies and the redress of histories of racism and anti-Semitism at the University of Minnesota. We probe our roles in the cultures of the United States, the Twin Cities, and the University?as theorists and actors?and consider how we can motivate social change for justice.

CSCL 3896. Internship for Academic Credit. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

CSCL students who would like to pursue paid or unpaid internships can also earn credit toward their degree. This course includes a series of reflective assignments on the internship experience that help students develop their career goals, aspirations, and plans. CSCL students often find internships at media companies, advertising agencies, film festivals, arts institutions and galleries, publishing houses, non-profits, and community organizations. Typically a student?s work is supervised and evaluated by a site coordinator and the instructor works with a student on readings and assignments. Credits taken are determined by the number of weekly or total hours for onsite internship work, course readings, assignments, and meetings. The following are minimum hours and weekly averages based on a 16 week semester: 1 credit - 45-hour minimum (average 3-4 hours per week) 2 credit - 90-hour minimum (average 5-7 hours per week) 3 credit - 135-hour minimum (average 8-9 hours per week)

4 credit - 180-hour minimum (average 10-12 hours per week) There is also a deferred enrollment section of the course that allows students to take a summer internship followed by fall enrollment for credit. Students interested or registered in this section must contact the instructor at the start of their internship or during registration for more information. Students are also encouraged to apply for CLA Internship and Leadership Scholarships. For more information on this course or internship possibilities, please contact the Film Studies Coordinator (stou0046@umn.edu). Students can also use Goldpass to search for internship possibilities.

CSCL 3910. Topics in Cultural Studies and Comparative Literature. (; 3 cr. [max 24 cr.] ; Student Option; Periodic Fall & Spring) Topics vary by instructor and semester

CSCL 3993. Directed Study. (1-3 cr. ; Student Option; Every Fall & Spring) Guided individual reading or study. Prereq-instr consent, dept consent, college consent.

CSCL 4993. Directed Study. (1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer) Guided individual study.

CSCL 5302. Aesthetics and the Valuation of Art. (3 cr. ; Student Option; Periodic Fall & Spring)

Society, ideology, and aesthetic value considered in light of recent critical theories of visual art, music, and literature. Meditations of place, social class, gender and ideology on aesthetic judgment in post-Renaissance Western culture.

CSCL 5303. Sound Studies. (; 3 cr. ; A-F or Audit; Fall Odd Year)

What is sound? Among the various ways of absorbing the world through the senses (looking, reading, watching, touching, tasting), what is unique to the actions of listening and hearing? And over the course of human history, how has sound been variously deployed, framed, and constructed? This course covers a diverse range of topics in the fast-developing interdisciplinary field of Sound Studies from the philosophy of sound to psychoanalytic theories of the voice, the gendered histories of telephones, accounts of radio and decolonization, film sound, sonic expressions of race, the politics of global popular music, mobile media technologies, and cutting-edge approaches to sound art.

CSCL 5305. Vision and Visuality: An Intellectual History. (; 3 cr. ; A-F only; Periodic Fall & Spring)

Central role of vision/visuality in modernity. Modern age as scopic regime. Ways that ideas/ideologies of perception have shaped aesthetic experience within social existence.

CSCL 5331. Discourse of the Novel. (; 3 cr. ; Student Option; Periodic Fall)

Comparative study of the novel, 18th century to present. Its relations to ordinary language practices, emergent reading publics, technologies of cultural dissemination, problems of subjectivity, and its role in articulating international cultural relations.

CSCL 5401. Origins of Cultural Studies. (; 3 cr. ; Student Option; Periodic Fall & Spring) Intellectual map of the creation of cultural studies as a unique approach to studying social meanings. Key figures and concepts, including nineteenth- and early twentieth century precursors.

CSCL 5411. Avant-Garde Cinema. (; 4 cr. ; A-F or Audit; Every Fall)

In 1939, the art critic Clement Greenberg defined avant-garde art in opposition to the ? kitsch? of mass-produced culture. To what extent does this conception of the avant-garde apply to the cinema?an institution and art form that supposedly requires machines and industrial modes of production? This course introduces students to key works of avant-garde and experimental film made by artists working on the margins of commercial film and mainstream art institutions. From the first half of the twentieth century, we will consider influential films made under the banners of Futurism, Constructivism, Surrealism, and Dada, and discuss their complex relation to Hollywood commodities. In the postwar period, we will explore a range of increasingly global experimental film practices, from the queer underground cinema in Latin America to the use of film projection in avant-garde performance. We will examine these practices in light of larger debates about medium specificity as well as the aesthetics and politics of the personal vs. the structural. In the final unit, we will reflect on the way contemporary artists, scholars, and curators have assembled a tradition of avant-garde cinema in the age of new media, and contemplate new directions we want it to take.

CSCL 5555. Introduction to Semiotics. (; 3 cr. ; Student Option; Periodic Spring)

Problems of the nature of the sign; sign function; sign production; signifying systems as articulated in philosophy, linguistics, anthropology, psychoanalysis, and art theory. Application of semiotics to various signifying practices (literature, cinema, daily life).

CSCL 5666. Film Music: Theory, History, Practice. (4 cr. ; A-F only; Periodic Fall & Spring)

Role of music in American/European film from early 20th century silent cinema to near present. Narrative features, shorts, documentary, horror, thriller, science fiction, comedy, cartoon. Film music as social/cultural practice and as part of political economy within culture industry.

CSCL 5833. Marx, Freud, Nietzsche: Intellectual Foundations. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Three thinkers who defined modernity: Marx, Freud, and Nietzsche. Central tenets of their thought/terms associated with their theories. Their careers portrayed against the background of their times; their place in intellectual history.

CSCL 5910. Topics in Cultural Studies and Comparative Literature. (; 3-4 cr. [max 32 cr.] ; Student Option; Every Fall, Spring & Summer)

Topics specified in Class Schedule.

CSCL 5993. Directed Study. (1-3 cr. [max 9 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. Prereq-instr consent, dept consent, college consent.

Curriculum and Instruction (CI)

CI 1001. Introduction to the Elementary School. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Three modules focus on important aspects of contemporary urban elementary school teaching: the principal's role, the teacher's role, and the students. Central to each module are school-based visits, observations, and interviews.

CI 1032. Creating Identities: Learning In and Through the Arts. (AH; 4 cr. ; Student Option; Every Fall & Spring)

?Creating Identities: Learning In and Through the Arts? gives you opportunities to create art in different mediums including storytelling, photomontage, movement, as well as a creative medium of your choice in order to reflect your understanding of a social justice issue. In CI 1032 you join a learning community for discussing, analyzing, and making meaning of this artistic production. No prior experience is needed; come with an open mind and imagination as well as a willingness to experiment. An important emphasis in the class will be on finding your own ways to transform ordinary materials. We will introduce you to specific artistic techniques and in turn you will learn to take creative risks, think metaphorically, explore the unknown, improvise, brainstorm, and invent your own methods of working. Each of you bring to the class different kinds of knowledge and abilities. To be successful in this course you need to be willing to work hard, to explore territory that may not be familiar to you, to be reflective about what you are doing, and to learn from your diverse classmates and in turn help them achieve the same goals. The instructors of ?Creating Identities: Learning In and Through the Arts? shape the course with the assumption that identity is at the heart of educational experiences and that the habits of mind associated with the artistic production are primary vehicles for multimodal learning. We will experience how arts-based learning engenders higher order thinking, the creative process, reflection and perseverance. This course gives you the opportunity to both produce as well as analyze art in order to experience how creative expressions reveal aspects of our personal and social identities that have an impact on how we learn. Through mediums including photography, film, performance, music, painting and sculpture, we will explore how artists are influenced by cultural elements such as the built and natural environments, gender, religion, nationality, and socioeconomic status, and how artists, in turn, shape our perceptions of culture and identity. Through writing and discussion, we will consider how the arts can both reflect and impact our perceptions of identity and our reflections of ourselves

as learners. As you move further into your academic studies and your career, you will intersect with people from differing cultures and places. The work in this class will help you become more comfortable with and welcome the benefits that come with intercultural learning. Interactions with classmates and cultural production of indigenous, immigrant, international and Western artists, allows you to have a greater understanding of, appreciation for and acceptance of the ways of knowing a variety of cultures can provide, and the confidence that you can reciprocate in kind.

CI 1121. Educational Movements Past and Present: Multicultural Perspectives. (DSJ,HIS; 4 cr. ; Student Option; Every Fall & Spring)

Students will explore diverse historical perspectives regarding educational movements in the U.S. since the Civil War. Through challenging questions and problems in educational history, students will develop critical frameworks necessary for interpreting America's educational past and how it is tied to culture, politics, privilege, and power.

CI 1124. Global Stories of Education: Literature for Young Adults. (GP,LITR; 3 cr. ; Student Option; Every Fall & Summer)

Using young adult novels, short stories, nonfiction, and poems by immigrant, indigenous, minority, and refugee authors, students explore learning experiences of youth. Through immersion in the global lives and identities of characters who cross geographic and cultural borders, students consider what stories teach and how young people learn.

CI 1150. Special Topics History. (GP,HIS; 4 cr. ; Student Option; Every Fall & Spring)

History topics in education.

CI 1512. Nature in the City. (BIOL,ENV; 4 cr. ; Student Option; Every Fall & Summer)

Science and conservation of biodiversity in the Twin Cities. Ecology and evolution of species and communities adapted to urban environments. Socially responsible and culturally sensitive interventions to environmental problems.

CI 1563. Physics by Inquiry. (PHYS; 4 cr. ; Student Option; Every Fall & Spring)

Laboratory-based introductory class where students learn by experimenting and model building and testing. Topics include electric circuits, light and color, and observational astronomy. Emphases include the nature of science and science learning, effective strategies for team-based learning, and logical reasoning skills.

CI 1806. College Algebra through Modeling. (MATH; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Math modeling, including linear, polynomial, rational, exponential, logarithmic functions, counting/probability. Excel or calculators used to develop equations/graphs from theoretical/real interdisciplinary data. Projects enable students to use models to examine trends, make predictions. prereq: Three yrs high school math or grade of at least C+ in PsTL 0731 or PsTL 0732 or CI 0832 or placement test score or instr consent

CI 1826. Social Change, Social Justice: An Introduction to Applied Calculus. (MATH; 3 cr. ; Student Option; Every Fall & Spring)

This class is an introduction to differential calculus: instantaneous rates of change, derivative graphs and formulas, multivariate scenarios, partial derivatives and integration. Applications focus on analyzing change in social science scenarios such as gentrification and racial disparities in housing using authentic Minnesota data. Prerequisites: four years high school math OR grade of at least B+ in CI 0832 or PSTL 0732 OR placement test score OR instructor consent.

CI 1871. Computer Literacy and Problem Solving. (; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Competencies in computer applications used in the social sciences and business to solve problems. Using advanced word processing techniques to create complex documents, electronic spreadsheets to analyze data and present it graphically, database management programs to store, organize, and query data, and presentation software to communicate ideas.

CI 1908W. Children and Other Talking Animals: Animal Tales in (Mostly) Children's Literature. (CIV,WI; 3 cr. ; Student Option; Every Fall)

Humans and animals coexisted for millennia until humanity exiled itself from nature in order to rule it. In this course we look at the tradition of animal tales as the never-entirely-suppressed memory of this kinship and a hope for our future. We explore how animal tales have been used through the ages to reflect diverse ethical conceptualizations of the human relationship with animals and the natural world. We study the connections between children and/as talking animals. We read a range of animal tales and consider their meanings for the environmentally threatened global world.

CI 2311W. Introduction to Technology and Ethics in Society. (CIV,WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Values and ethical issues related to technology use in education, workplace, and family/community life.

CI 2312. Sex, Drugs, and the Internet: Educational Perspectives. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Immersive exploration/critique of advantages/risks associated with society's pervasive use of the Internet. Dangers and strategies to combat them. The Internet's potential for teaching/learning.

CI 3001. Engaged Arts Learning in Elementary Classrooms. (; 2 cr. ; A-F or Audit; Periodic Fall & Spring)

Introduction to pictorial expression, design, and the function of art in the social environment.

CI 3101. Issues in Urban Education. (3 cr. ; Student Option; Every Fall & Spring)

Issues in urban education examines and critiques contemporary commentary on urban education through texts, social media, case studies, and service-learning in schools. Through examination of socio-cultural and

socio-political contexts of urban education, this course considers the role of teachers, curriculum, and community in urban schooling.

CI 3150. Special Topics: Education and Society. (; 1-6 cr. ; Student Option; Periodic Spring & Summer)
Special topics, current trends regarding education and society.

CI 3211. Introduction to Elementary Teaching. (; 3 cr. ; A-F only; Every Fall & Spring)
Classroom management, instructional planning, working with families in elementary classroom. Assigned readings, lectures, classroom activities, assignments. prereq: [Elementary ed or early childhood ed foundations major], concurrent practicum experience

CI 3212. Field Experience: Elementary Teaching. (; 2 cr. ; S-N only; Every Fall & Spring)
Field-based experience. Students apply learning from their University courses to elementary school setting, connecting theory, research, and practice. prereq: concurrent registration is required (or allowed) in 5111, [elementary education foundations or early childhood foundations] major

CI 3283. Field Experience in Special Education. (; 2 cr. ; S-N only; Every Fall & Spring)
Field-based experience. Students apply learning from their university course in elementary school setting, linking theory, research, and practice. prereq: concurrent registration is required (or allowed) in EDPSY 5613, concurrent registration is required (or allowed) in EDPSY 5616, elementary education: foundations major

CI 3342. Social Media & Connected Learning. (; 3 cr. ; A-F or Audit; Every Fall & Spring)
This course investigates current and potential future impacts of social media using connected learning (Ito) and participatory culture (Jenkins) as a theoretical lens to understand the ways in which it can be used for education. Connected learning focuses on learning "pathways" that move across formal and informal settings to transform the very nature of learning - what it means, how it occurs, and where it takes place. In addition to gaining a philosophical understanding of participatory practices in spaces of connected learning, students will develop conceptual and practical expertise in using social media applications and social networking platforms for learning, creative expression, forming connections, and interacting as global citizens. The overarching aim of this course is to help students become critical consumers and ethical producers of new media in various forms for learning purposes. A balanced analysis and critique of both the affordances and the challenges associated with social media use as a tool for learning will be an essential component of the course and will frame each social media application and network that is explored and authentically integrated into the course. An examination of social media practices and influences will

include their use in both formal education as well as informal learning contexts.

CI 3401W. Diversity in Children's Literature. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)
Classic/contemporary books for children in all genres, created by authors/illustrators. Research in transactional theory. Cultural authenticity. Reading, discussion, group activities, interactive lectures, projects.

CI 3421W. Writing on Education: Pivotal Experiences of Teaching and Learning. (WI; 4 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Reflection and narrative play important roles in developing deep understanding of teaching and learning. In this course students will read and write texts about critical moments of education, and through this work develop reflective, analytic, and writing skills that will enable them to become more thoughtful and effective citizens in the world of education. Whether students hope to become teachers, youth workers, community organizers, curriculum designers or administrators in educational settings, this course invites students to consider how writers represent experiences of teaching and learning and how these reflective narratives can inform our own work and worlds. Students will explore the ways that writers of creative nonfiction use language to examine pivotal experiences of teaching and learning in diverse contexts, and add their own voices to this rich body of work by producing their own texts. Through study of writing, students will develop familiarity with writing choices and practice employing these techniques and processes in their own writing. Students will read personal essays written by writers in the US who reflect on their own experiences and interrogate how aspects of their identities (including race, ethnicity, gender, family history and language) inform pivotal experiences of teaching and learning. Students will compose texts that explore their own experiences within a constellation of formal and informal educational settings and the questions raised and arguments made through these representations. We will use a workshop-based format that supports transformational learning, helping writers see themselves and their worlds in new ways. Course reading will introduce a range of issues raised by experiences in and outside of the classroom.

CI 3610. Linguistics for Teachers. (SOCS; 3 cr. ; A-F only; Every Fall & Spring)
For pre K-6 pre-service teachers. Introduction to linguistics. Linguistic terminology and how to apply methods of linguistic analysis to English, focusing on educational settings and classroom instruction.

CI 3611W. Basics in Teaching English as a Second Language. (WI; 4 cr. ; Student Option No Audit; Every Fall & Spring)
Writing intensive course that combines service learning internship with classroom lectures, discussions, group work, experiential activities. In this course, service learning requires students to act as teachers and professional leaders with students for 30 hours a semester.

Prepares students for teaching ESL to adults in community programs. prereq: Have studied another language.

CI 3612. Introduction to Pronunciation and Grammar for ESL Teachers. (4 cr. ; Student Option No Audit; Every Fall & Spring)
Introduces English language analysis with key concepts/theories in English pronunciation system/grammar. Issues within each/explore way ESL textbooks/instructors can advance ESL learners' language proficiency in these areas. prereq: An Introduction to Linguistics course, e.g., CI 3610 or LING 3001

CI 3613. Intercultural Communication and English Language Teaching. (3 cr. ; Student Option No Audit; Every Fall & Spring)
Foundations of international/cross-cultural communication. Increased understanding of personal preferences/experiences in learning languages/using them in international communication. How these skills vary across individuals/context.

CI 3901. Exploring the Teaching Profession I. (; 2 cr. ; A-F only; Every Fall)

This course provides an avenue for participation in the College of Education and Human Development for undergraduate students who have identified teaching as a possible career choice and are accepted into the College's DirecTrack to Teaching program. This course enables students to explore the history and culture of teaching, student learning, community contexts for learning, and sociocultural, historical, and political influences on teaching, learning, and schools. Students will participate in service learning experiences in area schools. They will attend class, make presentations, engage in online and in person analytical and reflective discussions, collaborate with peers and begin their journey towards becoming teachers. prereq: DirecTrack to Teaching program or department consent

CI 3902. Exploring the Teaching Profession II. (; 2 cr. ; A-F only; Every Spring)

Diversity in schools, strategies for increasing cultural competence. Parents, communities, professional development. Students reflect on themselves as future teachers and complete 50 hours in educational settings. prereq: CI 3901, admission to DirecTrack to Teaching or department consent

CI 3993. Directed Study: Curriculum and Instruction. (1-6 cr. ; Student Option No Audit; Every Fall, Spring & Summer)

Opportunity for students to pursue study not available through regular coursework. This is a student-initiated project created in consultation with a faculty monitor. In consultation with instructor, the student determines topic, sets goals, and develops a proposed project or plan for completing the course. Prereq instr consent.

CI 4121. Culture Power and Education. (DSJ; 3 cr. ; A-F only; Every Fall & Spring)
Manifestations of culture/power in education. How culture is mediating factor in educational achievement of students of color. Relationship between home/community, school cultures. Theories/research that show importance of

integrating students' interests, knowledge, experience for increasing student engagement/achievement.

CI 4122. Social Class Education and Pedagogy. (3 cr. ; A-F only; Every Fall & Spring)

Social, psychological, economic, political aspects of social class/poverty. Implications for education as social institution/classroom pedagogy. Social class in U.S., working-class literature for adults/children, labor histories, economic systems.

CI 4311W. Technology and Ethics in Society. (CIV,WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Critique of values and ethical issues related to technology use in education, the workplace, and family and community life.

CI 4312. Sex, Drugs, and the Internet: Educational Perspectives. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Immersive exploration/critique of advantages/risks associated with society's pervasive use of the Internet. Dangers and strategies to combat them. The Internet's potential for teaching/learning.

CI 4602. English Learners and Academic Language. (1 cr. ; A-F only; Every Spring)

The course prepares teacher candidates to work effectively with English Learners (ELs) and other linguistically diverse students in their subject areas of music and agricultural education and to develop their students' academic language proficiency as needed for school success.

CI 5008. Theory and Practice of Arts Teaching. (; 1-2 cr. [max 3 cr.]; A-F or Audit; Every Fall & Spring)

Designed for students pursuing visual or performing arts education licensure, the course explores: 1) Arts concepts, skills, and processes appropriate for elementary school; 2) methods of teaching arts for social justice; and 3) an overview of children's production of and responses to visual and performing art.

CI 5018. Teaching Dance. (; 1 cr. ; A-F only; Every Fall, Spring & Summer)

Teaching Dance considers the theoretical and curricular applications of dance pedagogy and assessment in PK-12 dance learning contexts. Students will connect theory to practice by developing curriculum and instructional material from the field of dance education and professional teaching standards in dance education. prereq: Education graduate student or instructor consent

CI 5049. Digital Media & Technology Integration: Arts Education Theory & Practice. (; 3 cr. ; A-F or Audit; Every Summer)

This course explores issues in the visual and performing arts regarding the current and potential use of technology and digital media in P-12 arts classrooms. Through readings, discussions, artistic production, academic writing, and collaboration, you will understand the use and integration of technology in P-12 arts classrooms as pedagogical tools; the function of scaffolding students' use of digital

media as part of 21st century arts teaching and learning; various technological supports for student learning and artistic production; specific digital media theories, pedagogies, and content knowledge; the use of technology in designing, sharing, and conducting lessons; issues concerning the assessment and exhibition of student works; and practical issues of using technology for teaching in and through the arts.

CI 5050. Issues in Art Education. (; 1-4 cr. [max 8 cr.]; Student Option; Every Fall & Summer)

Issues/trends, current practices, recent research.

CI 5065. Improving Arts Programs in the Schools. (; 3 cr. ; A-F or Audit; Every Fall)

This course provides students with an exploration of issues in visual and performing art instruction, including teaching methods and evaluation, philosophical frameworks of pedagogy, and institutional issues concerning arts programs in middle and high schools; social and cultural structures of schooling, practical issues, and teaching arts.

CI 5069. Curriculum Innovations in Arts Education. (; 3 cr. ; A-F or Audit; Every Fall)

This course provides students with an examination of traditions in American schooling related to visual and performing arts education curricula.

CI 5075. The Social, Historical and Cultural Foundations of Arts Education. (; 3 cr. ; A-F or Audit; Periodic Fall)

The Social, Historical and Cultural Foundations of Arts Education will examine the arts in public education since the 1800s.

CI 5078. Application of Aesthetic Theory in Education. (; 2 cr. ; A-F or Audit; Every Spring & Summer)

The course explores: ?contemporary theories of arts ?psychological and philosophical foundations ?an overview of children's production of and responses to visual and performing arts

CI 5096. Arts Education Experience. (; 1-6 cr. ; A-F or Audit; Every Fall)

In this course, students complete field experience observations in designated K-12 visual art or performing art, special education, and kindergarten classrooms.

CI 5097. Student Teaching in Arts Education. (; 8 cr. ; S-N or Audit; Every Spring & Summer)

Teacher candidates spend 16 weeks student teaching in visual art, dance, or theatre. Eight weeks occur in an elementary setting and eight weeks occur in a secondary setting including, but not limited to, middle school.

CI 5102. Culture, Schools, & Communities: Human Relations I. (3 cr. ; A-F only; Every Summer)

This course provides teacher candidates with the knowledge and skills to address social and cultural dimensions of education. Students explore a wide range of challenges and dilemmas facing contemporary educators in the U.S. and in other global locations. They examine original research and theory from the

social sciences, and learn how research and theories have informed various educational policies and actual approaches to teaching. The course begins with a focused study of how U.S. educational history has been shaped by competing norms and purposes. It then moves into the role of philosophy in defining those purposes, and shaping actual approaches to teaching. The course then shifts to examine multiple dimensions of humanity including race, culture, gender, gender orientation, class, worldview, perception, and language in and out of school. These concepts lay the foundation for study of cultural transmission and acquisition, the learning preferences of diverse students, and ultimately, culturally relevant pedagogy, cultural competence, and cultural intelligence. Throughout the course, teacher candidates will consider their own positionality and what that means for their practice. Learning experiences are made up of class meetings involving speakers, simulations, and multi-media presentations; readings; small group discussions, activities, exercises and projects.

CI 5103. Culture, Schools, & Communities: Human Relations II. (1 cr. ; S-N only; Every Fall)

This course provides teacher candidates with the knowledge and skills to address social and cultural dimensions of education. The course then explores community partnerships that support student learning, and how teachers may navigate the social and political environment of schools and school districts to be effective advocates for their students. The course examines three themes that are interwoven throughout: professionalism, teacher leadership, and adaptive expertise. In sum, the course encourages teacher candidates to imagine both the realities and possibilities of schooling in the contemporary world. Learning experiences are made up of class meetings involving speakers, simulations, and multi-media presentations; readings; small group discussions, activities, exercises and projects. Prerequisites: Enrolled in initial teacher licensure program and successful completion of CI 5102.

CI 5106. Multicultural Teaching and Learning in Diverse College Contexts. (; 3 cr. ; A-F only; Every Fall)

Theory/pedagogy for culturally responsive teaching from perspectives of teachers/learners in postsecondary settings. Critical multicultural education, universal instructional design, integrated multicultural instructional design.

CI 5111. Introduction to Elementary School Teaching. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Curriculum organization, instruction, management, assessment, professional decision making. prereq: Foundations of ed major or elem ed initial lic

CI 5116. Action Research in Educational Settings. (; 3 cr. ; Student Option; Every Spring)

Action research as method of improving teaching/learning in educational settings. Experience doing research in classrooms.

Relative strengths/challenges of different approaches to classroom research. Ethical issues.

CI 5121. Culture Power and Education. (3 cr. ; A-F only; Every Fall & Spring)

In this course we will explore the manifestations of culture and power in education. We will examine the ways in which culture is a mediating factor in the educational achievement of underrepresented students. We will explicate the relationship between home/community and school cultures; and illuminate the detrimental impact of subtractive schooling practices. We then explore the theories and research that have shown the importance of integrating students' interests, knowledges, and experiences-cultures-for increasing student engagement and achievement. Our examination of culturally relevant pedagogy we will move beyond an understanding of "culture" within education as the "celebration" of ethnic food, songs and customs. Instead, we shift toward a more complex understanding of "culture" that takes into account the influences of ethnic culture, youth culture, and popular culture.

CI 5122. Social Class, Education and Pedagogy. (3 cr. ; A-F only; Every Fall & Spring)

This course will immerse students in social, psychological, economic, and political aspects of social class and poverty, and the implications for education as a social institution and classroom pedagogy. Students will engage in inquiries around social class in the U.S.; working-class literature for adults and children; labor histories; and economic systems' and will learn to design social class-sensitive teaching practices guided by five principles for social class-sensitive change.

CI 5145. Critical Pedagogy. (; 3 cr. ; A-F or Audit; Every Spring)

Examination of critical pedagogy; critique of power relations regarding race, culture, class, gender, and age in various educational settings; consideration of improved practice in education for children, youth, and adults.

CI 5150. Curriculum Topics. (; 1-4 cr. [max 8 cr.] ; S-N only; Every Fall, Spring & Summer)

Special topics, current trends in curriculum. Subject integration, curriculum contexts, development, implementation, evaluation.

CI 5155. Contemporary Approaches to Curriculum: Instruction and Assessment. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Current research/issues that cross disciplinary boundaries in curriculum development, instructional practices, and assessment methods. Interrelations among curriculum, instruction, and assessment within framework of constructivist learning theory. Individual classroom practices/theories. prereq: Grad students only

CI 5156. Popular Culture, Teaching, and Learning. (; 3 cr. ; A-F only; Every Fall)

Approaches to the study of popular culture and education. Intersection between everyday life and broader historical contexts. Sporting

events, toys, clothing, shopping malls, vampire mania, music festivals, video, and comics are the kinds of popular forms of culture we will engage as we develop teaching/learning strategies. prereq: Grad student or sr in a program that values teaching as a component of the discipline

CI 5163. Child and Adolescent Development for Teaching and Learning I. (1 cr. ; A-F only; Every Fall & Summer)

Attending to constant transitions/development in which children and adolescents negotiate their road to adulthood. How to foster learning/positive development. prereq: Enrolled in teacher initial licensure program

CI 5164. Child and Adolescent Development for Teaching and Learning II. (2 cr. ; A-F only; Every Fall & Spring)

Transitions/development in which children/adolescents negotiate road to adulthood. How to foster learning/positive development. prereq: Enrolled in teacher initial licensure program

CI 5177. Practical Research. (; 1-3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Preparation for identifying a research and development topic, reviewing the existing knowledge on the topic, planning and carrying out a project, further investigating the topic, and writing a report on the project. prereq: CI MEd student, or CI or EdPA Teacher Leadership MEd student

CI 5186. School-Related Projects. (; 1-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Research or evaluation project related to teaching, curriculum, or other aspect of schooling. Approved and supervised by faculty advisor. prereq: MEd student

CI 5190. Directed Individual Study in Curriculum and Instruction. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Producing/evaluating curriculum materials. Literature review of issues/problems. Assessing curriculum processes. prereq: Grad student, instr consent

CI 5211. Elementary Education Content and Pedagogy I. (; 4 cr. ; A-F only; Every Fall, Spring & Summer)

Teacher Candidates will complete eight modules on elementary content/pedagogy instruction across disciplines. Introduce various concepts/practices that will be spiraled in each subject area.

CI 5212. Elementary Education Content and Pedagogy II. (3 cr. ; A-F only; Every Fall, Spring & Summer)

Teacher Candidates will complete five modules on elementary content/pedagogy instruction across disciplines. Builds on various concepts/practices from introductory course. Introduces content that will be spiraled in each subject area.

CI 5213. Elementary Education Content and Pedagogy III. (3 cr. ; A-F only; Every Fall, Spring & Summer)

Teacher Candidates will complete six modules on elementary content/pedagogy instruction across disciplines. Builds on various concepts/

practices from two previous introductory courses. Introduces content that will be spiraled in each subject area.

CI 5214. Elementary Education Content and Pedagogy IV. (3 cr. ; A-F only; Every Fall, Spring & Summer)

Teacher Candidates will complete five modules on elementary content/pedagogy instruction across disciplines. Builds on various concepts/practices from previous three courses. Introduces content that will be spiraled in each subject area.

CI 5215. Elementary Education Content and Pedagogy V. (2 cr. ; A-F only; Every Fall, Spring & Summer)

Teacher Candidates will complete five modules on elementary content/pedagogy instruction across disciplines. Builds on various concepts/practices from introductory courses. Introduces content in each subject area. Serves as conclusion to elementary ed content/pedagogy courses.

CI 5283. Field Experience: Applying Instructional Methods in the Elementary Classroom. (; 3 cr. [max 6 cr.] ; S-N only; Every Fall & Spring)

Field-based experiences in elementary school settings. In-class discussions about application of classroom learning to school setting. Previously CI 5183. prereq: M.Ed./Elementary education initial licensure student, enrolled in elementary education methods course

CI 5285. Clinical Experience in Elementary School Teaching. (; 12 cr. [max 24 cr.] ; S-N only; Every Fall, Spring & Summer)

Students spend full days in elementary classroom, gradually assuming responsibility for teaching, and prepare portfolio based on criteria given. One seminar per week. prereq: M.Ed./Elementary education initial licensure students

CI 5286. Student Teaching Seminar: Elementary Education. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)

Weekly seminar supplementing student teaching experience. Class discussions, sharing of artifacts from the classroom, reflections, and readings. prereq: M.Ed./Elementary education initial licensure only

CI 5287. Capstone Project: Improvement of Teaching in Elementary and Pre-Kindergarten Schools. (3 cr. ; A-F only; Every Fall, Spring & Summer)

Elementary school classroom teaching project to improve specific teaching skills. Approved/directed by adviser. prereq: M.Ed./elementary education initial licensure student

CI 5301. Foundations of Computer Applications for Business and Education. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Instructional uses of computers/representative business, education, marketing applications. Word processing, databases, spreadsheets, graphic design. Expectations are for demonstrations of skills on apps/understanding of concepts that go beyond basic.

CI 5307. Technology for Teaching and Learning. (1.5 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Diverse educational technology in K-12 classrooms. Effective use of technology. Computer technologies used to stimulate personal productivity/communication and to enhance teaching/learning processes. prereq: [MEd/initial licensure or CLA music ed major or preteaching major or instr consent], basic computer skills

CI 5321. Foundations of Distance Education. (; 3 cr. ; A-F or Audit; Every Summer)

History, philosophies, technologies, and best practices related to distance learning environments. Distance education theories. Issues in distance education.

CI 5323. Online Learning Communities. (; 3 cr. ; A-F or Audit; Every Spring)

Students design/research an online learning environment that promotes community. What community is, how it fosters learning in educational learning environments. Theories of distance learning instruction. Community models. technological tools to develop online communities.

CI 5325. Designing and Developing Online Distance Learning. (; 3 cr. ; A-F or Audit; Every Fall)

Students research, use, and evaluate technologies for distance learning and design their own learning environments. prereq: 5351 or 5362 recommended

CI 5330. Special Topics in Learning Technologies. (; 3 cr. [max 9 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Topics related to the field of learning technologies.

CI 5331. Introduction to Learning Technologies. (3 cr. ; A-F or Audit; Every Fall)

An exciting look at the field of learning technologies (LT), examining the numerous opportunities this area of study brings to individuals who decide to pursue a LT degree. Students engage in numerous real-world projects as they come to understand both the past and future of technology in education, business, and society as a whole.

CI 5336. Planning for Multimedia Design and Development. (3 cr. ; A-F or Audit; Every Spring)

Theory, research, practice in instructional design. Generic components of instructional design process. Applying principles to design/development of computer-based instructional materials.

CI 5351. Technology Tools for Educators. (3 cr. ; A-F or Audit; Every Fall)

Develop skills in using technology applications to support teaching and learning. Internet applications, presentation software, Web 2.0 technologies, and Web site development.

CI 5361. Teaching and Learning with the Internet. (; 2-3 cr. ; Student Option; Every Spring)

Implications/challenges in using Internet-based technologies in classroom. Pedagogical models.

CI 5362. Foundations of Interactive Design for Web-based Learning. (3 cr. ; A-F or Audit; Every Fall)

Processes of designing/developing interactive learning media and online applications from ground up. Focuses on usability/aesthetics in online learning.

CI 5365. Contemporary Software Development Issues and Tools. (3 cr. ; A-F or Audit; Every Summer)

Software used in multimedia design/development. Uses of the software, intricacies of interface, relevant programming principles. Introduction to developing multimedia applications. prereq: Familiar with standard computer/Internet operations

CI 5371. Learning Analytics: Theory and Practice. (; 3 cr. ; Student Option; Every Fall)

Learning analytics as a nascent field is broadly defined as the "measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs." This course aims to provide a general, non-technical survey of learning analytics, as well as its application in various educational contexts. In particular, we will discuss foundations of learning analytics, survey pertinent education theories, discuss new forms of assessment, explore popular data mining techniques, review learning analytical tools and case studies, and design analytics for our own interested contexts. Given the breadth of this field, additional support is provided for deep dives in special interest areas. Overall, this course provides a comprehensive, theory-driven overview of learning analytics to orient students to this nascent field and prepare them for advanced research/practice in learning analytics.

CI 5392. Learning Technologies M.Ed. Capstone Project. (; 3 cr. ; A-F only; Every Spring)

In this course Learning Technologies M.Ed. students develop their final capstone project that signals the completion of their degree program. Students will identify a need or gap related to Learning Technologies in an area of interest to them and conduct preliminary research on that topic. Based on their research, students develop a proposal and turn the proposal into reality by building the project. Students will participate in a variety of discussions and scholarly readings, both instructor selected and those selected by students in support of their identified topics of research. A mini-cohort model of 2-4 students is used throughout the course for peer review and feedback. Peers become mini-experts in their partners' projects as they follow along in the design and development process and ask questions and offer feedback along with the instructor. Students will develop a completed project or prototype (e.g. course curriculum, training materials, website, software, mobile app, etc.) and a paper defending their project by discussing the research that informed their decisions, how those decisions were implemented, and how they expect the project to impact their work and/or field. The course culminates in a public presentation of their project via live or video conferencing with

a Q&A session following. prereq: Learning Technologies M.Ed. students

CI 5404. Multicultural Literature for Children and Adolescents. (; 3 cr. ; A-F or Audit; Spring Odd Year)

Course explores multicultural literature for children and adolescents as a site where difference can be emphasized and appreciated rather than downplayed and muted. We study award-winning works of fiction and arrive at a definition of multicultural literature for the modern classroom.

CI 5413. Foundations of Reading. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Reading processes, development of readers. Assessment and tutoring of individual children in reading and other literacy practices. prereq: CI 3610 and concurrent registration with CI 5414

CI 5414. Field Experience: Working with Developing Readers. (2 cr. ; S-N only; Every Fall & Spring)

Field-based experiences. Students apply learning from their University course to working with developing readers. Instructor provides specific assignments.

CI 5417. Elementary literacy Instruction for ESL Students. (; 3 cr. ; A-F or Audit; Fall Odd Year)

Teaching reading/writing in elementary grades to students from diverse languages. Second-language literacy development. Phonemic awareness, phonics, fluency, vocabulary, comprehension. Ways to connect students' background knowledge to literacy curriculum. prereq: Bachelor's degree completed

CI 5419. The American Middle School. (; 3 cr. ; Student Option; Every Fall & Summer)

Focus on the uniqueness of the early adolescent and appropriate learning situations. For educators working with middle-level students.

CI 5421. Writing on Education: Pivotal Experiences of Teaching and Learning. (4 cr. ; Student Option; Every Fall & Spring)

Reflection and narrative play important roles in developing deep understanding of teaching and learning. In this course students will read and write texts about critical moments of education, and through this work develop reflective, analytic, and writing skills that will enable them to become more thoughtful and effective citizens in the world of education. Whether students hope to become teachers, youth workers, community organizers, curriculum designers or administrators in educational settings, this course invites students to consider how writers represent experiences of teaching and learning and how these reflective narratives can inform our own work and worlds. Students will explore the ways that writers of creative nonfiction use language to examine pivotal experiences of teaching and learning in diverse contexts, and add their own voices to this rich body of work by producing their own texts. Through study of writing, students will develop familiarity with writing choices and practice employing these techniques and processes in their own writing.

Students will read personal essays written by writers in the US who reflect on their own experiences and interrogate how aspects of their identities (including race, ethnicity, gender, family history and language) inform pivotal experiences of teaching and learning. Students will compose texts that explore their own experiences within a constellation of formal and informal educational settings and the questions raised and arguments made through these representations. We will use a workshop-based format that supports transformational learning, helping writers see themselves and their worlds in new ways. Course reading will introduce a range of issues raised by experiences in and outside of the classroom.

CI 5422. Teaching Writing in Schools. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)
Theory/practice of teaching writing in schools. How race, gender, and social class impact teaching/learning.

CI 5425. Reading Instruction in the Elementary Grades. (; 3 cr. ; A-F only; Every Fall & Spring)
Curricular/methodological issues in teaching of reading. Reading/orthographic processes, strategy instruction for word recognition/comprehension, authentic assessment strategies, and teaching diverse students. prereq: [Elementary or early childhood] licensure student

CI 5426. Language Arts Instruction in the Elementary Grades. (; 3 cr. ; A-F only; Every Fall & Spring)
Curricular/methodological issues of language arts. Oral language development, response to literature, writing processes, authentic assessment strategies. Teaching diverse students. prereq: Elementary or early childhood licensure student

CI 5431. Introduction to Instructional Leadership in K-12 Reading. (; 3 cr. ; A-F or Audit; Every Summer)
K-12 curriculum in reading, major theories/research that motivate curriculum. Major instructional principles, alignments needed, resources available. prereq: Minnesota license valid for classroom teaching in pre-kindergarten, [adult basic education or grades kindergarten through 6 or 1 through 6 or 5 through 8 or 9 through 12 or kindergarten through 12]

CI 5432. Instructional Leadership in Reading in Kindergarten and the Elementary Grades. (; 3 cr. ; A-F or Audit; Every Fall)
Research-based reading instruction for elementary grades. How to help other teachers improve practice. Characteristics of effective schools within context of improving students. reading achievement. prereq: 5431

CI 5433. Instructional Leadership in Reading for the Middle and Secondary Grades. (; 3 cr. ; A-F or Audit; Every Spring)
Curriculum/instruction for middle/secondary school students. prereq: 5432

CI 5434. Professional Development and Evolving Practice in K-12 Reading. (; 3 cr. ; A-F or Audit; Every Summer)

Developing e-portfolio to assess competence in standards for teaching K-12 reading. Evolving teaching practices. Applications of current technologies. prereq: 5433

CI 5435. Instructional Leadership in Preventing Reading Difficulties. (; 3 cr. ; A-F or Audit; Every Fall)
Research-based reading interventions for struggling readers. How to help other teachers improve their practice. Theory/research behind preventing reading difficulties. Principles/techniques for assessing reading difficulties and students? progress. prereq: 5434

CI 5441. Teaching Literature in the Secondary School. (; 2-3 cr. ; A-F or Audit; Periodic Fall & Spring)
Current theories. Analyzing literature. Response to literature. Adolescent literature/reading interests. Devising response activities/units. Multicultural literature. Relating media and literature. Linking writing to understanding literature. Designing curriculum. Evaluating/assessing students. Growth in literary response.

CI 5442. Adolescent Literature, Youth Activism and Climate Change Literacy. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)
This course explores how contemporary adolescent literature engages with the developmental and identity challenges faced by a generation whose lives are framed by anthropogenic climate change, biodiversity loss, mass migrations, and other forms of slow violence inherent in the unsustainable carbon-intensive civilization. Given that climate change is primarily a challenge to our story systems and that adolescents constitute the most invested audience for sustainability education, adolescent literature has become a site of rebellion against the unjust and ecocidal status quo; a site where adolescents can articulate, debate, and creatively respond to visions of sustainable futures. In this course we will study award-winning works of fiction and nonfiction across genres to understand how adolescent literature inspires activist positions vis a vis petronormative ideologies of power that are devastating the planet. Our focus on the intersection of storytelling, activism, and climate change literacy will help us grasp the key role adolescent literature plays in empowering today?s youths to become agents of change. We will discuss how adolescent literature can stoke young people?s transformative anger, inspire them to address the climate crisis, and stand up for their right to have a future. We will consider how educators can support this fight through activism and engaged discussions of adolescent literature. We will read award-winning picturebooks, novels, and graphic novels that challenge us to reinvent ourselves as a biocentric global civilization. The goal is to transform you into an informed advocate of adolescent literature as a tool for developing climate change literacy and empowering your students to imagine post-carbon futures.

CI 5451. Teaching Reading in Middle and Secondary Grades. (; 3 cr. ; A-F or Audit; Every Fall)

Methods of accommodating to students' abilities and facilitating reading in regular content classes.

CI 5452. Reading in the Content Areas for Initial Licensure Candidates. (; 1-2 cr. ; A-F only; Periodic Fall & Spring)
Web-based course. Fostering students' reading related to learning from text. prereq: Concurrent enrollment in licensure area methods course(s), enrolled in Initial Licensure Program, Internet access, basic understanding of [computer use, Web browsers, email, word processing software]

CI 5461. Teaching Composition in the Secondary School. (3 cr. ; A-F or Audit; Periodic Spring)
Theories of composition instruction. Teaching composing within social contexts. Informal writing. Linking reading/writing. Describing/evaluating student writing. Using/modeling conference strategies. Computer-mediated software. Grammar and writing. Editing instruction. Writing assessment. Uses of portfolios.

CI 5463. Minnesota Writing Project Annual Invitational Summer Institute. (; 3 cr. ; A-F only; Every Summer)
Workshop. Participants reflect on their own literacy processes, participate in a writing group, discuss current reading texts, and demonstrate best practices in classroom. prereq: Licensed teacher or administrator or [space available, faculty letter of recommendation]

CI 5464. The Politics of Literacy and Race in Schools. (3 cr. ; A-F or Audit; Every Fall)
Literacy and race in schools examined, especially how power plays out, and what are the possibilities for creating radical democratic forms of life. Conceptions of language, literacy, whiteness, and racial identities are explored. Topics include educators? talk and silence about race, Ebonics, and youth?s racial identities in global times.

CI 5465. Writing and Social Justice: A Minnesota Writing Project Open Institute. (3 cr. ; Student Option; Every Summer)
This course focuses on practices within literacy instruction as related to the current educational landscape and a theme of social justice. In this course, participants will focus on three areas: writing, teaching, and learning. Participants will reflect on their own writing processes as they write, share, and participate in a community of writers. Writing groups will meet several times during the course. Participants will also consider the theory and practice of writing instruction that helps students achieve their potential as writers and change agents. In addition, participants will investigate a literacy issue relevant to the course theme, social justice, and will present it as a research project or lesson. This course is offered for practicing teachers at all levels and across disciplines.

CI 5471. Clinical Experience in Teaching Secondary English. (3 cr. ; A-F only; Every Fall)
Initial licensure candidates in English Education will observe the teaching and learning

experience in a school and classroom context; implement approaches, assessments, and philosophies learned about in corresponding methods courses; reflect upon the complexities of classroom life in a seminar format; and co-plan and co-teach a five-day unit. prereq: Must register same semester as CI 5441 and CI 5451.

CI 5472. Teaching Critical Media Analysis in Schools. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

"Critical" media literacy means that we focus on, among other things, analyzing the intersection between media and issues of identity -- like gender, race, class and sexuality. We also focus on how to teach critical media analysis to students and others.

CI 5474. New Literacies Frameworks and Instruction: Digital Texts and Digital Reading. (3 cr. ; A-F only; Every Fall)

Read digital texts against backdrop of traditional print-based notions of reading, literacy, school curricula/instruction. Assists education professionals in making school/district-wide decisions based on sound research on digital reading/new literacies.

CI 5475. Teaching Digital Writing. (; 3 cr. ; A-F or Audit; Every Fall)

Blogs, wikis, online discussion. Database searches. Integration of images, audio, video, text. Digital note-taking, mapping, storytelling. Online discussions, collaborative writing. Audio production. Formatting/design techniques. Online evaluation. E-portfolios.

CI 5481. Developments in Teaching English and Speech. (; 3 cr. ; A-F or Audit; Every Spring)

Current theories of English/speech curriculum. Teaching oral language. Organizing curriculum. Linking components of English/speech curriculum. Reflecting on pre-student-teaching experience.

CI 5483. Critical Literacy, Storytelling, and Creative Drama. (3 cr. ; Student Option; Every Summer)

This course examines and embodies how storytelling and creative drama can be used as tools to help develop students' critical literacy and to assist them in becoming more fluent readers and writers. Critical literacy is the focus; theater and storytelling are the vehicles. Key topics to be covered include: 1) A historical background on fairy and folk tales, legends, fables, myths, and the different oral traditions; 2) Tools for developing a critical view of diverse tales; 3) Practical instruction on how to use storytelling and story genres in the classroom to develop critical literacy; 4) Assessing storytelling work in the classroom. Students will meet in the first week at the University to learn tools of the Neighborhood Bridges program and in the second week will practice and observe each other's teaching with local school classrooms. In the past we have worked with 4th graders and 6th graders, though we will also discuss how course content applies to high school students. The class meets for two intensive weeks in person, however, we additionally assign pre-readings and post-class reflections and papers.

CI 5484. Improving Secondary English Language Arts Instruction: Part I. (; 1.5 cr. ; A-F only; Every Fall)

This online course is designed for secondary literacy teachers, including those in communication arts and literature. The purpose of this course is for secondary English Language Arts (ELA) teachers to examine their practice in a collaborative community and to improve teacher effectiveness through ongoing feedback from the instructor and other participants. The course will provide support through small group discussions and peer and instructor response. Key topics to be covered include: 1) frameworks for understanding teacher growth in ELA contexts; 2) developing an ELA classroom ecology; and 3) supporting and assessing student learning in the ELA Common Core Standards. This 1.5-credit course was designed in a sequence with CI 5485: Improving Secondary English Language Arts Instruction: Part II.

CI 5485. Improving Secondary English Language Arts Instruction: Part II. (; 1.5 cr. ; A-F only; Every Spring)

This online course is designed for secondary literacy teachers, including those in communication arts and literature. The purpose of this course is for secondary English Language Arts (ELA) teachers to examine their practice in a collaborative community and to improve teacher effectiveness through ongoing feedback from the instructor and other participants. The course will provide support through small group discussions and peer and instructor response. This 1.5-credit course was designed in a sequence with CI 5484: Improving Secondary English Language Arts Instruction: Part I. This second course in the sequence will focus on teacher-driven professional inquiry that participants began developing in CI 5484. prereq: Successful completion of CI 5484.

CI 5496. Directed Experiences in Teaching English. (4-8 cr. ; S-N or Audit; Every Fall & Spring)

Student teaching/clinical experience for English Education (Comm Arts & Lit) initial licensure and middle level endorsement students. Credits vary depending on length of field experience and should be determined with your academic adviser. prereq: MEd/initial licensure students in English ed only

CI 5502. Science Instruction in the Elementary Grades. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Methods/materials for teaching science/health at elementary school level. prereq: Early Childhood or Elementary Education ILP

CI 5511. Introduction to Secondary Science: Laboratory-based Instruction. (; 4 cr. ; A-F only; Every Fall, Spring & Summer)

Inquiry about teaching/learning, observing/analyzing instruction, reflecting on own/each other's science teaching. How to use various instructional techniques/methods.

CI 5512. Secondary Science Methods: Understanding the Nature of Science. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Inquiry about teaching/learning, observing/analyzing instruction, reflecting on own/each other's science teaching. How to use various instructional techniques/reflect upon teaching. Develops understanding of research-based instructional methods in secondary science classrooms.

CI 5513. Secondary Science Methods: Equity in Science Teaching. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Inquiry about teaching/learning, observing/analyzing instruction, reflecting on own/each other's science teaching. How to use various instructional techniques/reflect upon teaching. Develops understanding of equitable science teaching practices/safe student-centered classroom culture.

CI 5514. Secondary Science Methods: The Science Learning Environment. (; 2 cr. ; A-F only; Every Fall, Spring & Summer)

Inquiry about teaching/learning, observing/analyzing instruction, reflecting on science teaching. How to use various instructional techniques, reflect upon professional growth using evidence from teaching. Identify goals/instruction plans for professional practice.

CI 5515. Secondary Science Methods: Developing Adaptive Expertise. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Inquiry about teaching/learning, observing/analyzing instruction, reflecting on science teaching. How to use various instructional techniques, reflect upon professional growth using evidence from teaching. Identify goals/instruction plans for professional practice.

CI 5530. Secondary Science Methods I. (; 3 cr. ; A-F only; Every Summer)

Lab-based science teaching in secondary school setting. Research-based teaching strategies are modeled that address national-/state-level standards. How to use various inquiry-based instructional techniques/methods.

CI 5531. Secondary Science Methods II. (; 3 cr. ; A-F or Audit; Every Fall)

Methods of planning/teaching science to middle school students. prereq: Initial licensure student in science ed and CI 5530 Secondary Science Methods 1

CI 5532. Secondary Science Methods III. (; 3 cr. ; A-F or Audit; Every Spring)

Methods of planning/teaching science for secondary school students. prereq: Admission to initial licensure program in science and CI 5531 Secondary Science Methods II

CI 5533. Current Developments in Science Teaching. (; 3 cr. ; A-F or Audit; Every Summer)

Using curriculum standards to design science courses. prereq: MEd, initial licensure, grad student, or instr consent

CI 5535. Foundations of Science Education. (; 3 cr. ; A-F or Audit; Every Spring)

Analysis of present science teaching practices in light of historical and philosophical foundations of science education. prereq: M.Ed., grad student, or instr consent

CI 5536. Equity, Policy, and Assessment in Science Education. (; 3 cr. ; A-F only; Every Fall)

Nature of equity, diversity, and policy matters that influence schools/teachers involved in science teaching and scientific literacy. Classroom presentations, discussions, readings in current research. prereq: Med, or grad student, or instr consent

CI 5540. Special Topics: Science Education. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Detailed examination and practice of the teaching of one area of science (e.g. geology, health, physical science) or one method of instruction (e.g. laboratories, demonstrations, Internet, simulations).

CI 5541. Teaching History and Nature of Science. (3 cr. ; A-F or Audit; Every Fall)

Understanding nature of science(NOS). Integrate/reflect on NOS in secondary science classroom. Historical cases/integrating NOS with science content/scientific inquiry. prereq: MEEd ILP or professional studies student in science education or instr consent

CI 5551. Reflecting on Science Classroom Practices I. (1.5 cr. ; A-F only; Every Fall)

Students reflect on their instruction and student learning during first years of teaching. Monthly meetings, observations, online discussion. Classroom management, planning, inquiry-based teaching, assessment, equity in the classroom.

CI 5552. Reflecting on Science Classroom Practices II. (1.5 cr. ; A-F only; Every Spring)

Students reflect on their instruction and student learning during first years of teaching. Monthly meetings, observations, online discussion. Classroom management, planning, inquiry-based teaching, assessment, equity in the classroom.

CI 5596. Clinical Experience in Middle School Science. (; 4 cr. ; A-F or Audit; Every Fall)

Supervised clinical experience in middle school science teaching.

CI 5597. Clinical Experience in Secondary School Science Teaching. (; 4-8 cr. ; S-N or Audit; Every Spring)

Supervised clinical experience in secondary school science teaching. prereq: initial licensure or instr consent

CI 5608. CARLA Summer Institute Seminar. (; 1-4 cr. [max 16 cr.] ; Student Option No Audit; Every Summer)

The Center for Advanced Research on Language Acquisition (CARLA) offers a series of intensive summer institutes to provide timely professional development for foreign language and ESL educators throughout the country. The special topics offered under CI 5608 are designed to provide language teachers with the latest research-based information and best practices skill development as the field of language instruction evolves. Each institute is highly interactive and includes discussion, theory-building, hands-on activities, and plenty of networking opportunities with colleagues from around the world.

CI 5611. Principles of Linguistics. (; 2 cr. ; A-F only; Every Fall, Spring & Summer)

Introduction to linguistics for ESL teachers. Linguistic terminology/analysis. Theories/research about first/other language learning. Analyze educational implications of language use, learning, policy.

CI 5612. ESL Methods for Multilingual Development. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Introduction to methods of developing reading, writing, speaking, listening skills among English learners in K-12. Reflect on beliefs/ideas, cultivate orientation towards reflective teaching/life-long learning.

CI 5613. Testing and Assessment for English Learners. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Develop awareness of/familiarity with policies, procedures, practices in use in attempting to determine academic readiness of students learning English as secondary language in American public schools.

CI 5614. Curriculum and Materials Development for English Learners. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Explore role ESL teachers play in curriculum/materials development. Historical overview of curriculum development in second language education, factors that influence curriculum development, range of models for curriculum development tailored to English learners.

CI 5615. Academic English for English Learners: Planning, Assessment,**Instruction.** (; 2 cr. ; A-F only; Every Fall, Spring & Summer)

Prepares ESL teacher candidates to develop academic English skills of English learners of various proficiencies through bilingual teaching strategies. Prepares students to offer leadership with colleagues from content areas to integrate language/content. Includes focused study of advanced-level syntactic structures/completion of edTPA.

CI 5617. Academic Language and English Learners I. (; 1 cr. ; A-F only; Every Summer)

Working with English learners and other linguistically diverse students across content areas to develop academic language proficiency. prereq: Enrolled in teacher initial licensure program

CI 5618. Academic Language and English Learners II. (; 1 cr. ; A-F only; Every Spring)

Working with English learners and linguistically diverse students across all content areas to develop academic language proficiency. prereq: Enrolled in teacher initial licensure program

CI 5619. Teaching World Languages and Cultures in Elementary Settings. (; 2 cr. [max 3 cr.] ; Student Option; Every Summer)

Methods/materials for elementary world language instruction; development of oral communication/literacy in world languages; world language program design; global awareness/cross-cultural experience; children's language; children's literature, games, and songs; planning/development of units and lessons.

CI 5620. Introduction to Second Language Acquisition for Language Teachers. (; 3 cr. [max 6 cr.] ; Student Option; Every Summer)

Current research and theory in the area of second language acquisition (SLA). Topics include the similarities and differences across first and second language acquisition; the role of individual differences in language learning (including age, first language, aptitude among others). Implications for sociolinguistic diversity in the United States.

CI 5621. Culture as the Core in the Second Language Classroom. (2 cr. ; Student Option No Audit; Every Summer)

How language teachers foster development of intercultural communicative competence through a pedagogical approach that addresses the nature of culture and culture learning, and the interrelatedness of language and culture learning.

CI 5622. Exploring Learner Language: Puzzles and Tools for the Classroom. (; 2 cr. ; Student Option No Audit; Every Summer)

The focus of this institute is on the growth and development of learners? language, and how that growth may be enhanced by ongoing pedagogical innovation. The institute uses Exploratory Practice to promote a culture of instructor initiative in identifying and seeking to solve puzzles related to learner language development in the classroom. Participants begin with an introduction to Exploratory Practice as a framework for instructors to use in identifying and wrestling with their own puzzles about learners? language and its development in their classrooms. Participants then work together to reflect on videos of learner language as it is produced by different kinds of learners. They review theories of second language acquisition, and apply their insights to their own classrooms by learning how to set up engaging puzzle-solving activities that stimulate growth in learner language. Finally, participants learn how to design pre- and post-course measures that demonstrate the impact of their innovations in instruction on the growth of specific features and dimensions of learner language in their own classrooms.

CI 5624. Content-based Language Instruction and Curriculum Development. (; 2 cr. ; Student Option No Audit; Every Summer)

Intensive professional development to help foreign language teachers learn to implement the CBI curricular approach in the language classroom. Introduces all phases of CBI curricular development and provides resources necessary to ensure successful implementation.

CI 5625. Assessing Language Learners? Communication Skills via Authentic Communicative Performance Tasks. (; 2 cr. ; Student Option No Audit; Every Summer)

This institute opens with a discussion of the phrase ?performance towards proficiency? to highlight how classroom performance influences proficiency in real world contexts. Working together, participants will create a list of characteristics of classroom activities and tasks that build learners? proficiency in the target language and will use the list to identify

the purpose, effectiveness, and practicality of a variety of model activities and tasks. With this background, participants will design receptive and productive communicative tasks for beginning, intermediate, and advanced levels of proficiency. The institute will then focus on the evaluation of the learners' performance on these tasks. Using the performance descriptors identified by the American Council on the Teaching of Foreign Languages (ACTFL), the Common European Framework of Reference (CEFR), and the World-Class Instructional Design and Assessment (WIDA), participants will identify the domains (vocabulary, language control, text type, etc.) to evaluate learner performance on various tasks. With model rubric scales, they will evaluate examples of learner performances on various tasks, comparing their individual ratings to underline the importance of establishing inter-rater reliability. Participants will then create rubrics for the tasks they designed earlier in the institute. The role and choice of formative assessments used in daily lessons to monitor learner progress towards achievement of the communication goals of an instructional unit will also be considered. As a capstone to the week, participants will apply their learning about task design and evaluation in the development of a standards-based Integrated Performance Assessment (IPA) to share with colleagues within this institute and also with a broader audience via the CARLA Assessment website.

CI 5627. Creativity in the Second Language Classroom. (2 cr. ; Student Option; Every Summer)

This institute will examine the connection between multilingualism and creativity, and explore strategies to increase engagement in the classroom. This institute is designed for foreign language, ESL, and immersion teachers who want to promote creativity in their classroom while simultaneously improving learner's target language proficiency.

CI 5628. Analyzing Learner Language in Second Language Acquisition. (3 cr. ; Student Option No Audit; Every Fall & Spring)
Review broad findings in second language acquisition (SLA) research. Cognitive/social process of becoming multilingual. How to carry out classroom-based research projects focused on learner language development. prereq: 5646, 5649 [or other course on the grammar of a language]

CI 5629. Teaching Language through the Lens of Social Justice. (; 2 cr. ; Student Option; Every Summer)

Teaching for and about social justice positively influences all students, yet social justice education can be challenging to integrate into the language classroom. In the first part of this institute, participants will examine the principles of social justice education and identify ways that these principles can support standards, objectives, and targeted skills in contemporary world language education. This discussion and reflection will help teachers to identify their own interests and strengths in becoming language educators for social justice. In the second part of the institute, the participants will build on this foundation to adapt, develop, and

create learning opportunities for their foreign language students. A collaborative, creative set of experiences will help participants go from big ideas to activities and assessments for their classroom, all while teaching for and about social justice.

CI 5631. Second Language Curriculum Development and Assessment. (; 1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Summer)

Instruction/assessment of ESL and World Languages in the modalities of speaking, listening, reading, and writing. Backwards design, proficiency-oriented approach, use of content-based instruction. Planning for the integration of instruction and assessment. prereq: SLE initial licensure only

CI 5632. Literacy and Language Development in Second Language Classrooms. (; 3 cr. ; A-F or Audit; Every Fall)

Processes/instructional approaches in developing second language proficiency in the modalities of reading, writing, speaking, and listening and communicative modes (interpretive, presentational, interpersonal); development of literacy in a second language; planning L2 literacy instruction based on research on L1 and L2 literacy development; integration of instruction/assessment in language teaching. prereq: SLE initial licensure only

CI 5634. Content-Based Instruction in Second Language Settings. (; 3 cr. ; A-F or Audit; Every Spring)

Building on foundation from other courses in the sequence. Instruction/assessment of ESL and World Languages at the secondary level. Prepares students to connect language teaching with other content areas, analyze/address the academic language needs of English learners, and advocate for second language programs and students. prereq: SLE initial licensure only

CI 5635. Culture and Diversity in Second Language Classrooms. (; 3 cr. ; Student Option; Every Spring)

Teaching culture as content and including students' home cultures in the curriculum and diverse student needs. Needs of students of various educational, social, and cultural backgrounds/ways to develop academic success through instruction in learning strategies and other approaches to differentiation. prereq: Initial licensure program only

CI 5636. Problems of Practice in Second Language Education: Seminar for Early Career Language Teachers Part 1. (1.5 cr. ; A-F only; Fall Odd Year)

This course provides recently licensed practicing teachers an opportunity to continue to develop their skills as reflective practitioners within the context of World Languages and ESL with a focus on their own teaching practices and student learning. Participants engage in online discussions, read, reflect, and create professional growth plans.

CI 5637. Problems of Practice in Second Language Education: Seminar for Early

Career Language Teachers Part 2. (1.5 cr. ; A-F only; Spring Even Year)

In this course, recently licensed practicing teachers continue to develop their skills as reflective practitioners within the context of World Languages and ESL with a focus on their own teaching practices and student learning. Participants engage in online discussions, read, reflect, and implement and report on professional growth plans. Prerequisite: Completion of CI 5636 or instructor consent.

CI 5638. Critical Approaches to Heritage Language Education. (2 cr. ; Student Option; Every Summer)

Teaching heritage learners is not the same as teaching learners of a foreign language. Heritage languages are languages other than English that are spoken in homes, communities, and extended families. Although many of our students come from vibrant multilingual contexts, unless bilingual options are available, youth seldom have access to expanding their home/community languages (and literacy in them) in schools, which are predominantly English environments. When students are given the opportunity to use, learn, and expand on their heritage languages, they are able to tap into an abundance of resources and knowledge. Participants in this workshop will examine social justice topics, community-based learning for growing heritage language (literacy), and authentic assessments for heritage language development. Participants will collaborate; connect experiences of heritage teachers and learners to research on multilingual development; and learn how to bring communities, classrooms, and digital storytelling together to create powerful heritage language learning environments.

CI 5641. Language, Culture, and Education. (; 3 cr. ; A-F or Audit; Periodic Spring & Summer)

Applies current sociolinguistic and discourse theory/research to study of relationships between language and culture in educational settings: language curriculum and instruction; classroom language use; borders between school and home/community language use; and educational policies on literacy/second-language instruction.

CI 5642. Assessing English Learners. (; 3 cr. ; A-F or Audit; Spring Odd Year)

Current practices concerning language and academic content assessment of English learners (ELs) at the school site, state, and national level; factors affecting academic learning needs of ELs/where assessment fits into that picture.

CI 5645. Teaching English Learners in English-medium classrooms. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

The course is designed to give teaching licensure candidates grounding in theory and practice for teaching linguistically and culturally diverse students. This course provides an overview of the benefits and challenges of working with English learners (ELs) and linguistically and culturally diverse

students in a variety of settings. Central topics include instructional practices and strategies for teaching English learners; second language literacy and biliteracy development; language learning and bilingualism; and culturally responsive pedagogy. The course is designed to help teacher candidates to develop an understanding of the language-specific challenges that accompany subject matter learning and to demonstrate the ability to apply a range of instructional strategies to help English learners succeed academically. prereq: Early Childhood or Elementary Education ILP or Special Education Major or Special Education M.Ed./M.A candidates

CI 5646. English Grammar for ESL Teachers. (; 3 cr. ; Student Option; Every Fall) English syntax from pedagogical perspective. Grammatical structures that challenge ESL learners. Analyzing learner errors. Issues/activities related to teaching grammar in ESL contexts. prereq: LING 5001 or instr consent

CI 5648. Advanced Practices in Teaching Academic Language. (; 3 cr. ; A-F only; Every Spring) Prepares K-12 teachers for student development of academic language proficiency. Read/discuss current research. Implement innovative teaching practices. prereq: Grad student, instr consent

CI 5649. Language Analysis for ESL Teaching in Higher Ed. (3 cr. [max 4 cr.] ; Student Option No Audit; Every Spring) Overview of complex aspects of English grammar not covered in 5646. Academic uses of passives, indirect objects, conditionals, relative clauses, complementation, reported speech, deixis/reference, articles, prepositions, phrasal verbs, pragmatics. prereq: 5646

CI 5651. Foundations of Second Languages and Cultures Education. (; 3 cr. ; A-F or Audit; Every Fall) Historical overview of second language teaching/learning in U.S. introduction to second language acquisition. Second language instructional concepts across elementary, secondary/university options for foreign language, bilingual education, immersion language programs, and English as a second language programs. Theoretical frameworks for language instruction are tied to practice.

CI 5653. Methods in Teaching English as a Second Language (ESL) in Higher Education. (3 cr. ; Student Option No Audit; Every Fall & Spring) Theory/practice teaching academic English as second or foreign language in contexts of higher education. History of field/varied methods in language teaching. Current best practices in teaching academic English pronunciation, listening, speaking, reading, writing skills. prereq: An intro to linguistics course

CI 5654. Practicum in Language Teaching: ESL and World Languages. (1-6 cr. ; S-N only; Every Spring) Practical, hands-on training in teaching of English as Second Language. Applying theoretical/descriptive material studied in

prior course work. Discuss readings/research articles on SLA, applying theoretical/practical principles to specific critical classroom incidents.

CI 5656. Teaching Literacy in Second Language Classrooms. (; 3 cr. ; Student Option No Audit; Every Fall) Reading comprehension/composing processes in a second language; relationship between first and second literacy development; relationship between reading and writing; relationship of culture to reading comprehension and writing; politics of literacy; assessment of second language literacy; using technology to enhance literacy instruction.

CI 5657. Teaching Speaking and Listening in Second Language Classrooms. (; 3 cr. ; A-F or Audit; Spring Even Year) Theories/methods in teaching language as communication in oral/aural modes; planning student interaction; classroom organization for oral language learning/acquisition; using technology to enhance interaction; assessment of listening comprehension and oral communication.

CI 5658. Language Testing and Assessment. (; 3 cr. ; A-F or Audit; Spring Odd Year) For language teachers. Aligning language classroom instruction/assessment; language testing/assessment; classroom-based and large-scale proficiency testing/assessment; assessing proficiency in speaking, listening, reading, writing and communicative modes (interpretive, presentational, interpersonal); creation of formative/summative assessments; critique of contemporary assessment instruments.

CI 5660. Special Topics in the Teaching of Second Languages and Cultures. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Spring & Summer) Topics related specifically to the needs of the in-service teacher. Topics, location, credits, and duration are flexible.

CI 5662. Second Language Curriculum Design. (; 3 cr. ; A-F or Audit; Every Spring) Historical overview of curriculum development in second language education; contexts that influence curriculum development; models for curriculum development in second language settings; politics of curricular reform; national/state standards and implications for curriculum development; effects of technology on second language curriculum.

CI 5667. Foreign Language Literacies: Using Target Language Texts to Improve Communication. (2 cr. ; Student Option; Every Summer) Preparing students to participate in multilingual and multicultural communities entails shifting the way we approach language instruction. How do we move beyond teaching students to order coffee or talk about weekend activities, and instead encourage them to think critically and reflectively about language, culture, and communication? To answer this question, this institute focuses on how to develop students' foreign language literacies? or the

ability to interpret and create different kinds of discourse?through engagement with target language texts such as movies, infographics, poetry, music videos, magazine articles, podcasts, and the like. Using conceptual and pedagogical understandings gained during the institute, participants will examine and assess target language texts for use in their classrooms and create text-based instructional materials that develop students' communicative abilities, critical thinking, intercultural competence, and language awareness.

CI 5668. Transforming the Teaching of Language Online (TTLO). (; 3 cr. ; Student Option; Every Summer) Transforming the Teaching of Language Online (TTLO) is for experienced classroom language teachers who want to transition to teaching their language class online. Offered completely online, TTLO will give teachers the first-hand experience of being an online learner while focusing on the important elements of a successful online language class such as online course design guidelines, best practices for online teaching, comparing online to traditional language teaching, and incorporating appropriate technology tools for communicative-based online activities. In addition to delving into these aspects of online teaching, participants will see them in action by taking part in model online language activities as language learners. By the end of the program, participants will have a portfolio of activities ready to be incorporated in an online language course.

CI 5670. Foundations of Dual Language and Immersion Education. (; 3 cr. ; Student Option; Every Fall) Research foundations and program principles for dual language/immersion. Second language acquisition; critical features of program design/implementation; benefits/challenges of dual language/immersion; program assessment; advocacy. Theory/research for dual language/immersion tied to practical application. prereq: Enrollment in certificate program in dual language/immersion educ or instr consent

CI 5671. Curriculum Development and Assessment in Dual Language/Immersion Classrooms. (; 3 cr. ; Student Option; Fall Odd Year) Content-based language instruction and curriculum development for dual language, bilingual, and immersion contexts; balancing content/language goals/objectives in curriculum and instruction; integration of language, literacy content, and culture in curriculum; standards-based instruction; backwards design; assessment that aligns with content-based curriculum and instruction. prereq: instr consent

CI 5672. Language-Focused Instructional Practices and Strategies for Dual Language/Immersion Classrooms. (; 3 cr. ; Student Option; Every Spring) Counterbalancing content with integrated focus on language and literacy development for dual language, bilingual, and immersion classrooms. Materials development; proactive/

reactive instructional techniques; noticing and awareness-raising strategies; structuring student language production; differentiating for content, ability, and language. prereq: instr consent

CI 5676. Bilingual Development in Dual Language/Immersion Classrooms. (; 3 cr. ; Student Option; Periodic Fall & Spring)

This course aims to provide dual language, bilingual and language immersion educators with an understanding of the complex phenomena of literacy and biliteracy and with a range of instructional strategies for fostering literacy and biliteracy development in dual language/immersion classrooms.

CI 5693. Directed Study in Second Language Education. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

Individual or group work on curricular, instructional, or assessment problems. prereq: instr consent

CI 5696. Initial Licensure Field experience: Teaching ESL and World Languages. (; 2-6 cr. ; Student Option; Every Fall, Spring & Summer)

Teaching and learning experiences in Second Language Education across the scope of the license (Elementary, Middle & High School). Requires students to work in a public school setting. prereq: adviser approval; credits cannot be counted on a graduate degree program.

CI 5697. Additional Licensure Field experience: Teaching ESL and World Languages. (; 2-6 cr. ; Student Option; Every Fall, Spring & Summer)

Teaching and learning experiences in Second Language Education as needed to complete the scope of the license (Elementary, Middle or High School). Requires students to work in a public school setting. prereq: Adviser approval; credits cannot be counted on a graduate degree program.

CI 5698. Student Teaching in Second Languages and Cultures. (; 2-6 cr. [max 14 cr.] ; Student Option; Every Fall, Spring & Summer)

Student teaching/Practicum for initial and additional licensure in Second Language Education. Requires students to work in a public school setting. prereq: Adviser approval; credits cannot be counted on a graduate degree program.

CI 5699. Clinical Experiences in Second Languages. (; 3-12 cr. [max 16 cr.] ; A-F or Audit; Every Fall & Spring)

Teaching and learning experiences in elementary and secondary second language instructional settings. Includes a seminar held concurrently to support the student teaching experience. prereq: SLC initial licensure program only

CI 5702. Social Studies Instruction in the Elementary Grades. (; 3 cr. ; A-F only; Every Fall & Spring)

Content/organization of elementary social studies programs. Programs of understanding. Improving learning situation. prereq: Early Childhood or Elementary Education ILP

CI 5741. Introduction to Social Studies Education. (; 3 cr. ; A-F only; Every Summer)

Broad issues and themes related to social studies education, including societal context, rationale, and scope and sequence. Analysis and evaluation of selected teaching strategies, methods, and resources.

CI 5742. Advanced Methods of Teaching the Social Studies. (; 3 cr. ; A-F only; Every Fall)

Focus on developing a repertoire of instructional methods that support authentic pedagogy and assessment. Enhancing reading comprehension and writing skills in the social studies. prereq: Secondary social studies initial licensure student

CI 5743. The Social Sciences and the Social Studies. (; 3 cr. ; A-F only; Every Fall)

Development of instructional strategies and contexts for exploring the social sciences as disciplines at the secondary level; central concepts and generalizations; tools of inquiry; competing structures and theories; and the relative impact of multicultural and gender-fair perspectives on the nature of history and the social sciences. prereq: Secondary social studies initial licensure student

CI 5744. Seminar: Reflecting on Professional Development in Social Studies Education. (; 3 cr. ; A-F only; Every Spring)

Reflecting on teaching experience, examining social/cultural context of teaching/learning, developing a professional identity. Refining teaching and teacher research skills. prereq: Secondary social studies initial licensure student

CI 5745. Engaging Youth With Social Studies Texts. (; 3 cr. ; A-F only; Every Spring)

Ways to engage students (grades 5-12) in social studies (textbooks, literature, speeches, editorials, political cartoons, tables, graphs, maps, film.). Developing middle/high school students' disciplinary literacy.

CI 5746. Global and Multicultural Education in the Secondary Classroom. (; 3 cr. ; A-F only; Every Spring)

Issues, classroom practices, and controversies surrounding global/multicultural perspective-taking in social studies education. Strategies for helping secondary social studies students develop global/multicultural worldviews.

CI 5762. Developing Civic Discourse in the Social Studies. (; 3 cr. ; A-F or Audit; Periodic Spring & Summer)

Philosophies, strategies, and research on developing civic discourse in secondary social studies classroom. Selecting issues. Democratic classroom climate. Relating to social/cultural contexts.

CI 5782. Clinical Experiences in Teaching Social Studies. (; 1-8 cr. [max 16 cr.] ; S-N or Audit; Every Fall & Spring)

Student teaching experiences for students preparing to become secondary social studies teachers. Teacher candidates work closely with social studies teachers in grades 5-12 to plan and implement engaging and meaningful learning experiences for middle and high

school students. prereq: MEd/initial licensure student

CI 5822. Mathematics Instruction in the Elementary Grades. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Principles of learning mathematics in elementary grades. Objectives, content, philosophy, instructional materials, methods of instruction/evaluation. prereq: Early Childhood or Elementary Education ILP

CI 5980. Clinical Experiences for K-12 Teaching. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

Practical teaching/learning experiences in school setting. Includes co-teaching during student teaching and coaching/assessment by a university supervisor.

CI 5981. Introduction to Equity-Based Pedagogy. (; 1 cr. ; A-F only; Every Fall, Spring & Summer)

Introduces aspects of inequities in U.S. society/school. Examines how social class/poverty permeated education as social institution/classroom pedagogy. Covers five principles for social class-sensitive change/intersections between social class/other markers of difference.

CI 5982. Enacting Equity-Based Pedagogy. (2 cr. ; A-F only; Every Fall, Spring & Summer)

Extended study of inequities. Examines working-class literature for adults/children. Labor histories, economic systems, hierarchies of class, race, gender, sexuality, language in schools/communities.

CI 5983. Equity-Based Pedagogy/Advocacy. (1 cr. ; A-F only; Every Fall, Spring & Summer)

Extends study of inequities in society. Five principles for social class-sensitive change. Intersections between social class/other markers of difference such as race, gender, sexuality, language.

CI 5984. Planning Design and Management. (; 1 cr. ; A-F only; Every Fall, Spring & Summer)

Foundational understanding of being teacher, developing culturally responsive classroom, designing learning experiences. Conceptualization of teacher nationally/locally, language in classroom. Foundational concepts/tools used when facilitating learning.

CI 5985. Academic Language and English Learners in the Content Areas. (; 1 cr. ; A-F only; Every Fall, Spring & Summer)

Prepares teacher candidates to work effectively with English learners/other linguistically diverse students across all content areas. Develop students' academic language proficiency as needed for school success.

CI 5986. Foundations of Special Education. (; 1 cr. ; A-F only; Every Fall, Spring & Summer)

Skills to promote learning/success for all students, including those at risk for school failure/with special needs. Introduces research/issues emphasizing collaborative problem solving approach that facilitates effective family-professional partnerships/educational programming for individuals with disabilities.

CI 5987. Child and Adolescent Development for Teaching, Learning, and Assessment. (1 cr. ; A-F only; Every Fall, Spring & Summer) Cognitive, social, emotional development of childhood/adolescence. Ecological influences in development. Theories of learning/cognition, cognitive/social development, motivation, individual/group differences, testing/assessment, teaching methodologies, pragmatic issues.

CI 5988. Clinical Experience: Improvement of Teaching. (; 2 cr. ; A-F only; Every Fall, Spring & Summer) Capstone project. Link theory/practice, integrate coursework with experiences in classroom.

Dakota (DAKO)

DAKO 1121. Beginning Dakota I. (; 5 cr. ; Student Option; Every Fall) Listening, speaking, reading, writing. Oral drills, in-class participation focused on questions/answers.

DAKO 1122. Beginning Dakota II. (; 5 cr. ; Student Option; Every Spring) Further development of language acquisition skills. Oral drills, in-class participation focused on questions/answers. prereq: 1121

DAKO 3123. Intermediate Dakota I. (; 5 cr. ; Student Option; Every Fall) Listening, speaking, reading, writing. Oral drills, in-class participation focused on questions/answers. prereq: 1122

DAKO 3124. Intermediate Dakota II. (; 5 cr. ; Student Option; Every Spring) Listening, speaking, reading, writing. Oral drills, in-class participation focused on questions/answers. prereq: 1121, 1122, 3123

DAKO 3125. Introduction to Dakota Linguistics. (; 3 cr. ; Student Option; Every Fall) Structure of Dakota, including phonology, morphology, syntax, and semantics. prereq: 3124

DAKO 3127. Dakota Language for Teachers. (; 3 cr. ; A-F only; Every Fall) Dakota language for teachers. Methods of teaching Dakota language in the classroom. prereq: 1121

DAKO 4121. Beginning Dakota I. (; 3 cr. ; Student Option; Every Fall) Language acquisitions skills, oral drills. In-class participation focuses on questions/answers. prereq: [1122, 1004] in another language or passing score on LPE or grad student

DAKO 4122. Beginning Dakota II. (; 3 cr. ; Student Option; Every Spring) Further development of language acquisition skills. Oral drills, in-class participation focused on questions and answers. prereq: [1121, 1004 in another language] or passing score on LPE or grad student

DAKO 4123. Intermediate Dakota I. (; 3 cr. ; Student Option; Every Fall) Listening, speaking, reading, writing. Oral drills. In-class participation focuses on questions/answers. prereq: 1121, 3123, 5126

DAKO 4124. Intermediate Dakota II. (; 3 cr. ; Student Option; Every Spring) Listening, speaking, reading, writing. Oral drills. In-class participation focuses on questions/answers. prereq: 1121, 1122, 3123

DAKO 5126. Advanced Dakota Language I. (; 3 cr. [max 12 cr.] ; A-F or Audit; Every Fall) Focuses on immersion method.

DAKO 5129. Advanced Dakota Language II. (; 3 cr. [max 12 cr.] ; A-F or Audit; Every Spring) Focuses on immersion method.

DAKO 5226. Dakota Mastery I. (3 cr. [max 6 cr.] ; Student Option; Every Fall) This content-based Dakota language class will focus on Dakota culture and history. Students will learn through both oral and written texts. Both traditional and contemporary stories will be discussed and utilized to give students a better view of Dakota ontology and epistemology. The effects of colonization and the need for decolonization will be also be discussed through the lens of Dakota stories and culture.

DAKO 5229. Dakota Mastery II. (3 cr. [max 6 cr.] ; Student Option; Every Spring) This content-based Dakota language class will focus on Dakota culture and history. Students will learn through both oral and written texts. Both traditional and contemporary stories will be discussed and utilized to give students a better view of Dakota ontology and epistemology. The effects of colonization and the need for decolonization will be also be discussed through the lens of Dakota stories and culture.

Dance (DNCE)

DNCE 1001. Modern/Contemporary Dance Technique 1. (1 cr. ; Student Option; Every Fall & Spring) First course in ten-section sequence of modern dance technique. Introductory modern dance technique training. Dance form varies according to instructor.

DNCE 1010. Modern/Contemporary Dance Technique 3. (; 1-2 cr. [max 4 cr.] ; Student Option; Every Fall) Third course in ten-section sequence of modern dance technique. Beginning modern dance technique training. Dance form varies by instructor. prereq: dept consent, audition

DNCE 1020. Modern/Contemporary Dance Technique 4. (1-2 cr. [max 4 cr.] ; Student Option; Every Spring) Fourth course in ten-section sequence of modern dance technique. Beginning modern dance technique training. Dance form varies by instructor. prereq: 1010, dept consent, audition

DNCE 1040. Modern Dance Partnering Technique. (; 1 cr. [max 2 cr.] ; A-F only; Every Spring) Technical demands, approaches, and skills needed for partnering in modern dance. prereq: Dance major or instr consent

DNCE 1101. Ballet Technique 1. (; 1 cr. ; Student Option; Every Fall & Summer)

Principles, basic technique, and vocabulary of ballet; barre, center, and allegro.

DNCE 1102. Ballet Technique 2. (1 cr. ; Student Option; Every Spring) Second of two-semester sequence of fundamental Classical Ballet Technique. Principles of Classical Ballet technique. Each principle introduced separately/in progression. Barre/center work with emphasis on simplicity, repetition, creativity. prereq: 1101, or audition, or instr consent

DNCE 1110. Ballet Technique 3. (2 cr. [max 4 cr.] ; Student Option; Every Fall) First of two-semester sequence of beginning ballet technique. Level 3 in eight-level sequence of ballet technique. Practical application of ballet principles. Barre work needed for center work. Center work will consist of adagio, basic turns, petit, grand allegro. prereq: dept consent, audition

DNCE 1120. Ballet Technique 4. (2 cr. [max 4 cr.] ; Student Option; Every Spring) Second of two-semester sequence in beginning ballet. Practical application of ballet principles. Barre/center work. Ever-changing combinations/steps learned in previous level. prereq: 1110, dept consent, audition

DNCE 1201. Jazz Technique 1. (1 cr. ; Student Option; Every Fall & Summer) First of six-semester sequence of jazz dance. Fundamental jazz vocabulary/movement. Basic understanding of proper body placement, clear articulation, basic mechanics of jazz movement, rhythmic footwork. Improvisation will be introduced. Overview of history of jazz music/dance styles.

DNCE 1202. Jazz Technique 2. (1 cr. ; Student Option; Every Spring) Second of six-semester sequence in jazz dance. Fundamental jazz vocabulary/movement. Clear articulation of movement, use of space, weight, dynamics, focus, style, musicality. Improvisation. Overview of history of jazz music/dance styles. prereq: 1201 or audition or instr consent

DNCE 1210. Jazz Technique 3. (1 cr. [max 2 cr.] ; Student Option; Every Fall) Third of six-semester sequence of jazz dance. Vocabulary. Technical skills using variety of jazz dance styles while increasing flexibility, groundedness, strength. Increase understanding of musicality, dynamics, style, improvisation. prereq: dept consent, audition

DNCE 1220. Jazz Technique 4. (1 cr. [max 2 cr.] ; Student Option; Every Spring) Fourth of six-semester sequence of jazz dance. Expand vocabulary/develop skills, technique, style. Increase flexibility, strength. Use of space, clear articulation of movement, rhythmic footwork, grounding movement, dynamics, musicality. prereq: 1210, dept consent, audition

DNCE 1301. Tap Technique 1. (; 1 cr. ; Student Option; Every Fall & Summer) Learning fundamental terms, basic rhythm structures, stock steps, and standard time steps.

DNCE 1302. Tap Technique 2. (; 1 cr. ; Student Option; Every Spring)

Fundamental terms, basic rhythms and syncopation, stock steps, and standard time steps; clarity of sound and rhythm. prereq: 1301 or instr consent

DNCE 1313. African Based Movement. (; 1 cr. ; Student Option; Every Fall & Spring)
Varied movement of African diaspora, primarily but not limited to West African region and continent of Africa. Traditional movement. Movement inspired by Africa, the Caribbean, and African diaspora at large. In-class movement participation, one movement midterm, one two-page paper.

DNCE 1327. Argentine Tango. (; 1 cr. ; Student Option; Every Fall)
Basic rhythms emphasizing posture, axis, walking, lead/follow techniques, footwork patterns. Students listen to music to identify rhythm, communicate.

DNCE 1331. Yoga. (; 1 cr. ; Student Option; Every Fall, Spring & Summer)
Theory/practice of Yoga. Standing postures, forward bends, twists, balancing, seated postures, inversions, back bends, guided relaxation/meditation. Proper alignment, weight placement, body awareness, relaxation, breathing techniques. Midterm paper, movement demonstration final.

DNCE 1332. Yoga for Dancers. (; 1 cr. ; Student Option; Periodic Fall & Spring)
Physical experience and related aesthetic topics. Historical aspects. Philosophical ideas of yoga. Improving body mechanics through alignment, flexibility, and strength. Developing mental focus/control. Reinforcing positive body language.

DNCE 1335. T'ai Chi Ch'uan. (; 1 cr. ; Student Option; Every Spring & Summer)
Ancient Chinese slow-motion exercise. Helping body/mind to become relaxed/centered. Natural movement patterns, deep breathing, tranquil stress-free mind. Self-defense applications of movements. Non-competitive, non-aggressive.

DNCE 1343. Urban & Street Dance Forms 1: Introduction. (; 1 cr. ; Student Option No Audit; Periodic Fall)
We study the origins of Hip Hop dance and how it has evolved to the current incarnations of the form. There is also a focus on Hip Hop culture as a whole and we have many discussions about issues of identity, relation to power, appropriation, and youth culture. The specific forms of movement in this course are toprocking, rocking, breakdancing (breaking), New Jack Swing, and house dance. Some questions to focus on: What is Hip Hop dance? Where does it originate? Who created Hip Hop artistic expressions? What voices/bodies are heard/seen or not heard/not seen in the films assigned?

DNCE 1344. Urban & Street Dance Forms 2: Advanced Foundation and Histories. (1 cr. [max 2 cr.]; A-F only; Every Fall & Spring)
In this second course in the dance program's 4-semester Urban and Street Dance sequence, students further investigate the technical foundations and histories of rocking, breaking, funk styles, krump, house, and specific techniques that mix these forms together.

These further explorations focus on more advanced techniques, aesthetic approaches, and complex issues within these forms. Students are assigned readings and writing assignments that critically examine each issue. Students will participate in an informal showing at the end of the semester. Prerequisite: completion of DNCE 1343 or audition.

DNCE 1345. Alexander Technique for Movement Artists. (2 cr. ; Student Option No Audit; Every Spring)
Increased kinesthetic awareness of habitual movement patterns in order to improve dance/movement technique and prevent related injuries.

DNCE 1349. Contact Improvisation. (; 1 cr. ; Student Option; Every Fall, Spring & Summer)
Safe, clear introduction to principles of contact improvisation. Rolling point of contact, supporting/being supported, falling/recovering, connecting with center as source/support for movement. Classes include warm-up.

DNCE 1351. African Diasporic Movement 1. (; 1 cr. ; Student Option No Audit; Every Fall)
First of six-course sequence. Introduction to traditional West African dance technique as a foundational base to begin learning technique, body placement, movement, space, time, energy, isolations, patterns, etiquette, community building, group work and presentation.

DNCE 1353. African Diasporic Movement 3. (; 1 cr. ; Student Option No Audit; Every Fall)
Third of six-course sequence. Afro-Brazilian dance, including jumps, turns, floor work, and rhythmicity to develop flexibility, strength, and vocabulary in polycentric movement, moving toward body-sound harmony, illuminating dynamics of coordination, relaxation, breathing, undulation.

DNCE 1354. African Diasporic Movement 4. (; 1 cr. ; Student Option No Audit; Every Spring)
Fourth of six-course sequence. Builds on level 3 by exploring movement from mythology of Afro-Brazilian belief systems orix??? and Candombl????. How corporal knowledge and technique fluency through the course sequence support different dance techniques. prereq: 1353 or audition or instr consent

DNCE 1401. Introduction to Dance. (AH; 3 cr. ; Student Option No Audit; Every Fall & Spring)
What is dance? How does movement create meaning? Dance as action and framework for analysis of moving bodies. Movement politics of race, class, gender, sexuality, and nation through reading, writing, moving, and watching dance performances. Discussion. Dance experience not required.

DNCE 1601. Dance Improvisation. (; 1 cr. ; A-F or Audit; Every Fall)
Individual ways of moving linked to fundamental elements of dance: time, space, and energy. Metered time, musical phrasing. Movement speed, shape, and quality. Creative process, individual movement vocabulary, structural devices in dance. prereq: Concurrent registration in a modern dance technique course, dept consent

DNCE 1626. Music for Dance. (AH; 3 cr. ; Student Option; Every Fall)
Cultural gravity of the Western perspective. Ways global regions express natural laws of acoustics through music while considering historical, political, and ethical issues around the relationship between music and dance. Workshops, practice, and exercises. prereq: dept consent

DNCE 1701. Freshman/Sophomore Repertory. (1 cr. ; A-F only; Every Fall, Spring & Summer)
Immersed in a professional dance company environment, this repertory class will help students develop the necessary skills to effectively navigate the complexities inherent to professional repertory dance companies. Through learning the unique and varied styles of multiple choreographers, the course examines distinguishing factors of these various choreographic works, illuminating for the student, their responsibilities as dance artists and further developing their abilities to maintain the integrity of preexisting works.

DNCE 3010. Modern/Contemporary Dance Technique 5. (; 2 cr. [max 4 cr.]; Student Option; Every Fall)
Fifth course in ten-section sequence of modern dance technique. Application of principles of space, time, energy. Alignment, power from pelvic center, rotation/turnout, muscular tonality, joint articulation, clarity of intent, stretch, strength, stamina. prereq: dept consent, audition

DNCE 3020. Modern/Contemporary Dance Technique 6. (; 2 cr. [max 4 cr.]; Student Option; Every Spring)
Sixth course in ten-section sequence of modern dance technique. Application of principles of space, time, energy. Alignment, power from pelvic center, rotation/turnout, muscular tonality, joint articulation, clarity of intent, stretch, strength, stamina. prereq: 3010, dept consent, audition

DNCE 3110. Ballet Technique 5. (; 2 cr. [max 4 cr.]; Student Option; Every Fall)
Stretch, strength, balance, musicality. Longer phrases in adagio/allegro work. More complex elevations in petit allegro. Practical work conducted in context of study of technical development of ballet. prereq: dept consent, audition

DNCE 3120. Ballet Technique 6. (; 2 cr. [max 4 cr.]; Student Option; Every Spring)
Continuation of 3110. Ballet technique. Stretch, strength, balance, musicality. Longer phrases in adagio/allegro work. More complex elevations in petit allegro. prereq: 3110, dept consent, audition

DNCE 3210. Jazz Technique 5. (; 1 cr. [max 2 cr.]; Student Option; Every Fall)
Continuation of jazz technique. Rhythm structures, longer phrases, greater physical speed, attack/control. prereq: dept consent, audition

DNCE 3220. Jazz Technique 6. (; 1 cr. [max 2 cr.]; Student Option; Every Spring)
Continuation of 3210. Jazz technique. Rhythm structures, longer phrases, greater physical

speed, attack/control. prereq: 3210, dept consent, audition

DNCE 3301. Tap Technique 3. (; 1 cr. ; Student Option; Every Fall & Summer)

Tap techniques and creative development through improvisational studies. prereq: 1302 or instr consent

DNCE 3302. Tap Technique 4. (; 1 cr. ; Student Option; Every Spring)

Tap techniques and rhythm structures. prereq: 3301 or instr consent

DNCE 3334. Introduction to Dance/ Movement Therapy. (2 cr. ; Student Option; Every Fall & Spring)

Historical/theoretical perspectives on use of movement/dance in relationship to psychology/healing. D/MT pioneers/techniques. Applications of D/MT with various populations/ settings. Experiential course. prereq: dept consent

DNCE 3337. Body Mind Centering. (; 2 cr. ; Student Option; Every Fall, Spring & Summer)

Improvisational movement explorations, hands-on re-patterning work. Direct experience of the way mind (desire, attention, intention) is expressed through various body systems. Students use imagery, touch, and anatomical information to access a range of inner sensations and movement experiences. Emphasizes each individual's unique experience of the body.

DNCE 3341. Urban & Street Dance Forms 3: Emerging Scholar. (1 cr. [max 2 cr.] ; A-F or Audit; Every Fall & Spring)

This is the third course in the dance program's 4-semester Urban and Street Dance sequence. It focuses on intermediate/advanced techniques in rocking, breaking, funk styles, krump, house, and specific techniques that mix these forms together. These further explorations focus on more advanced techniques, aesthetics, and complex issues within forms practiced by instructors. Students are assigned readings, videos, and writing assignments to think critically about each issue. There is an informal showing at the end of the semester. prereq: Completion of DNCE 2341 or audition.

DNCE 3342. Urban & Street Dance Forms 4: Scholar. (1 cr. [max 2 cr.] ; A-F or Audit; Every Fall & Spring)

This is the final course in the Dance Program's 4-semester Urban and Street Styles sequence. It focuses on advanced techniques in rocking, breaking, funk styles, krump, house, and specific techniques that mix these forms together. These further explorations focus on advanced techniques, aesthetics, and complex issues within forms practiced by instructors. Students are assigned readings, videos, and writing assignments to think critically about each issue. There is an informal showing at the end of the semester. Prerequisite: Completion of DNCE 3341 or audition

DNCE 3351. African Diasporic Movement 5. (; 1 cr. [max 2 cr.] ; Student Option No Audit; Every Fall)

Rigorous practice. West African techniques. Cardiovascular endurance of students will

improve as a result. Live drummers, students can expect to learn drum parts to enhance the understanding of the rhythms. prereq: 1354 or audition or instr consent

DNCE 3352. African Diasporic Movement 6. (; 1 cr. [max 2 cr.] ; Student Option No Audit; Every Spring)

Dances performed by dance companies of Guinea through the use of more complex and deep rhythms such as Yamama, Doundounba, Baho and Tiribah. Rigorous practice. West African techniques. Live drummers. prereq: DNCE 3351 African Diasporic Movement 5 or audition or instructor consent

DNCE 3401W. Dance History 1. (GP,WI; 3 cr. ; Student Option; Every Fall)

Historiography of dance, 20th century through present. Reconstruction/incorporation of dance practice in context of globalization. Artistic choices as influenced by complex history of performing arts and terrain of body/politics.

DNCE 3402W. Dance History 2. (WI; 3 cr. ; Student Option; Every Spring)

History/theory of dance in varied forms/ aspects. From development of ballet through 20th century modern dance. Second half of year-long survey. prereq: 3401W

DNCE 3411. Dance and Popular Culture: Choreographing Race, Class, and Gender. (DSJ; 3 cr. ; Student Option; Periodic Fall & Spring)

How race, class, and gender become aestheticized and are put into motion as popular culture. Choreographic analysis of moving bodies. How "popular" affects understanding of culture. Exoticism, binary structures of stereotypes, identity, hegemony.

DNCE 3433. Articulate Body. (; 3 cr. ; Student Option; Every Spring)

Lectures and movement sessions in biodynamic considerations for optimal dance performance and metabolic demands of dance. prereq: Dnce major, dept consent

DNCE 3434. Nutrition and Body Maintenance for Movement Artists. (; 2 cr. ; Student Option No Audit; Every Spring)

Students learn and research ways to improve nutrition and remain injury-free throughout career and beyond. Discuss nutrition principles and apply to unique challenges, needs, interests of movement artists. Examine anatomy of movement to develop constructive injury prevention and management strategies. Stress reduction.

DNCE 3487W. Dance and Citizenship: Land, Migration, and Diaspora. (WI; 3 cr. ; Student Option; Every Fall)

Dance/performance as practiced/transformed by minority groups in the United States. Migration as a global phenomenon, particularly pertaining to land disputes, labor distribution, political asylum, refugee, and dislocation.

DNCE 3500. Topics in Dance. (; 1-3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Topics specified in Class Schedule.

DNCE 3601. Dance Composition 1. (; 3 cr. ; Student Option; Periodic Spring)

Movement, vocabulary in relation to theme, space, time, energy, and body parts; solo, duet, and trio forms. prereq: 1020, 1601, concurrent regis in a modern dance technique course, dept consent

DNCE 3602. Dance Composition 2. (; 3 cr. ; Student Option; Every Fall)

Movement, vocabulary in relation to theme, space, time, energy, and body parts. Solo, duet, and trio forms. prereq: 3601, dept consent, concurrent regis in a modern dance technique course

DNCE 3621. Dance Production I. (; 2 cr. ; A-F or Audit; Every Fall)

Technical/administrative aspects of dance production. Lighting, costumes, sound, marketing, stage management, fundraising, publicity. Emphasizes practical project management and personal management skills. prereq: Dance major, dept consent

DNCE 3622. Dance Production II. (; 2 cr. ; A-F or Audit; Every Spring)

Continuation of 3621. Students produce the spring Student Dance Concert. prereq: 3621, dance major, dept consent

DNCE 3700. Performance. (; 1 cr. [max 4 cr.] ; Student Option; Every Fall & Spring)

Creation or reconstruction of a dance theatre work under the direction of a guest artist or faculty member. Work is performed at the end of the rehearsal period. prereq: Concurrent enrollment in a technique course, audition, dept consent

DNCE 3701. Summer Dance Intensive. (; 1-3 cr. [max 6 cr.] ; Student Option No Audit; Every Summer)

Real-world experience with a professional dance company. Students participate in daily technique and repertory classes culminating in an informal performance. Artists are arranged year-by-year.

DNCE 3901. Career Readiness in Dance. (; 1-3 cr. ; A-F or Audit; Periodic Spring & Summer)

Strategies fundamental to a dancer's survival. Injury prevention/care. Development of healthy dietary and muscular/skeletal habits. Career tracks. prereq: Dance major, dept consent

DNCE 4443. Theorizing Dancing Bodies. (; 3 cr. ; Student Option; Every Fall)

Major developments in Western philosophic thought on dance and dance theory, from its beginnings to present. prereq: 3402W or instr consent

DNCE 4601. Dance Composition 3. (; 3 cr. ; Student Option; Periodic Spring)

Continuation of movement vocabulary through improvisation, analysis of form and structure, experimentation with tone and performance persona. Effects of lights/costumes/text/props/music; development of larger ensemble works. prereq: 3602, concurrent regis in a modern dance technique course, dept consent

DNCE 4602. Dance Composition 4. (; 3 cr. ; Student Option; Every Fall)

Continuation of 4601. Movement vocabulary through improvisation, analysis of form and structure, experimentation with performance

persona, and the effects of technical elements. Development of larger ensemble works. prereq: 4601, concurrent registration is required (or allowed) in modern dance technique course, dept consent

DNCE 4901. Capstone Seminar for Dance. (; 1-2 cr. ; S-N or Audit; Every Fall)

Development of senior project, alone or in groups, under guidance of faculty members. prereq: Sr, [Dnce or Th major]

DNCE 5010. Modern/Contemporary Dance Technique 7. (; 2 cr. [max 4 cr.]; Student Option; Every Fall)

Seventh course in ten-section sequence of modern dance technique. Continuation of technical development. Performance range/style. Students study with various guest artists. prereq: dept consent, audition

DNCE 5020. Modern/Contemporary Dance Technique 8. (; 2 cr. [max 4 cr.]; Student Option; Every Spring)

Eighth course in ten-section sequence of modern dance technique. Performance range/style. Students study with various guest artists. prereq: 5010, dept consent, audition

DNCE 5030. Modern/Contemporary Dance Technique 9. (2 cr. [max 6 cr.]; A-F or Audit; Every Fall)

Ninth course in ten-section sequence of modern dance technique. It focuses on pre-professional technique training for students prepared for that level of technical achievement and readying themselves for a potential career as contemporary dance professionals. All Dance Program Modern Dance Technique courses examine the practical application and understanding of principles of space, time, and energy focusing on alignment, weight, momentum, power for the body's core, joint and skeletal articulation, clarity of focus and intent, flexibility, strength, stamina and energy flow and lines through the use of breath appropriate to the technical level of the course. The course also explores a range of performance strategies that students may encounter for future performance experiences within the dance program and beyond.

DNCE 5040. Modern/Contemporary Dance Technique 10. (2 cr. [max 6 cr.]; Student Option; Every Spring)

Tenth course in ten-section sequence of modern dance technique. It focuses on pre-professional technique training for students prepared for that level of technical achievement and readying themselves for a potential career as contemporary dance professionals. All dance program modern dance technique courses examine the practical application and understanding of principles of space, time, and energy focusing on alignment, weight, momentum, power for the body's core, joint and skeletal articulation, clarity of focus and intent, flexibility, strength, stamina and energy flow and lines through the use of breath appropriate to the technical level of the course. The course also explores a range of performance strategies that students may encounter for future performance experiences within the dance program and beyond.

DNCE 5110. Ballet Technique 7. (; 1 cr. [max 2 cr.] ; Student Option; Every Fall)

Continuation of ballet technique. Musicality, performance, stylistic differences. Practical work conducted within context of choreographic/aesthetic development of ballet. prereq: dept consent, audition

DNCE 5120. Ballet Technique 8. (; 1 cr. [max 2 cr.] ; Student Option; Every Spring)

Continuation of 5110. Musicality, performance, stylistic differences. Practical work conducted within context of choreographic/aesthetic development of ballet. prereq: 5110, dept consent, audition

DNCE 5334. Introduction to Dance/ Movement Therapy. (2 cr. ; Student Option; Every Spring)

Historical/theoretical perspectives on use of movement/dance in relationship to psychology/healing. D/MT pioneers/techniques. Applications of D/MT with various populations/settings. Experiential course. prereq: dept consent

DNCE 5443. Theorizing Dancing Bodies. (; 3 cr. ; Student Option; Every Fall)

Major developments in Western philosophic thought on dance and dance theory, from its beginnings to present. prereq: instr consent

DNCE 5493. Choreographing Social Justice: Staging "Equitable" Choreographies. (; 3 cr. ; A-F only; Every Spring)

Possibilities and implications of artistic work. Metaphoric bodily practices and intersections of performance and social justice practices. Theories and histories of intersections within communities of color across global North and South. Group project. prereq: 4443 recommended

DNCE 5500. Topics in Dance. (; 1-3 cr. [max 30 cr.]; Student Option; Periodic Fall, Spring & Summer)

Topics specified in Class Schedule.

DNCE 5601. Dance Composition 5. (; 1-2 cr. ; Student Option; Every Spring)

Final part of six-semester sequence in dance composition. Exploration of movement through independently scheduled rehearsals. Choreographic concepts. Tools in dance creation, development/refinement of movement, structure of group choreography. prereq: 4601, 4602, dept consent

DNCE 5700. Performance. (; 1-2 cr. [max 8 cr.]; Student Option; Every Fall & Spring)

Technique, improvisation, choreography, music, design, and technical production as they relate to dance performance. prereq: concurrent registration is required (or allowed) in technique course, dept consent, audition based Students cast in more than one choreographic piece should register for section 002 for 2 credits

DNCE 5858. Dance Pedagogy. (; 3-4 cr. ; Student Option; Every Fall)

Teaching dance provides the foundational pedagogy and methods for artful and responsible teaching and learning in dance. Students will examine key dance education theories and quality teaching practices, and

then apply the theories by developing and teaching dance lessons. The course introduces tools that assist in the planning, teaching, assessing, and sharing of dance experiences with children, adolescent, and adult learners in a variety of settings. Specific learning opportunities include: readings, investigation and discussion of dance pedagogy; the creation of lesson plans; teaching labs (in-class and off-site supervised practice teaching); and clinical observations where students can observe the theory in practice.

DNCE 5993. Directed Studies. (1-4 cr. [max 10 cr.]; Student Option; Every Fall & Spring) Guided individual study. Prereq-instr consent, dept consent, college consent.

Data Science (DSCI)

DSCI 4093. Data Science Senior Project Directed Study. (4 cr. ; A-F only; Every Fall & Spring)

Project in data science arranged between student and faculty.

DSCI 5994. Directed Research. (1-3 cr. [max 9 cr.]; Student Option; Every Fall, Spring & Summer)

Directed Research

Dental Hygiene (DH)

DH 1101. Introduction to Dental Hygiene. (1 cr. ; A-F only; Every Fall)

An introduction to the profession of dental hygiene through active learning, lectures, and discussions. The goal of this course is for students to explore the dental hygiene profession in order to assess their interest in pursuing a career in dental hygiene. Additionally, the course will provide an overview of the dental hygienist's role in the treatment and prevention of oral diseases.

DH 2111. Dental Anatomy, Embryology & Histology. (; 3 cr. ; A-F or Audit; Every Fall)

Structural microscopic anatomy of oral hard/soft tissues. All deciduous/permanent teeth, including tooth form, function, and relationship to oral health. Tooth development, calcification, eruption, and exfoliation patterns. Ideal static occlusion, dental terminology, tooth annotation systems. Learning activity includes identification/annotation of teeth, dental histology, embryology, and anatomy.

DH 2121. Process of Care in Allied Dental Health: Clinical Application I. (; 5 cr. ; A-F or Audit; Every Fall)

Dental hygiene/Dental Therapy care process, assessment principles related to medical and oral health status, dental hygiene clinical procedures, and development of instrumentation skills.

DH 2132. Head and Neck Anatomy. (; 2 cr. ; A-F or Audit; Every Fall)

The anatomical structures of head and neck as they relate to the practice of dental hygiene and dental therapy.

DH 2212. Communication for Oral Health Providers. (2 cr. ; A-F only; Every Spring)

This course introduces the study of effective communication strategies within the health care team and during patient-provider relationships. There is an emphasis on public speaking basic principles, effective strategies, and ethical approaches. The application of health literacy concepts and behavior change theory as components of evidence-based decision making in a variety of practice settings will be taught.

DH 2221W. Periodontology. (WI; 3 cr. ; A-F only; Every Spring)

This course introduces periodontal diseases; etiology, assessment, and treatment options. It includes clinical experience in debridement, root planing with ultrasonic and hand instruments. (3 credits) prereq: DH student

DH 2222. Process of Care in Allied Dental Health: Clinical Application II. (; 4 cr. ; A-F or Audit; Every Spring)

In this class, you will begin to apply your knowledge of the various preventive products, patient education, assessment data, and medical histories to clinical practice. You will develop application skills in fluoride treatments and pit and fissure sealants as well as the evaluation of products used in the treatment of dental caries and periodontal diseases. This class will also give you an introduction to the School of Dentistry's clinical systems, various medical and emergency conditions affecting patient care, and preventive strategies for oral diseases.

DH 2225. Microbiology, Immunology, and Oral Health. (3 cr. ; A-F only; Every Fall, Spring & Summer)

Encounters with microorganisms are part of everyday life for humans, both as pathogenic and non-pathogenic entities. During this microbiology course students will learn characteristics of microbial life for bacteria, viruses, parasites, and fungi. An emphasis will be placed on microorganisms that are commonly found in the oral cavity. An introduction to the human immune system and its function in regulating infections will be presented. Students will gain an understanding of both commensal microbiota and pathogenic microorganisms, and how their impact on human health. Additionally, students will begin to convey scientific data and research results to non-scientists as a basis for discussing disease prevention, infection management, and treatment plans in a clinical setting. prereq: dental hygiene student

DH 2231. Cariology and Applied Nutrition in Allied Dental Health. (; 3 cr. ; A-F or Audit; Every Fall)

The study of dental caries etiology, pathology, and prevention, and the applied principles of diet and nutrition to dental hygiene/dental therapy patient care with skills in dental dietary counseling. Course content also includes a comprehensive review of CAMBRA. Cariology and Applied Nutrition in Allied Dental Health is designed to provide the beginner level dental hygiene student with a knowledge base in cariology and nutrition as it applies to the oral cavity. The implementation of this knowledge is Dental Dietary Counseling with a dental

hygiene patient. DH 2231/DT 2231 relies on the communication skills developed in DH 2212/DT 2212.

DH 3121. Local Anesthesia and Pain Management. (2 cr. ; A-F only; Every Summer)

Concepts in the administration of local anesthesia, nitrous oxide-oxygen sedation, and other methods of pain management. Anatomy, physiology, pharmacology, patient assessment, indications and contraindications, selection of agents, injection techniques, complications, emergency management, and legal/ethical considerations. Lecture, lab, clinic. Clinical sessions include actual experience in administering local anesthesia and other methods of pain management. The administration of local anesthesia will be taught to clinical competency. The didactic component of nitrous oxide-oxygen sedation will be completed in this course with clinical experiences occurring in the Faculty Practice Clinic and in subsequent clinical rotations leading to clinical competency in this method of pain management.

DH 3123. Process of Care in Allied Dental Health: Clinical Application III. (4 cr. ; A-F only; Every Summer)

Dental hygiene/Dental Therapy planning for caries prevention and control, non-surgical periodontal therapy, and tobacco cessation. Case presentation, ergonomic, and clinical experience in dental hygiene/dental therapy patient care.

DH 3125. General and Oral Pathology. (; 2 cr. ; A-F or Audit; Every Spring)

This course covers topics in pathology related to dentistry and the oral cavity. Oral benign/malignant tumors, infectious, inflammatory, and immunologically mediated lesions/diseases are covered.

DH 3133. Pharmacology. (; 2 cr. ; A-F or Audit; Every Summer)

Principles of pharmacology, physical/chemical properties of drugs, modes of administration, therapeutic/adverse effects, drug actions/interactions.

DH 3134. Pediatric Dentistry. (; 1 cr. ; A-F or Audit; Every Summer)

Knowledge, skills, and attitudes required for providing dental hygiene care for pediatric patients. prereq: DH student

DH 3151. Oral and Maxillofacial Radiology. (; 2 cr. ; A-F or Audit; Every Spring)

General principles of radiology, radiation physics, dosimetry, biology, radiation protection, regulations, recent concepts of imaging, and radiographic anatomy.

DH 3211. Biomaterials and Principles of Restorative Techniques I. (; 4 cr. ; A-F only; Every Summer)

This course is for dental hygiene students to learn theory and "hands on" practice of dental restorative materials. Students will practice the manipulation and placement of various dental materials in permanent and primary typodont prepared teeth, and they will also learn and practice the selection process and placement

of stainless steel crowns on primary typodont teeth. prereq: DH student

DH 3224W. Process of Care in Allied Dental Health: Clinical Application IV. (WI; 6 cr. ; A-F or Audit; Every Fall)

Knowledge, skills, and attitudes required for providing dental hygiene care for the medically compromised patient, gerodontic patient, and patient with a disability. prereq: Dental hygiene student

DH 3228. Ethics and Jurisprudence in Allied Dental Health. (1 cr. ; A-F only; Every Fall)

Studying dental hygiene/dental ethics is intended to provide the tools and skills required for ethical analysis and reflection ? critical thinking. The healthcare professional-patient relationship provides a complex array of problems and dental hygiene is, as are practicing dental hygienists, faced with making important decisions about right and wrong and balancing harm and benefits in the clinical setting. Therefore, the primary goal of this course is to help the student dental hygienist understand how to make critical decisions and how to take appropriate actions when dealing with patients, peers, the institution, and society.

DH 3234. Oral and Maxillofacial Radiology: Theory, Principles, and Radiographic Analysis. (1 cr. ; A-F only; Every Fall)

Intraoral and extraoral radiographic anatomy. Principles of radiographic interpretation, evaluation of radiographs to identify variation of normal, and dental and maxillofacial diseases.

DH 3238. Dental Public Health and Academic Service Learning I. (; 3 cr. ; A-F only; Every Fall)

This course provides an overview of the discipline of public health including epidemiological methods of investigation with an emphasis on patterns of oral diseases. Course content emphasizes designing, implementing, and evaluating oral health promotion and health education programs. Students prepare for community service learning programs.

DH 4105. Dental Professional Development. (1 cr. [max 2 cr.] ; A-F only; Every Spring)

Dental Hygiene Course Description Skills to effective practice management and strategic decision-making, promoting mutual trust and respect in all interpersonal interactions, with an emphasis on the roles of a collaborative dental team. Dental Therapy Course Description Interprofessional course. Organizational, managerial, and financial systems that affect successful dental practice.

DH 4125W. Process of Care in Allied Dental Health: Clinical Application V. (DSJ,WI; 6 cr. ; A-F only; Every Spring)

Social justice of health/oral health care in U.S. How race/class/gender impact resources. Dental hygiene/dental therapy treatment in diverse patient population.

DH 4135W. Research Methods in Allied Dental Health. (WI; 3 cr. ; A-F only; Every Spring)

Develop skills in the scientific method and critiquing scientific literature. Emphasis is place

on evidence-based decision-making, types of research and research design, problem identification and hypothesis development, analyzing individual components of journal articles in relation to research principles, and writing the literature review. Fulfills writing intensive requirement.

DH 4136. Periodontology III Lecture. (; 1 cr. ; A-F or Audit; Every Spring)

This course will provide information regarding the surgical phase of periodontal therapy, including select topics in implantology. The course also emphasizes the evaluation of periodontal treatment, periodontal maintenance care, and the relationship between periodontics and other disciplines in dentistry. Use of pharmacological agents, periodontal medicine, clinical research and integrating periodontics into the general practice also are covered.

DH 4139. Dental Public Health and Academic Service Learning II. (; 2 cr. ; A-F only; Every Spring)

Academic service learning in various community healthcare settings. The student will apply information from Dental Public Health & Service Learning I and II to assess, plan, implement, and evaluate a dental public health program designed to meet the oral health needs of a priority population.

DH 4226. Process of Care in Allied Dental Health: Clinical Application VI. (6 cr. ; A-F only; Every Summer)

Advanced dental hygiene/dental therapy care process in Comprehensive Care Clinics and Service Learning Outreach sites. Development and presentation of the Senior Capstone experiences. The Capstone is a comprehensive oral case presentation and written case report based on a unique patient experience and treatment.

DH 4234. Leadership and Professional Development. (; 2 cr. ; A-F only; Every Summer)

Explore the dental hygienist/dental therapist as leader and manager in healthcare delivery organizations or public health organizations and programs. A study of current issues that influence the practice of dental hygiene/therapy including healthcare delivery systems, workforce needs, practice models, regulation, professional associations, state practice acts, and the legislation process. Emphasis on leadership and professional development.

DH 5201. Management Internship. (; 5 cr. ; S-N only; Every Fall, Spring & Summer)

Supervised experience in oral health care industry. Experience in corporations, health care management organizations, long-term care facilities, publishing firms, or professional organizations. An internship is required (minimum 14 weeks). prereq: Dental hygiene grad student

DH 5203. Capstone Project. (3 cr. ; S-N only; Every Fall, Spring & Summer)

Formulation of extensive business plan/project related to area of interest based on coursework taken or internship experience. prereq: Dental hygiene grad student

DH 5401. Research Methods in Health Sciences. (3 cr. ; A-F only; Every Summer)

Developing skills in scientific method. Analyzing research findings. Types of research, problem selection, hypothesis writing, research planning/design, data collection/measuring techniques, analysis/interpretation of data. Ethics. prereq: Dental hygiene grad student

DH 5403. The Discipline of Dental Hygiene.

(; 2 cr. ; A-F only; Every Fall, Spring & Summer)

Dental hygiene practice grounded in science and guided by research evidence. Etiology, prevention, and treatment of dental caries, periodontal diseases, oral cancer, and other conditions. Advances in technology. prereq: Dental hygiene grad student

DH 5405. Curriculum and Course Development.

(; 2 cr. [max 4 cr.] ; A-F only; Every Fall)

Curriculum/course development/management, competency-based education/outcomes assessment. Role of accreditation in dental hygiene education. Students develop competency-based dental hygiene curriculum/course. prereq: Dental Hygiene grad student

DH 5407. Instructional Strategies for Effective Teaching. (; 2 cr. ; A-F only; Every Fall)

Application of principles of learning. Learning/teaching styles, student-centered teaching, instructional strategies. Microteaching selected strategies. prereq: Dental hygiene grad student

DH 5409. Dental Hygiene Clinic Administration.

(; 2 cr. ; A-F only; Every Spring)

Theory/practice of dental hygiene preclinic/clinic instruction. Administration of clinic. Developing protocols, calibrating faculty, monitoring student progress. Central Regional Dental Testing Service exam, clinic evaluation mechanisms, quality assurance. prereq: Dental hygiene grad student

DH 5411. Administrative Leadership and Professional Development. (2 cr. ; A-F only; Every Spring)

Application of leadership theory. Models of administrative roles in education, health care, research, and corporate health care settings. Education/organization culture, strategic planning, human resource management/budgeting. Professional development/advancement. prereq: Dental hygiene grad student

DH 5413. Dental Hygiene Supervised Clinic Student Teaching. (; 4 cr. ; A-F only; Every Fall, Spring & Summer)

Observation/participation in supervised clinical teaching experiences in dental hygiene education. Psychomotor skill acquisition. Process of care. Feedback. Question asking. Evaluation of clinical skills. Ethical/legal issues.

DH 5415. Dental Hygiene Supervised Didactic Course Student Teaching. (2 cr. [max 4 cr.] ; A-F only; Every Fall, Spring & Summer)

Observation/participation in supervised teaching experience in dental hygiene education under faculty mentorship.

DH 5421. Oral Health Care Policy and Funding Strategies. (; 2 cr. ; A-F only; Every Fall, Spring & Summer)

An introduction to oral health care policy, advocacy and program funding through grant writing. Evaluate current health care policy, propose improved health care delivery systems, and grant writing fundamentals for evidence-based program implementation. prereq: Enrolled in Dental Hygiene grad program

DH 5425. Oral Health Educator Clinical Teaching. (; 3 cr. ; A-F only; Every Fall)

Application of the principles of clinical instruction in a dental setting. Emphasis is placed on the various roles of the clinical instructor, effective strategies to foster critical thinking, provide effective feedback and assessment, and ethical/legal issues. Strategies to address challenges and practical teaching tips in the clinical environment.

DH 5426. Oral Health Educator Didactic Teaching. (; 3 cr. ; A-F only; Every Fall)

The overall goal of the course is to prepare individuals for effective teaching in the classroom setting. Learning theory will lay the foundation for the course design process and provide a framework for the application of competency-based education in dental school curricula. Participants will learn a step-by-step approach to integrated course design culminating in the development of a course syllabus for a predoctoral dental course.

Dental Therapy (DT)

DT 2121. Process of Care in Allied Dental Health: Clinical Application I. (; 5 cr. ; A-F or Audit; Every Fall)

Dental hygiene/Dental Therapy care process, assessment principles related to medical and oral health status, dental hygiene clinical procedures, and development of instrumentation skills.

DT 2132. Head and Neck Anatomy. (2 cr. ; A-F or Audit; Every Fall)

The anatomical structures of head and neck as they relate to the practice of dental hygiene and dental therapy.

DT 2212. Communications for Oral Health Providers. (2 cr. ; A-F only; Every Spring)

This course introduces the study of effective communication strategies within the health care team and during patient-provider relationships. There is an emphasis on public speaking basic principles, effective strategies, and ethical approaches. The application of health literacy concepts and behavior change theory as components of evidence-based decision making in a variety of practice settings will be taught.

DT 2221W. Periodontology. (WI; 3 cr. ; A-F only; Every Spring)

This course introduces periodontal diseases; etiology, assessment, and treatment options. It includes clinical experience in debridement, root planning with ultrasonic and hand instruments. (3 credits)

DT 2222. Process of Care in Allied Dental Health: Clinical Application II. (4 cr. ; A-F or Audit; Every Spring)

In this class, you will begin to apply your knowledge of the various preventive products, patient education, assessment data, and medical histories to clinical practice. You will develop application skills in fluoride treatments and pit and fissure sealants as well as the evaluation of products used in the treatment of dental caries and periodontal diseases. This class will also give you an introduction to the School of Dentistry's clinical systems, various medical and emergency conditions affecting patient care, and preventive strategies for oral diseases.

DT 2225. Microbiology, Immunology, and Oral Health. (3 cr. ; A-F only; Every Spring)

Encounters with microorganisms are part of everyday life for humans, both as pathogenic and non-pathogenic entities. During this microbiology course students will learn characteristics of microbial life for bacteria, viruses, parasites, and fungi. An emphasis will be placed on microorganisms that are commonly found in the oral cavity. An introduction to the human immune system and its function in regulating infections will be presented. Students will gain an understanding of both commensal microbiota and pathogenic microorganisms, and their impact on human health. Additionally, students will begin to convey scientific data and research results to non-scientists as a basis for discussing disease prevention, infection management, and treatment plans in a clinical setting.

DT 2231. Cariology and Applied Nutrition in Allied Dental Health. (3 cr. ; A-F or Audit; Every Fall)

The study of dental caries etiology, pathology and prevention, and the applied principles of diet and nutrition to dental hygiene/dental therapy patient care with skills in dental dietary counseling. Course content also includes a comprehensive review of CAMBRA. Cariology and Applied Nutrition in Allied Dental Health is designed to provide the beginner level dental hygiene student with a knowledge base in cariology and nutrition as it applies to the oral cavity. The implementation of this knowledge is Dental Dietary Counseling with a dental hygiene patient. DH 2231/DT 2231 relies on the communication skills developed in DH 2212/DT 2212.

DT 3121. Local Anesthesia and Pain Management. (2 cr. ; A-F only; Every Summer)

Concepts in the administration of local anesthesia, nitrous oxide-oxygen sedation, and other methods of pain management. Anatomy, physiology, pharmacology, patient assessment, indications and contraindications, selection of agents, injection techniques, complications, emergency management, and legal/ethical considerations. Lecture, lab, clinic. Clinical sessions include actual experience in administering local anesthesia and other methods of pain management. The administration of local anesthesia will be taught to clinical competency. The didactic

component of nitrous oxide-oxygen sedation will be completed in this course with clinical experiences occurring in the Faculty Practice Clinic and in subsequent clinical rotations leading to clinical competency in this method of pain management.

DT 3123. Process of Care in Allied Dental Health: Clinical Application III. (4 cr. ; A-F only; Every Summer)

Dental hygiene/Dental Therapy planning for caries prevention and control, non-surgical periodontal therapy and tobacco cessation. Case presentation, ergonomic, and clinical experience in dental hygiene/dental therapy patient care.

DT 3125. General and Oral Pathology. (2 cr. ; A-F or Audit; Every Spring)

This course covers topics in pathology related to dentistry and the oral cavity. Oral benign/malignant tumors, infectious, inflammatory, and immunologically mediated lesions/diseases are covered.

DT 3133. Pharmacology. (2 cr. ; A-F or Audit; Every Summer)

Principles of pharmacology, physical/chemical properties of drugs, modes of administration, therapeutic/adverse effects, drug actions/interactions.

DT 3151. Oral and Maxillofacial Radiology.

(; 2 cr. ; A-F or Audit; Every Spring)
General principles of radiology, radiation physics, dosimetry, biology, radiation protection, regulations, recent concepts of imaging, and radiographic anatomy.

DT 3224W. Process of Care in Allied Dental Health: Clinical Application IV. (WI; 6 cr. ; A-F or Audit; Every Fall)

Knowledge, skills, and attitudes required for providing dental hygiene care for the medically compromised patient, gerodontic patient, and patient with a disability.

DT 3228. Ethics and Jurisprudence in Allied Dental Health. (1 cr. ; A-F only; Every Fall)

Studying dental hygiene/dental ethics is intended to provide the tools and skills required for ethical analysis and reflection ? critical thinking. The healthcare professional-patient relationship provides a complex array of problems and dental hygiene is, as are practicing dental hygienists, faced with making important decisions about right and wrong and balancing harm and benefits in the clinical setting. Therefore, the primary goal of this course is to help the student dental hygienist understand how to make critical decisions and how to take appropriate actions when dealing with patients, peers, the institution, and society.

DT 3234. Oral and Maxillofacial Radiology: Theory, Principles, and Radiographic Analysis. (1 cr. ; A-F only; Every Fall)

Intraoral and extraoral radiographic anatomy. Principles of radiographic interpretation, evaluation of radiographs to identify variation of normal, and dental and maxillofacial diseases.

DT 3238. Dental Public Health and Academic Service Learning I. (; 3 cr. ; A-F only; Every Fall)

This course provides an overview of the discipline of public health including epidemiological methods of investigation with an emphasis on patterns of oral diseases. Course content emphasizes designing, implementing, and evaluating oral health promotion and health education programs. Students prepare for community service learning programs.

DT 4105. Dental Professional Development. (1 cr. ; A-F only; Every Spring)

Dental Hygiene Course Description Skills to effective practice management and strategic decision-making, promoting mutual trust and respect in all interpersonal interactions, with an emphasis on the roles of a collaborative dental team. Dental Therapy Course Description Interprofessional course. Organizational, managerial, and financial systems that affect successful dental practice.

DT 4125W. Process of Care in Allied Dental Health: Clinical Application V. (DSJ,WI; 6 cr. ; A-F only; Every Spring)

Social justice of health/oral health care in U.S. How race/class/gender impact resources. Dental hygiene/dental therapy treatment in diverse patient population.

DT 4135W. Research Methods in Allied Dental Health. (WI; 3 cr. ; A-F only; Every Spring)

Develop skills in the scientific method and critiquing scientific literature. Emphasis is placed on evidence-based decision-making, types of research and research design, problem identification and hypothesis development, analyzing individual components of journal articles in relation to research principles, and writing the literature review. Fulfills writing intensive requirement.

DT 4139. Dental Public Health and Academic Service Learning II. (; 2 cr. ; A-F only; Every Spring)

Academic service learning in various community healthcare settings. The student will apply information from Dental Public Health & Service Learning I and II to assess, plan, implement, and evaluate a dental public health program designed to meet the oral health needs of a priority population.

DT 4226. Process of Care in Allied Dental Health: Clinical Application VI. (6 cr. ; A-F only; Every Summer)

Advanced dental hygiene/dental therapy care process in Comprehensive Care Clinics and Service Learning Outreach sites. Development and presentation of the Senior Capstone experiences. The Capstone is a comprehensive oral case presentation and written case report based on a unique patient experience and treatment.

DT 4234. Leadership and Professional Development. (2 cr. ; A-F only; Every Summer)

Explore the dental hygienist/dental therapist as leader and manager in healthcare delivery organizations or public health organizations and programs. A study of current issues that influence the practice of dental hygiene/

therapy including healthcare delivery systems, workforce needs, practice models, regulation, professional associations, state practice acts, and the legislation process. Emphasis on leadership and professional development.

DT 4345. Dental Service-Learning. (; 1 cr. ; S-N only; Every Fall)

This course is designed to enable students to experience providing oral health care to patient populations who do not have regular access to such care. Clinical experiences in restorative dentistry, emergency dental care, and oral and maxillofacial surgery will be provided under the supervision of University of Minnesota School of Dentistry Faculty.

DT 4346. Dental Service-Learning. (; 1 cr. ; S-N only; Every Spring)

This course is designed to enable students to experience providing oral health care to patient populations who do not have regular access to such care. Clinical experiences in restorative dentistry, emergency dental care and oral and maxillofacial surgery will be provided under the supervision of University of Minnesota School of Dentistry Faculty.

DT 4347. Dental Service-Learning. (; 1 cr. ; S-N only; Every Summer)

This course is designed to enable students to experience providing oral health care to patient populations who do not have regular access to such care. Clinical experiences in restorative dentistry, emergency dental care, and oral and maxillofacial surgery will be provided under the supervision of University of Minnesota School of Dentistry Faculty.

DT 4415. Essentials of Clinical Care I:

Introduction. (; 1 cr. ; S-N only; Every Fall)

This course will introduce DT4 dental therapy students to the dental therapy clinically related scope of patient care under the direction and supervision of experienced clinical faculty. This course will monitor and grade progression in clinics each semester. Evaluation will be based on feedback from dental therapy faculty, group leaders and the Competency Review Board.

DT 4465. Essentials of Clinical Care for the Dental Therapist II. (3 cr. ; S-N only; Every Spring)

This course will begin to prepare DT4 dental therapy students in the dental therapy clinically related scope of patient care under the direction and supervision of experienced clinical faculty. This course will monitor and grade progression in clinics each semester. Evaluation will be based on feedback from dental therapy faculty, group leaders, and the Competency Review Board.

DT 4965. Essentials of Clinical Care for the Dental Therapist III. (4 cr. ; S-N only; Every Summer)

This course will continue to prepare DT4 dental therapy students in the dental therapy clinically related scope of patient care under the direction and supervision of experienced clinical faculty. This course will monitor and grade progression in clinics each semester. Evaluation will be based on feedback from dental therapy faculty, group leaders, and the Competency Review Board.

DT 4994. Dental Therapy Directed Research.

(1-7 cr. [max 35 cr.] ; S-N only; Every Fall, Spring & Summer)

Field investigation of selected areas of research.

DT 5005. Dental Therapy Capstone Project I. (1 cr. [max 2 cr.] ; S-N only; Every Fall)

The main purpose of the Capstone courses is to provide a culminating, integrative scholarly experience for students enrolled in the Dual Degree BSDH/MDT program. As such, in addition to utilizing knowledge gained throughout the 8-semester program, the course draws specifically on students' prior training in Research and Dental Public Health. The course allows students to pursue an independent, project-based topic from one of their interests in the field of oral health. The course is intended to be an intensive, active-learning project, requiring significant effort in the planning and implementation, as well as preparation of a substantial final written product and oral presentation. A Capstone is a systematic investigation of a subject including library and/or original research. Projects are intended to assimilate knowledge gained in courses in order to create a comprehensive, original project. While Capstone projects provide invaluable preparation for professional careers, students report that the primary rewards are intrinsic: the opportunity to follow one's curiosity, to take ownership of a project and see it through to a successful conclusion, the intellectual and creative pleasure of independent learning, and the mentorship by one's advisor. Because the written portion of the project is generally quite long, it is essential to devote substantial time to the research and writing of the paper. However, learning to be concise is a valuable skill to master.

DT 5105. Dental Therapy Capstone Project II. (1 cr. ; A-F only; Every Spring)

The main purpose of the Capstone courses is to provide a culminating, integrative scholarly experience for students enrolled in the Dual Degree BSDH/MDT program. As such, in addition to utilizing knowledge gained throughout the 8-semester program, the course draws specifically on students' prior training in Research and Dental Public Health. The course allows students to pursue an independent, project-based topic from one of their in the field of oral health. The course is intended to be an intensive, active-learning project, requiring significant effort in the planning and implementation, as well as preparation of a substantial final written product and oral presentation. A Capstone is a systematic investigation of a subject including library and/or original research. Projects are intended to assimilate knowledge gained in courses in order to create a comprehensive, original project. While Capstone projects provide invaluable preparation for professional careers, students report that the primary rewards are intrinsic: the opportunity to follow one's curiosity, to take ownership of a project and see it through to a successful conclusion, the intellectual and creative pleasure of independent learning, and the mentorship by one's advisor. Because the written portion of

the project is generally quite long, it is essential to devote substantial time to the research and writing of the paper. However, learning to be concise is a valuable skill to master.

DT 5135. Preclinical Pediatric Dentistry. (2 cr. ; A-F only; Every Spring)

Childhood development and care of children. Restorative dentistry for children/adolescents. Behavior management techniques. Issues that arise in dental health care setting. Lab. Prereq: DT grad program.

DT 5140. Preventive Pediatric Dental Clinic. (1 cr. ; A-F only; Every Fall)

Oral health promotion of pediatric patients. Brushing techniques, fluoride application, dietary analysis/counseling. Students interact with parents of pediatric patients.

DT 5141. Clinical Pediatric Dentistry III. (; 2 cr. ; A-F only; Every Spring)

Early childhood development, dental care for children. prereq: Must be in the dental therapy program, passed basic foundation competencies

DT 5162. Principles of Exodontia and Minor Oral Surgery. (1 cr. ; A-F only; Every Fall & Spring)

Develop knowledge/skill for exodontia/minor oral surgery.

DT 5205. MDT Clinical Correlations. (; 1 cr. ; S-N only; Periodic Summer)

Provide MDT students with clinically-based educational opportunities during the mandated clinic closure due to the COVID-19 pandemic.

DT 5241. Oral Radiology Clinic II. (; 1 cr. ; A-F only; Every Fall)

Clinical instruction in oral radiography. Intraoral/extraoral radiographic procedures, evaluations. prereq: Must be in dental therapy masters program

DT 5320. Comprehensive Care Clinic. (; 4 cr. ; S-N only; Every Spring)

Assessment, treatment, and management of patients. Concepts/principles of evidence-based dentistry as applied to clinical practice.

DT 5321. Treatment Planning for the Dental Therapist. (1 cr. ; S-N only; Every Fall, Spring & Summer)

Formal lecture presentations regarding fundamentals of assessment/treatment planning of dental cases. Prepare student to understand University of Minnesota School of Dentistry protocol in development of optimal, alternative, emergency treatment plans.

DT 5348. Dental Service-Learning. (; 1 cr. ; S-N only; Every Fall)

This course is designed to enable students to experience providing oral health care to patient populations who do not have regular access to such care. Clinical experiences in restorative dentistry, emergency dental care, and oral and maxillofacial surgery will be provided under the supervision of University of Minnesota School of Dentistry Faculty.

DT 5349. Dental Service-Learning. (; 1 cr. ; S-N only; Every Spring)

This course is designed to enable students to experience providing oral health care to patient

populations who do not have regular access to such care. Clinical experiences in restorative dentistry, emergency dental care, and oral and maxillofacial surgery will be provided under the supervision of University of Minnesota School of Dentistry Faculty.

DT 5360. Outreach Experiences DT Fall. (1 cr. ; S-N only; Every Fall)

Students work in clinics outside of U of M with underserved patients.

DT 5361. Outreach Experiences DT Spring. (2 cr. ; S-N only; Every Spring)

Experiences that reinforce principles of delivering dental health care/services to patients, including underserved patient populations, in contemporary off-site clinical settings.

DT 5410. Biomaterials Science. (1 cr. ; A-F only; Every Spring)

Application of scientific principles to selection/utilization of dental materials. Prereq-2nd yr DT student.

DT 5429. Introduction to Psychomotor Skill Development. (1 cr. ; S-N only; Every Fall)

Virtual reality based training for psychomotor skills required in prosthodontic/operative courses. Eye-hand/mirror skills, ergonomics used while preparing teeth for restoration. Prereq-In dental therapy program.

DT 5430. Oral Anatomy. (; 2 cr. ; A-F only; Every Fall)

Morphological characteristics of human dentition, associated contiguous structures. Foundational knowledge applied to situations encountered in general dental clinical practice. prereq: Accepted into dental therapy masters program

DT 5431. Oral Anatomy Laboratory. (; 3 cr. ; A-F only; Every Fall)

Manual dexterity skills, anatomy of human dentition. prereq: Accepted into masters in dental therapy program

DT 5432. Operative Dentistry I. (; 2 cr. ; A-F only; Every Fall, Spring & Summer)

How to treat dental caries. Therapeutic treatment of underlying pathology. Surgical treatment of early caries lesion.

DT 5433. Operative Dentistry I Pre-Clinic Laboratory. (; 2 cr. ; A-F only; Every Fall, Spring & Summer)

How to treat dental caries. Therapeutic treatment of underlying pathology. Surgical treatment of early caries lesion. Hands-on projects working with models simulating teeth and surrounding structures. prereq: 2nd yr masters in dental therapy student

DT 5434. Operative Dentistry II Lecture. (; 2 cr. ; A-F only; Every Summer)

How to surgically manage more advanced caries lesions. Transition from pre-clinic lab to clinic setting. prereq: Enrolled in master's in dental therapy program

DT 5435. Operative Dentistry II for the Dental Therapist, Lab. (3 cr. ; A-F only; Every Fall, Spring & Summer)

More advanced caries lesions: diagnosis, structural preparation, decay removal and restoration.

DT 5443. Operative Clinic III. (4 cr. ; A-F only; Every Spring)

How to place restorations. Students place single-tooth restorations on patients.

DT 5465. Essentials of Clinical Care for the Dental Therapist IV. (10 cr. [max 12 cr.] ; S-N only; Every Fall)

This course will continue to prepare MDT dental therapy students in the dental therapy clinically related scope of patient care under the direction and supervision of experienced clinical faculty. This course will monitor and grade progression in clinics each semester. Evaluation will be based on feedback from dental therapy faculty, group leaders, and the Competency Review Board.

DT 5471. Prosthodontic Topics for Dental Therapy. (2 cr. ; A-F only; Every Summer)

Lectures, lab projects of selected prosthodontic techniques to enable the dental therapist to provide/cement quality pre-fabricated metal or resin provisional crowns and other prosthodontic procedures in the scope of DT practice.

DT 5960. Essentials of Clinical Care II for the Dental Therapist. (5-10 cr. [max 20 cr.] ; S-N only; Every Summer)

Students provide comprehensive care under direction of clinical faculty. May include periodontics, operative, pediatric care, and health promotion. Limited care may be given on rotations to oral surgery clinics.

Design (DES)

DES 1000. D@MN: Design@Minnesota. (AH; 3 cr. ; A-F only; Every Fall & Spring)

In DES 1000, students learn to use an iterative design process to define real-world challenges, and propose innovative solutions for social impact. Building soft-skills such as collaboration, visual and verbal communication, and empathy is a critical outcome of the course.

DES 1001. Introducing the College of Design. (1 cr. ; A-F only; Every Fall & Spring)

DES 1001 is a 1 cr. topics course. This course provides a set of experiences that help to explain the concepts of design through the lenses of different fields of design, both traditional and emerging, within the College of Design. Students from various design disciplines will engage in design experiences that teach them how designers from different fields identify, define and solve problems. They will be introduced to the resources offered to designers in the College of Design through hands-on experiences. Students will reflect upon their experiences by participating in a series of experiences, by submitting a series of reflection pieces, and completing a culminating project that will be shared with class members and invited stakeholders. Through this engagement, students will learn about each other and their motivations for being in the College of Design, as well as gain an understanding of the breadth of the college and its resources as they begin their design education.

DES 1002. Improvisation for Design. (3 cr. ; A-F only; Every Spring)

This course explores how the art of improvisation can build collaboration, communication, and creativity skills. In this class we will focus on how improvisation is applied to fields of design, however these skills may be applicable to other disciplines. Through both readings and an interactive curriculum of improv exercises, students will learn specific tools to facilitate idea generation, collaborative team processes, idea selection, sketching and critique.

DES 1101V. Honors: Introduction to Design Thinking. (AH,WI; 4 cr. ; A-F only; Every Fall)

Theories/processes that underpin design thinking. Interactions between humans and their natural, social, and designed environments where purposeful design helps determine quality of interaction. Design professions. prereq: Honors student

DES 1101W. Introduction to Design Thinking. (AH,WI; 4 cr. ; A-F only; Every Fall & Spring)

Theories/processes that underpin design thinking. Interactions between humans and their natural, social, and designed environments where purposeful design helps determine quality of interaction. Design professions.

DES 1111. Creative Problem Solving. (; 3 cr. ; A-F only; Every Fall & Spring)

Development of creative capability applicable to all fields of study. Problem solving techniques. Theory of creativity/innovation.

DES 1111H. Honors: Creative Problem Solving. (; 3 cr. ; A-F only; Every Fall)

Development of creative capability applicable to all fields of study. Problem solving techniques. Theory of creativity/innovation. prereq: Honors

DES 1412. i House : i Home. (; 3 cr. ; A-F only; Periodic Fall & Spring)

Leonard E Reads 1958 essay entitled ?I, Pencil; My Family Tree as Told to Leonard E. Read? sketches a remarkable tale of how the unique interests, talents, and motivations of countless individuals from around the world converge to produce pencils. This seminar follows a similar contour to discover the acts of countless individuals from around the world and then outline a story, a kind of family tree, of the individual efforts to create the materials and products that converge to make a house. Matthew Barzun in his book *The Power of Giving Power Way* describes the coming together of diverse interests, talents, and motivations as constellations of stars. Each star bright and unique and its own system. When we gaze into the sky, we can see each individual star. We also see stars together and patterns emerge creating constellations. Each constellation having its own story and stories reflecting a meaning beyond their pattern. In a similar way using Barzun's constellation analogy we will also explore and express how the disparate physical objects each with their own story come together in a pattern we call house but also creates an idea of home that has the possibility of becoming meaningful

for the people who inhabit it. This seminar will be a combination of readings, research, and critical discussions punctuated with field trips and conversations with fabricators, showroom personnel, and contractors to guide us through the journey. A series of short individual assignments in various digital visual and physical media will converge in the collaborative design of a house and an idea about home created by all the students of the class. A design that tells one story of the one hundred thousand and one million hands that build a house and create the possibility of a home.

DES 1904. Fashion and Music. (; 3 cr. [max 6 cr.]; A-F only; Periodic Fall & Spring)

This course will explore the relationship between music, dance and fashion, looking specifically at the 20th century. It will begin with an introduction to the impact of music and dance on fashion and dress and then delve into the changes in popular music and dance throughout the 20th century which result in changes in fashionable dress. The subcultural groups known as flappers, zoot-suiters, Bobby soxers, beats, punks, and goths will be studied to understand the importance of music on each group's dress and identity. Class sessions will include short lectures, video clips, class discussions, student presentations, and the examination of garments and objects from the Goldstein Museum of Design collections. After taking this course, students will have an understanding of the significance of dress as marker of the identities of individual wearers within their historic context.

DES 1905. Visual Literacy. (; 3 cr. ; A-F only; Every Fall & Spring)

In the 21st Century, Visual Literacy is as vital for success as verbal literacy. The course will involve making, writing, and viewing in the pursuit of visual literacy, with expeditions to museums as well as discussion of the concepts of visual literacy. Through a combination of collaborative, hands on, and design activities, we will critically view, use, and produce visual content. The course will examine and apply the definitions and concepts of visual literacy, the impact of visual images on our culture, the creation and use of communication visuals, and developing critical viewing skills.

DES 2101. Design and Visual Presentation. (; 2 cr. ; A-F only; Every Fall & Spring)

Introduction to visual design. Development of visual design skills. Visual presentation methods. Lectures, design exercises, discussion.

DES 3131. User Experience in Design. (4 cr. ; A-F only; Every Fall)

Introduction to theories/principles of human interaction with designed objects. Focuses on affect/emotional quality of designs. Objects, interfaces, environments. Digitally mediated experiences.

DES 3132. Service Design Studio. (3 cr. ; A-F or Audit; Every Fall)

Systems-based approach towards service design. Course emphasis placed on the articulation of a service through concept mapping, blueprints, and user touch points.

DES 3133. Capturing Greece: Color, Light, and Form. (AH; 3 cr. [max 18 cr.]; A-F only; Every Summer)

Greece provides a unique cultural environment in which to explore color, light, and form. Students will immerse themselves in a climate of light and form by observing and experiencing water, stone, and structure in a fresh way. Students will explore ancient architectural forms, uniquely evolved historic villages, and references to mythological and symbolic imagery. This course will provide students with an opportunity to develop creative thinking and practice as well as build visual acuity. Students will examine color theory and the history of BLUE while studying creative thought processes. Drawing and Watercolor are the vehicles through which the majority of this learning occurs.

DES 3141. Technology, Design, and Society. (TS; 3 cr. ; A-F only; Every Spring)

Explore/evaluate impact of technology/design on humans, societies. How design innovation shapes cultures. How people use technology to shape design, adoption, use of designed products/environments through consumerism/ethical values.

DES 3151. Italian Design Studio: Blending Tradition and Innovation. (GP; 3 cr. ; A-F only; Every Summer)

DES 3151 Italian Design Studio: Blending Tradition and Innovation exposes students to the productive intersection of ideas using the city of Rome and its makers as inspiration and context for interdisciplinary design work. The study abroad studio course is submitted to the Council on Liberal Education for approval for a Global Perspectives Theme. Italian Design Studio meets general Core course requirements in the following ways: ENHANCING A LIBERAL EDUCATION Students in this course exercise design as a mode of thinking and practice in an interdisciplinary context. Design thinking is, at its essence, critical thinking for the material world. Design is a process of analyzing, interpreting and evaluating information from multiple viewpoints, and iteratively developing a response that synthesizes this information into a cohesive solution. Design projects never have a "right answer." Instead, students come to learn that "good design" emerges from a rigorous, creative and critical process of seeing design problems as design opportunities. In this way, design studio and design thinking have an intriguing synergy with the values of a liberal education. A liberal education prepares students to engage a complex, diverse and changing world by seeing problems from multiple viewpoints. Design problems are complex by nature and require expansive thinking. Students who think like designers actively seek a variety of perspectives and intentionally zoom in and out to see a problem at a range of scales and in a shifting context. Students who think like designers are naturally curious about almost everything, and see inspiration and opportunity everywhere. Immersion in another culture naturally piques curiosity and presents an immediate challenge to practice seeing (things

and processes big and small) from other perspectives. A liberal education prepares students to critically evaluate information and integrate knowledge. From a liberal investigation, students who think like designers begin to discern what is important, relevant and interesting from what is less important, less relevant and less interesting. Designers understand where conditions are fixed and where they have agency to make design decisions. Because the design process is both generative and iterative, integrating new knowledge and reevaluating what is valuable in the investigation is ongoing. While the design process is not a linear one, students in this course do learn that it is nonetheless rigorous, involving the art of opening up a problem, synthesizing a multitude of forces, and working within constraints. A liberal education prepares students to engage the world as informed, ethical citizens. Design and making are deeply human endeavors that addresses who we are as physical, psychological, social, political and spiritual beings in relationship with the constant, changing and limited resources of our planet. Students in this course learn how the particular circumstances of time and place can have dramatic implications for our designed environment, from the scale of objects to the scale of cities. A liberal education prepares students to value diverse ways of knowing and modes of inquiry. Designing the material world?whether apparel, graphic, landscape architecture, architecture or interior design?invites a fusion of art and science. As a mode of inquiry, students in this course pursue design thinking as a rigorous and analytical process with a role for intuition and creativity. Designed objects and places express cultural aspirations and makes our experiences with the physical world poetic. In this way, de is allied with other arts and humanities disciplines. Yet, all designed things are beholden to a host of constraints or forces that lie beyond the control of the designer. Architecture, for example, must accommodate human behavior and needs, must shelter in a particular climate, and must respond to the laws of materials and gravit

DES 3160. Topics in Design. (; 1-4 cr. [max 24 cr.]; A-F only; Every Fall, Spring & Summer)

Topics in Design.

DES 3196. Field Study: National or International. (; 1-10 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Faculty-directed field study in national or international setting.

DES 3201. Career and Internship Preparation for Design. (; 1 cr. ; A-F only; Every Fall & Spring)

Research career opportunities and organizations related to industry. Set career goals based on skills and interests. Identify job search skills to secure internships, implement transition from college to employment. prereq: Pre-graphic design or graphic design or pre-interior design or interior design or pre-apparel design or apparel design or environmental design or architecture or product design

DES 3309. Storytelling and Design. (3 cr. ; A-F only; Every Fall & Spring)

Students will uncover elements of storytelling within the design process and investigate different modes of shaping narrative. We will be experimenting with various media, including 2D design and mapping, audio, video, social platforms, augmented reality, and online environments.

DES 3311. Travels in Typography. (3 cr. ; A-F only; Every Fall & Spring)

Using collection in James Ford Bell Library, students study rare book/map collections and undertake hands-on exercises on history of type, including developments in typesetting, calligraphy, and letterpress printing.

DES 3321. Furniture Design: Exploration. (3 cr. ; A-F only; Every Fall)

Furniture design as discipline, not as method. Material. Objects that mediate our environment. History, design criteria, technology, craft. Group case study, research presentation, individual making/presenting of concept-prototype.

DES 3322. Furniture Design, Practice. (4 cr. ; A-F only; Every Fall & Spring)

The hardest things about the creative act is learning how to start something before you know what it is. The simplest objects are always more formally complex than the mind can accurately imagine. This course teaches design thinking through furniture constructed using a fast, loose & ad-hoc "children-club-fort-building" method of discovering & visualizing while making. Direct-construction design is tangibly satisfying and will provide powerful context for all other scales of creative, design and planning methods. Your results will not be conventionally good-looking, but you will make real & functioning cultural things. All exercises will be dependent on connecting to ideas beyond commonly recognized boundaries of the furniture. Think "Chair-ness, not Chair." You will be taught basic welding and wood joinery to provide fast & viable structural frames, "surfacing" methods in wood, foam and fabric composites, and an introduction to mold making and material casting. You do not need to be good at making, but you must be game to try. Craft is important so far as basic structural usability is attained. Ideas will always trump material "correctness."

DES 3331. Street Life Urban Design Seminar. (3 cr. ; A-F only; Every Spring)

The street as part of network of urban systems/fragments: sidewalks, private interiors, curbs, terraces, boulevards, parking lots, bus stops, public institutions, urban architectures, utility lines, storm/sewer systems, groundwater, satellite communication systems, gardens, and lighting. Readings in urban studies, geography, design, economics and art history. Students review case studies, envision possible transformations of streets/street life.

DES 3351. Phenomenon of Everyday Design. (3 cr. ; A-F only; Every Spring)

Examines the growing fascination with design in everyday life. From Target to IKEA, from TIME magazine to the New York Times

Sunday supplement, interest in the designer and designed object are permeating popular culture. Implications of this phenomenon in the present and historical precedents for the "design in everyday life" concept.

DES 3406. Iceland: Nature, Culture, Arts & Design. (3 cr. ; A-F only; Periodic Spring)

This course aims to offer a structured experience to learn about the Icelandic culture from afar through presentations, readings and digital media sources followed by direct experience through travel and a short immersion in the culture. Through interactions with people from the Icelandic culture while in Minnesota & then in Iceland the course will involve rapid learning, reflection and creative making, culminating in completion of academic work and a final presentation of the work to a cross-cultural audience.

DES 4160. Topics in Design. (; 1-4 cr.

[max 24 cr.] ; A-F only; Every Fall, Spring & Summer)

In-depth investigation of single specific topic announced in advance.

DES 4165. Design and Globalization. (DSJ; 3 cr. ; A-F or Audit; Every Fall)

The course explores how culture, identity, and difference are defined and produced and the role that design plays in the production of difference, inequality, and marginalization. prereq: Jr or sr

DES 4193. Directed Study in Design. (; 1-6 cr. [max 36 cr.] ; A-F only; Every Fall, Spring & Summer)

Directed Study in Design prereq: dept consent

DES 4401V. Honors: Racism Untaught.

(DSJ,WI; 3 cr. ; Student Option; Every Fall) Revealing and unlearning racialized design through the use of the Racism Untaught framework.

DES 4401W. Racism Untaught. (DSJ,WI; 3 cr. ; Student Option; Every Fall)

Revealing and unlearning racialized design through the use of the Racism Untaught framework.

DES 5130. Visual Literacy. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Understanding concept of visual literacy; analysis of visual communication and design elements; review of visual learning research; application of visual literacy into practice. University credit earned through completion of the UX Design MasterTrack? Certificate. For more information, visit: <https://design.umn.edu/academics/explore-all-certificates/ux-design-mastertracktm-certificate>

DES 5131. User Research for User Experience Design. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Qualitative research skills specific to the field of user experience; understanding of qualitative research methods; development and critique of a product proposal with data reasoning. University credit earned through completion of the UX Design MasterTrack? Certificate. For more information, visit: <https://design.umn.edu/academics/explore-all-certificates/ux-design-mastertracktm-certificate>

DES 5132. User Testing for User Experience Design. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Further developed qualitative research skills using empathy mapping, user journeys, and usability tests; understanding of UX toolkit; ability to evaluate service BluePrints/Wireframes/Task flows; prototypes design; understanding of UI design analysis and critical evaluation. University credit earned through completion of the UX Design MasterTrack? Certificate. For more information, visit: <https://design.umn.edu/academics/explore-all-certificates/ux-design-mastertracktm-certificate>

DES 5160. Topics in Design. (; 1-4 cr.

[max 24 cr.] ; A-F only; Every Fall, Spring & Summer)

Topics in design

DES 5165. Design and Globalization. (; 3 cr. ; A-F or Audit; Every Fall)

Design and Globalization is designed as a course for students of diverse disciplines as well as both graduate and undergraduate students. The course is also part of the Interior Environments Minor as well as meets the Lib Ed theme of "Diversity and Social Justice in the US." Offering it on-line, benefits and increases access to students beyond the St. Paul campus, enabling us to increase enrollment as well as reach a broader range of students and disciplines. Interior Design is already switching the two history classes on-line as a way to increase enrollment and add flexibility in the curriculum.

DES 5168. Evidence-Based Design. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Origins of evidence-based design/possible benefits and detractors. Students learn various components as a process/ explore methods of integrating process via application to a design project in their area of expertise. Process, impact, influences, and anticipated outcomes are documented/ analyzed as compared to a typical design process approach. prereq: CDes grad student or instr consent

DES 5170. Topics in Design. (; 3 cr. [max 24 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

In-depth investigation of single specific topic, announced in advance.

DES 5185. Human Factors in Design. (; 3 cr. ; A-F or Audit; Periodic Fall)

Theories/methods that influence the assessment of physical, social, and psychological human factors. Development of user needs with application to designed products that interact with human body. prereq: Grad student or sr or instr consent

DES 5188. Anthropometrics, Sizing & Fit. (4 cr. ; A-F only; Periodic Fall & Spring)

Comprehensive attention to ergonomics and anthropometric variance across populations is crucial to the advancement of wearable products and apparel. This course will examine the relationship between body size, body shape, product design, sizing systems, and fit. Students will examine existing sizing systems and develop new sizing systems using

anthropometric data, body scan technology, and OptiTex 3D patternmaking software. A special focus will be given to examining innovative tools that encourage the merging of anthropometrics and design throughout the design process. This class is suitable for students across a variety of disciplines.

DES 5193. Directed Study in Design. (; 1-6 cr. [max 36 cr.]; A-F only; Every Fall, Spring & Summer)

Directed Study in Design prereq: dept consent

DES 5196. Field Study: National/International. (; 1-10 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Faculty-directed field study in a national or international setting.

DES 5901. Principles of Wearable Technology. (; 2 cr. ; A-F or Audit; Every Spring)

Exploration of technologies, theories, and best practices for designing and developing systems incorporating wearable technology. This lecture-based class will introduce students to the physical principles that underlie many wearable technology subsystems, will discuss design approaches that conscientiously consider user experience and wearability in systems design. This course is an introductory course that focuses on wearable technology concepts blending User-Centered Design with Engineering Systems development. It is intended to be approachable for students with a wide variety of interests and backgrounds. Course material is explored through readings, lectures, discussions, and course projects. Optional laboratory course (DES.5902) provides hands-on opportunities to put these principles into practice.

DES 5902. Wearable Technology Laboratory Practicum. (2 cr. ; A-F or Audit; Every Spring)

Laboratory session to develop skills in building and testing wearable technology systems. The student must be enrolled concurrently with DES 5901 (Principles of Wearable Technology). Students will be provided opportunities for hands-on prototyping to gain a practical appreciation for the challenges related to wearable systems development. Course material is explored through laboratory sessions and course projects.

Dutch (DTCH)

DTCH 1001. Beginning Dutch. (; 5 cr. ; Student Option; Every Fall & Summer) Emphasis on working toward novice-intermediate low proficiency in all four language modalities (listening, reading, speaking, writing). Topics include everyday subjects (shopping, directions, family, food, housing, etc.).

DTCH 1002. Beginning Dutch. (; 5 cr. ; Student Option; Every Spring & Summer) Continues the presentation of all four language modalities (listening, reading, speaking, writing), with a proficiency emphasis. Topics include free-time activities, careers, and Dutch culture. prereq: 1001

DTCH 1003. Intermediate Dutch. (; 5 cr. ; Student Option; Every Fall)

Emphasis on intermediate proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is combined with authentic readings and essay assignments. prereq: 1002

DTCH 1004. Intermediate Dutch. (; 5 cr. ; Student Option; Every Spring)

Emphasis on developing intermediate mid-high proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is supported by work with authentic readings and essay assignments. prereq: 1003

DTCH 3011W. Conversation and Composition. (WI; 3 cr. ; Student Option; Every Fall)

Practice/refinement of spoken/written Dutch. Composition, vocabulary. Reading, viewing, and discussion of Dutch/Flemish media reports. Grammar review, critical corrective grammatical skills. prereq: 1004 or 4004 or instr consent

DTCH 3012. Conversation and Composition. (; 3 cr. ; Student Option; Periodic Spring)

Practice and refinement of spoken and written Dutch. Compositional skills, vocabulary. Reading, viewing, and discussion of Dutch and Flemish media reports. Grammar review. Development of critical corrective grammatical skills. prereq: 3011 or 4011

DTCH 3610. Dutch Literature in Translation. (; 3 cr. [max 9 cr.]; Student Option; Periodic Spring)

In-depth study of authors or topics from various periods in Dutch literature. All primary/secondary literature is read in English translation.

DTCH 3993. Directed Studies. (1-5 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer)

Guided reading in or study of Dutch literature, culture, or advanced language skills. Prereq-instr consent, dept consent, college consent.

DTCH 4001. Beginning Dutch for Graduate Research. (; 5 cr. ; Student Option; Every Fall & Summer)

Emphasis on working toward novice-intermediate low proficiency in all four language modalities (listening, reading, speaking, writing). Topics include everyday subjects (shopping, directions, family, food, housing, etc.). Meets concurrently with 1001.

DTCH 4002. Beginning Dutch for Graduate Research. (; 5 cr. ; Student Option; Every Spring & Summer)

Continues the presentation of all four language modalities (listening, reading, speaking, writing), with a proficiency emphasis. Topics include free-time activities, careers, and Dutch culture. Meets concurrently with 1002.

DTCH 4003. Intermediate Dutch for Graduate Research. (; 5 cr. ; Student Option; Every Fall)

Emphasis on intermediate proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is combined with authentic readings

and essay assignments. Meets concurrently with 1003.

DTCH 4004. Intermediate Dutch for Graduate Research. (; 5 cr. ; Student Option; Every Spring)

Emphasis on developing intermediate mid-high proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is supported by work with authentic readings and essay assignments. Meets concurrently with 1004.

DTCH 4011. Conversation and Composition for Graduate Research. (; 3 cr. ; Student Option; Every Fall)

Practice/refinement of spoken/written Dutch. Composition, vocabulary. Reading, viewing, and discussion of Dutch/Flemish media reports. Grammar review, critical corrective grammatical skills. Meets with 3011W.

DTCH 4012. Conversation and Composition for Graduate Research. (; 3 cr. ; Student Option; Periodic Spring)

Practice/refinement of spoken/written Dutch. Compositional skills, vocabulary. Reading, viewing, and discussion of Dutch/Flemish media reports. Grammar review. development of critical corrective grammatical skills. Meets with 3012. prereq: 3011 or 4011

DTCH 5490. Topics in Dutch Literature. (; 3 cr. [max 9 cr.]; Student Option; Periodic Fall)

Topic may focus on a specific author, group of authors, genre, period, or subject matter. Topics specified in Class Schedule.

DTCH 5993. Directed Studies. (1-4 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. Prereq-instr consent, dept consent, college consent.

Early Modern Studies (EMS)

EMS 5500. Topics in Early Modern Studies. (; 3 cr. [max 6 cr.]; Student Option; Every Fall & Spring)

Selected topics in early modern studies from various disciplinary perspectives/world regions. prereq: Grad student

Earth Sciences (ESCI)

ESCI 1001. Earth and Its Environments. (ENV,PHYS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Physical processes that shape the Earth: volcanoes, earthquakes, plate tectonics, glaciers, rivers. Current environmental issues/global change. Lecture/lab. Optional field experience.

ESCI 1003. Dinosaurs and Our World. (BIOL,ENV; 4 cr. ; Student Option; Every Spring)

Dinosaur evolution, ecology, and extinction. Evolution of modern ecosystems from the Mesozoic Era to the Anthropocene (and dinosaurs roles in that evolution). Human interactions with our environment and our roles as historic agents. Structure and function of biological forms, interpreting past life, and the social history of scientific inquiry.

ESCI 1004. Music of the Earth. (MATH; 3 cr. ; Student Option; Every Spring)

The purpose of this class is to introduce some core mathematical concepts to students that may not be mathematically inclined. To do so, we will begin by exploring the mathematical expression of familiar concepts in sound and music. Examples include relating the pitch and volume of a pure tone to the frequency and amplitude of a sinusoidal function. We will build on the complexity of the concepts to include Fourier spectra and how they relate, for example, to the timbre of an instrument. The other key component of the class is exploring how these same concepts are used in understanding our planet, from its internal structure to variations in its climate.

ESCI 1005. Geology and Cinema.

(ENV,PHYS; 4 cr. ; Student Option; Every Spring)

Physical processes shaping the Earth, materials it comprises, its nearly five billion year history as told spectacularly, but often wrongly, by Hollywood movies.

ESCI 1006. Oceanography. (ENV,PHYS; 4 cr. ; Student Option; Every Fall)

How various processes in the ocean interact. Marine biology, waves, tides, chemical oceanography, marine geology, and human interaction with the sea. Labs include study of live marine invertebrates, manipulation of oceanographic data, and discussion using videos showing unique aspects of ocean research.

ESCI 1007. From Microbes to Mammoths:

History of Life on Earth. (BIOL; 4 cr. ; Student Option; Every Fall)

Scientific evidence from biology, paleontology, and geology for origin/evolution of life over 4.5 billion years of Earth's history. Biochemical basis of life, biogeochemical cycles, natural selection, origin of species, genetics, phylogeny reconstruction, timescales for evolution.

ESCI 1012. Natural Disasters. (TS; 3 cr. ; Student Option; Every Fall & Spring)

Geological processes that give rise to natural hazards and the emerging technologies that allow societies to mitigate their effects.

ESCI 1101. Introduction to Geology (lecture only). (ENV; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Physical processes that shape the Earth: volcanoes, earthquakes, plate tectonics, glaciers, rivers. Current environmental issues and global change. Lecture.

ESCI 1105. Geology and Cinema (lecture only). (ENV; 3 cr. ; Student Option; Every Spring)

Physical processes shaping the Earth, materials it comprises, its nearly five billion year history as told spectacularly, but often wrongly, by Hollywood movies.

ESCI 1106. Oceanography. (ENV; 3 cr. ; Student Option; Every Fall)

How various processes in the ocean interact. Marine biology, waves, tides, chemical oceanography, marine geology, human interaction with sea.

ESCI 1201. Into Earth Sciences Lab. (PHYS; 1 cr. ; Student Option No Audit; Every Fall, Spring & Summer)

ESCI 1201 is simply the same suite of laboratory explorations that comprise the lab component of ESCI 1001. ESCI 1201's only purpose is to allow students who have previously taken ESCI 1101 (the lecture-only equivalent of ESCI 1001) to combine ESCI 1101 and ESCI 1201 to complete the standard ESCI 1001 class in order to satisfy LE requirements as a Physical Science (students who completed ESCI 1101 have already fulfilled the requirements for the Environment theme). ESCI 1201 is only available to students who have previously taken ESCI 1101, it cannot be taken as a stand-alone course. Please refer to ESCI 1001 for an equivalent description of the combined ESCI 1101/1201 program.

ESCI 1205. Geology and Cinema Lab.

(PHYS; 1 cr. ; Student Option No Audit; Every Spring)

ESCI 1205 is simply the same suite of laboratory explorations that comprise the lab component of ESCI 1005. ESCI 1205's only purpose is to allow students who have previously taken ESCI 1105 (the lecture-only equivalent of ESCI 1005) to combine ESCI 1105 and ESCI 1205 to complete the standard ESCI 1005 class in order to satisfy LE requirements as a Physical Science (students who completed ESCI 1105 have already fulfilled the requirements for the Environment theme). ESCI 1205 is only available to students who have previously taken ESCI 1105, it cannot be taken as a stand-alone course. Please refer to ESCI 1005 for an equivalent description of the combined ESCI 1105/1205 program.

ESCI 1206. Oceanography Lab. (PHYS; 1 cr. ; Student Option No Audit; Every Fall)

ESCI 1206 is simply the same suite of laboratory explorations that comprise the lab component of ESCI 1006. ESCI 1206's only purpose is to allow students who have previously taken ESCI 1106 (the lecture-only equivalent of ESCI 1006) to combine ESCI 1106 and ESCI 1206 to complete the standard ESCI 1006 class in order to satisfy LE requirements as a Physical Science (students who completed ESCI 1106 have already fulfilled the requirements for the Environment theme). ESCI 1206 is only available to students who have previously taken ESCI 1106, it cannot be taken as a stand-alone course. Please refer to ESCI 1006 for an equivalent description of the combined ESCI 1106/1206 program.

ESCI 1902. Geology of Minnesota. (ENV; 3 cr. ; Student Option; Every Fall)

This course addresses important societal questions, such as "Where does my drinking water come from? Do I really need to buy bottled water? What should my stand be regarding major water-related environmental issues in Minnesota?" In this course, we will explore the world around us, and apply what we learn to better contribute to the solutions we will need as a society to deal with impacts

on water quality and quantity due to factors such as agriculture, flood control, groundwater pumping, hydroelectric power, integrity of surface water features, interbasin transfers, invasive biota, mining, and shipping. In doing so, we will explore ways for everyone to better take responsibility for their role in optimizing public health, maximizing economic benefits, maintaining biodiversity, and protecting the integrity of surface water features on our landscape. Emphasis will be placed on how our choices and solutions will in the long term affect our principal drinking water source--the groundwater that is hosted in ancient rocks in the north and in the deep subsurface, younger limestone and sandstone in the south, and the sediments of the most recent Ice Age from which our soils have formed. A full-day field trip planned for a Saturday in September will examine how societal choices affect our use of and protection of water resources in our rivers and lakes, and a second full-day trip on a Saturday in October will address the same issues in relation to our largest source of drinking water--our wells. Those unable to attend a field trip may instead prepare a paper.

ESCI 1908. Sea Change: Geological Perspective. (; 2 cr. ; A-F only; Periodic Spring)

Paleoceanography is the study of the environmental history of the planet from records of ancient oceans. This seminar course is intended for first-year students who are interested in understanding how and why the planet has changed in the geologic past and learning how scientists gather evidence of environmental change from marine sediments. We will examine how to use fossils and other evidence for reconstructing sea-level, ancient ocean currents, and abrupt paleoclimatic events and their impacts on marine life, and we will discuss major ideas about the driving forces of these past changes. Understanding the geologic past is highly relevant to understanding current and future environmental change.

ESCI 2001. Intro to Problems in Earth System Sci -with lab. (ENV,PHYS; 4 cr. ; A-F or Audit; Every Spring)

In this course, we study Earth as an integrated system of many interacting components. Examples of these components include the atmosphere, the ocean, continents, rivers and lakes, plants and animals, and humans. Changes within and among these components are shaping our planet and environment. Many grand challenges facing our society today, ranging from climate change to natural hazards, cannot be fully understood without a better understanding of these interactions. This course introduces some key concepts and principles of Earth System Science through a collection of recent scientific discoveries and outstanding problems in the field. The class touches on a wide range of fascinating topics related to the Earth's deep interior, surface environments, life, and its 4.5 billion-year history, highlighting the interdisciplinary nature of the subject. Meanwhile, all the topics are centered around introducing basic physical and chemical processes that regulate the

operation of the Earth as a system. This course gives students an excellent opportunity to explore a broad spectrum of active research in the Earth and Environmental Sciences, state-of-the-art research techniques, and potential career options in this field. Students are expected to develop quantitative skills in addressing questions in Earth System Science through lectures, in-class discussions, and assignments.

ESCI 2101. Intro to Problems in Earth System Science - lecture only. (ENV; 3 cr. ; A-F or Audit; Every Spring)

In this course, we study Earth as an integrated system of many interacting components. Examples of these components include the atmosphere, the ocean, continents, rivers and lakes, plants and animals, and humans. Changes within and among these components are shaping our planet and environment. Many grand challenges facing our society today, ranging from climate change to natural hazards, cannot be fully understood without a better understanding of these interactions. This course introduces some key concepts and principles of Earth System Science through a collection of recent scientific discoveries and outstanding problems in the field. The class touches on a wide range of fascinating topics related to the Earth's deep interior, surface environments, life, and its 4.5 billion-year history, highlighting the interdisciplinary nature of the subject. Meanwhile, all the topics are centered around introducing basic physical and chemical processes that regulate the operation of the Earth as a system. This course gives students an excellent opportunity to explore a broad spectrum of active research in the Earth and Environmental Sciences, state-of-the-art research techniques, and potential career options in this field. Students are expected to develop quantitative skills in addressing questions in Earth System Science through lectures, in-class discussions, and assignments.

ESCI 2201. Solid Earth Dynamics. (; 4 cr. ; A-F or Audit; Every Fall)

Dynamics of solid Earth, particularly tectonic system. Seismology, internal structure of Earth. Earth's gravity, magnetic fields. Paleomagnetism, global plate tectonics, tectonic systems. Field trip. prereq: concurrent registration is required (or allowed) in PHYS 1301 or instr consent

ESCI 2202. Earth History. (; 4 cr. ; A-F only; Every Spring)

Big Bang cosmology, plate tectonics, evolution. Formation of Earth. Chemical evolution of Earth, atmosphere, and ocean. Origin/tectonic evolution of continents. Origin of life, its patterns/processes. Long-term interactions between geosphere, atmosphere, and biosphere. prereq: [2201, 2301] or instr consent

ESCI 2203. Earth Surface Dynamics. (; 4 cr. ; A-F or Audit; Every Spring)

Earth's surface processes, drivers, and implications. Interactions between atmosphere, lithosphere, hydrosphere, and biosphere.

ESCI 2301. Mineralogy. (; 3 cr. ; Student Option; Every Fall)

Crystallography, crystal chemistry, physics. Physical/chemical properties, crystal structures, chemical equilibria of major mineral groups. Lab includes crystallographic, polarizing microscope, X-ray powder diffraction exercises, hand-specimen mineral identification. prereq: [concurrent registration is required (or allowed) in CHEM 1061, concurrent registration is required (or allowed) in CHEM 1065, concurrent registration is required (or allowed) in MATH 1271] or instr consent

ESCI 2302. Petrology. (; 3 cr. ; Student Option; Every Spring)

Magmatic and metamorphic processes, with an emphasis on plate tectonic interpretation of rock sequences. prereq: 2301 or instr consent

ESCI 3002. Climate Change and Human History. (ENV; 3 cr. ; A-F or Audit; Spring Even Year)

Causes of long-/short-term climate change. Frequency/magnitude of past climate changes; their geologic records. Relationship of past climate changes to development of agrarian societies and to shifts in power among kingdoms/city-states. Emphasizes last 10,000 years.

ESCI 3004. Water and Society. (ENV; 3 cr. ; Student Option; Periodic Fall)

For non-science majors. Study of (1) the role of humans as agents influencing the composition (quality) of water resources through domestic, agricultural, industrial, and other land-use practices; (2) the role of water in various ecosystem services which may be at odds with the anthropocentric view of water as a resource; (3) how population increase and climate change, coupled with human actions, is affecting the quality and quantity of available water, leading to lack of access to clean water and decent sanitation, and to severe water shortages (e.g., for irrigation) in some areas, especially in developing nations and politically unstable regions; and (4) how the availability of water shapes a society's view of water as a resource and its view of the non-human demands for water (which is not uniform across the globe).

ESCI 3005. Earth Resources. (; 3 cr. ; Student Option; Fall Odd Year)

Geologic aspects of energy/material resources. Resource size/life-times. Environmental consequences of resource use. Issues of international/public ethics associated with resource production, distribution, and use.

ESCI 3006. Rocks and Stars: Introduction to Planetary Science. (; 3 cr. ; Student Option; Spring Even Year)

ESCI 3006 is designed for students without strong backgrounds in math or physical sciences that are interested in an introductory level survey of planetary science. Students with stronger backgrounds in earth or other physical sciences may also find much of interest, although the approach will be largely non-quantitative. The course will introduce undergraduate students to the dazzling variety of worlds in our solar system and illustrate how many of the planetary scale systems of the Earth compare and contrast to those of other planets. The course will also consider

the dynamical and chemical processes that lead to the origin of our solar system and Earth. Additionally, we will also survey recent exciting observations and discoveries of exoplanets, including consideration of how the diversity of other solar systems aids understanding of our own. The physical and chemical principles underlying planetary processes will be a unifying theme of the course. The course will take advantage of the many resources made available by planetary exploration missions, including those producing the most recent new observations. Owing to the fast-moving pace of discovery in planetary science the curricular content will be and updated each time the course is taught. prereq: An interest in the solar system and planets.

ESCI 3093. Directed Studies in Earth & Environmental Sciences: Junior. (; 1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Directed studies in earth & environmental sciences under the direction of a faculty member. Prereq: instr consent

ESCI 3190. Curricular Practical Training. (1 cr. [max 2 cr.] ; S-N only; Every Fall, Spring & Summer)

Work assignments involving advanced earth science training. Reviewed by the Director of Undergraduate Studies.

ESCI 3202. Fluid Earth Dynamics. (; 4 cr. ; Student Option; Every Fall)

Dynamics of fluid Earth, mainly surface processes and convection. prereq: concurrent registration is required (or allowed) in 2201

ESCI 3303W. Geochemical Principles. (WI; 4 cr. ; Student Option; Every Fall)

Origin of elements (nucleosynthesis, elemental abundances). Geochemical classifications. Isotopes (radioactive, stable). Phase equilibria. Models of Earth's geochemical evolution. Basic geochemical processes that produced Earth's lithosphere, hydrosphere, atmosphere. prereq: [concurrent registration is required (or allowed) in CHEM 1061, concurrent registration is required (or allowed) in CHEM 1065] or instr consent

ESCI 3402. Science and Politics of Global Warming. (ENV; 3 cr. ; Student Option; Spring Odd Year)

Detection/attribution of global warming using concepts of radiation, climate system, and carbon cycle. Effects on society/biodiversity. National/global efforts/controversy over responses/consequences.

ESCI 3403. Computer Applications in Earth & Environmental Sciences. (3 cr. ; Student Option No Audit; Every Spring)

This class is meant to provide students with skills in scientific computer programming, specifically with a special focus on the Earth & environmental sciences and other disciplines where spatial data are important. The course assumes no previous knowledge of computer programming. Although the class will use MATLAB, topics covered in the course include concepts common to all programming languages including functions, logic, formatting, loops, data types, binary code, data branching

for input/output, among others. Additionally, students will develop problem-solving skills in learning how to design algorithms to achieve a task and in learning how to troubleshoot and debug their code. Students taking the class at the 5xxx level will be required to complete a programming project related to their own research. This course will be different from other introductory-level programming courses in that it will have a spatial emphasis and focus on examples and datasets related to the Earth and environmental sciences. Students will learn how to access a variety of Earth and environmental science data repositories and work with data in standard formats (i.e. NetCDF). Working with geographically referenced data in different projections will be explored using different toolboxes available for that purpose. Plotting of data will also be extensively covered including the production of publication-quality figures and animations. Prereq: upper division or instructor consent.

ESCI 3890. Field Workshop. (; 1 cr. [max 2 cr.]; Student Option; Every Fall & Spring) Earth sciences field workshop where students learn about the geological aspects of specific area(s) and culminates in a field trip to that area(s) to see the geology first-hand.

ESCI 3891. Field Methods. (2 cr. ; A-F only; Every Spring) Methods in geologic field mapping.

ESCI 3896. Internship in Earth and Environmental Sciences. (; 1-4 cr. ; Student Option No Audit; Every Fall, Spring & Summer) This course is meant for students who are in the process of doing an internship related earth and environmental sciences at a firm, nonprofit organization, or public agency (at the federal, state, county, or municipal level) that is off-site from the University. The course is designed to help you analyze, reflect on, and construct meaning from your internship experience through the following: 1) self-assessment of personal and career needs and goals, 2) examination of what it means to be a "professional" and operate within professional environments, 3) evaluation of performance & accomplishments, 4) articulation of knowledge and skills via effective resume writing and/or interviewing. You will accomplish this through processing/discussing your internship experience through academic assignments and interaction with fellow classmates and departmental staff. It's important to work with your internship supervisor to create a learning contract that outlines what you plan to learn and accomplish during your internship and how you plan to contribute and add value to the organization. You will complete various additional assignments including blogs, readings, and a resume that will allow you to gain knowledge and insight from your experience. What you gain from this class will be the direct result of the effort you put into it!

ESCI 3911. Introductory Field Geology. (; 4 cr. ; A-F or Audit; Every Summer) Geologic mapping on topographic maps and aerial photos. Field identification of igneous, sedimentary, and metamorphic rocks. Measurement of stratigraphic sections.

Structural/geomorphic features. prereq: ESCI 3891 or instr consent

ESCI 3980. Seminar: Current Topics in Earth & Environmental Sciences. (; 1-4 cr. [max 12 cr.]; S-N or Audit; Periodic Fall & Spring) Topics in Earth sciences investigated in a seminar format, for undergraduate students.

ESCI 4010. Undergraduate Seminar: Current Topics in Earth & Environmental Sciences. (; 1-4 cr. [max 12 cr.]; Student Option; Every Fall & Spring) Topics in earth sciences investigated in a seminar format. prereq: instr consent

ESCI 4093. Directed Studies in Earth & Environmental Sciences: Senior. (; 1-4 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) Directed studies in earth & environmental sciences under the direction of a faculty member. prereq: instr consent

ESCI 4094. Senior Thesis. (; 2 cr. [max 4 cr.]; Student Option; Every Fall, Spring & Summer) Senior-level majors engage in independent research under faculty supervision. Select problems according to individual interests and in consultation with faculty committee. Thesis and oral defense. prereq: Sr, Geo or ESCI major, instr consent

ESCI 4102W. Vertebrate Paleontology: Evolutionary History and Fossil Records of Vertebrates. (WI; 3 cr. ; A-F or Audit; Spring Even Year) Vertebrate evolution (exclusive of mammals) in phylogenetic, temporal, functional, and paleoecological contexts. Vertebrate anatomy. Methods in reconstructing phylogenetic relationships and origin/history of major vertebrate groups, from Cambrian Explosion to modern diversity of vertebrate animals. prereq: 1001 or 1002 or Biol 1001 or Biol 1002 or Biol 1009 or instr consent

ESCI 4103W. Fossil Record of Mammals. (WI; 3 cr. ; A-F or Audit; Spring Odd Year) Evolutionary history of mammals and their extinct relatives. Methods in reconstructing phylogeny. Place of mammals in evolutionary history of vertebrate animals. Major morphological/ecological transitions. Origins of modern groups of mammals. Continuing controversies in studying fossil mammals.

ESCI 4104. Evolution and Paleobiology of Fossil Reptiles. (3 cr. ; A-F or Audit; Spring Odd Year) Reptiles first appear in the fossil record about 315 million years ago as small lizard-like carnivores and diversified greatly into a wide range of ecological roles during the Mesozoic. This radiation includes multiple invasions of the aquatic realm by groups as diverse as turtles, ichthyosaurs, plesiosaurs, and mosasaurs, and also encompasses two of the three groups of vertebrates to evolve active flight, namely birds and pterosaurs. Dinosaurs, most famous among the reptilian clades, dominated terrestrial ecosystems for over 100 million years and evolved large body sizes unsurpassed by any other terrestrial group. This course will cover the fossil record,

evolution and paleobiology of reptiles (including birds) from the Carboniferous to the Present. Using both literature and demonstrations on skeletons/casts, students will learn the basics of reptilian anatomy and biology, and how those are used to infer evolutionary relationships and ecology of the diverse extinct reptilian clades listed above. Methods for inferring phylogenetic relationships, measuring biodiversity in the fossil record, and reconstructing the physiology and life history strategies of extinct reptiles will also be covered. The relationship between major geological events, such as changing climate and continental drift, and the origination, diversification, and extinction of reptilian groups through more than 300 million years of in Earth history will be explored. Prerequisites: ESCI 1001 or ESCI 1002 or Biol 1001 or Biol 1002 or Biol 1009 or instructor consent.

ESCI 4203. Environmental Geophysics. (; 3 cr. ; Student Option; Every Fall) Seismic exploration (reflection and refraction); potential techniques (gravity and magnetics) and electrical techniques of geophysical exploration. prereq: Phys 1301

ESCI 4204. Geomagnetism and Paleomagnetism. (; 3 cr. ; Student Option; Periodic Fall) Present geomagnetic field at the Earth's surface, secular variation, geomagnetic field reversals. Physical and chemical basis of paleomagnetism: origin of natural remanent magnetization, mineralogy of magnetic minerals, magnetic polarity stratigraphy, apparent polar wander, and environmental magnetism. prereq: 2201, Phys 1302, Math 1272 or instr consent

ESCI 4212. Geodynamics. (; 3 cr. ; Student Option; Spring Odd Year) This course focuses on the dynamics of the solid Earth, particularly that of the lithosphere and the asthenosphere, probing further into the geodynamic problems that are introduced in ESCI 2201 through applications of continuum mechanics. Key continuum mechanics concepts to be examined include constitutive relations for different rheological classes (elastic, plastic, viscous, visco-elastic, visco-elasto-plastic), conservation laws (conservation of mass, momentum, and energy; continuity, force balance, and heat transfer), and simplifications and assumptions involved in their applications. Geodynamic problems to be discussed include plate cooling, lithospheric deformation, mantle convection, shear (viscous and frictional) heating, subduction, faulting, and their effects on the Earth's thermochemical structures, geoid and topography, and the distributions of earthquakes and volcanism. Analytical solutions and numerical models of simple geodynamic problems are introduced, and recent applications of complex geodynamic models to explain geological, geophysical, and geochemical observations are discussed based on selected scientific journal articles. Graduate students are expected to present and lead paper discussions, and their performance will be graded and counted towards their participation. Instructor's consent will be

required if the following prerequisites are not met: ESCI 2201, MATH 1371 and 1372 (or equivalent), and PHYS 1301 and 1302 (or equivalent).

ESCI 4401. Aqueous Environmental Geochemistry. (3 cr. ; Student Option; Periodic Spring)

General principles of solution chemistry applied to geology. Solution-mineral equilibria. Redox processes in natural waters. Geochemistry of hydrothermal fluids. Environmental geochemistry.

ESCI 4402. Biogeochemical Cycles in the Ocean. (3 cr. ; Student Option; Spring Even Year)

Marine biogeochemistry and chemical oceanography. Processes controlling chemical composition of oceans past/present. Cycles of major/minor constituents, including carbon, nitrogen, phosphorus, silicon, and oxygen and their isotopes. Role of these cycles in climate system. prereq: [CHEM 1021, CHEM 1022] or instr consent

ESCI 4404. Analytical geochemistry for aqueous solutions and geological materials. (3 cr. ; A-F only; Every Fall)

Chemical analysis of natural samples is essential not only in geochemical research but nearly all other subfields of Earth and Environmental Science research today. Some analytical capability routine to geochemists, such as high precision isotope analysis, has also found potential applications in many other disciplines. Outside academia, chemical analysis is fundamental to many activities directly relevant to our everyday life, ranging from pollution monitoring to soil testing. With the explosion of analytical capability and increasing applications of geochemical analysis, there is greater need for students in Earth and Environmental Sciences to get familiarized with some common analytical instruments and to grasp some fundamental principles of analytical chemistry. This course will introduce several modern analytical equipment with a particular focus on plasma source mass spectrometers, as well as important techniques developed for precise and accurate analysis of geological and environmental samples. During this course, students will have access to some of the most advanced analytical equipment in geochemical research and gain hands-on experience during in-class lab practice. The lab practice is primarily designed to illustrate some key concepts covered in lectures, rather than a comprehensive training on instrument operation. At the end of this course, students are expected to be capable of critically evaluating geochemical data and master a set of analytical skills that can serve their future careers in research or other chemical analysis related professions. This course is designed to be accessible to students with limited prior analytical experiences. Prerequisites recommended to attend this course are PHYS 1301 (or equivalency) and CHEM 1061 (or equivalency).

ESCI 4501. Structural Geology. (3 cr. ; Student Option; Every Fall)

Fundamental concepts related to deformation of Earth's crust. Processes associated with deformation, faulting, folding, fabric development. Lab/recitation include solving problems, conducting physical/numerical experiments. Field trips.

ESCI 4502. Tectonic Styles. (3 cr. ; Student Option; Periodic Fall)

Origin and nature of major types of tectonic disturbances affecting the crust and lithosphere, including analysis of the form and development of individual structural components and relationship to plate tectonics. Changes over geologic time in the nature of orogenic processes. prereq: 4501 or instr consent

ESCI 4602. Sedimentology and Stratigraphy. (3 cr. ; Student Option; Every Spring)

Interpretation of origin of sedimentary rocks through application of basic physical/chemical principles. Modern depositional environments, petrographic microscopy, basin dynamics, stratigraphy. prereq: ESCI 2301 or instr consent

ESCI 4701. Geomorphology. (4 cr. ; Student Option; Every Fall)

Origin, development, and continuing evolution of landforms in various environments. Environmental implications. Weathering, slope and shore processes, fluvial erosion and deposition, arid region processes, glacial processes. This course includes lecture and laboratory components, including field trips. Prereqs: MATH 1271 (Calculus I) or equivalent; PHYS 1301 (Physics I: Classical Mechanics) or equivalent. Instructor consent is required to take this course without the prerequisite courses or their equivalents, and it is recommended to take these classes at least concurrently (as co-requisites) with geomorphology. No help will be given on material covered in prerequisite courses.

ESCI 4702. General Hydrogeology. (4 cr. ; Student Option; Every Spring)

Theory of groundwater geology, hydrologic cycle, watershed hydrology, Darcy's law, governing equations of groundwater motion, flow net analysis, analog models, groundwater resource evaluation/development. Applied analysis of steady and transient equations of groundwater motion and chemical transport. Chemistry of natural waters. prereq: [concurrent registration is required (or allowed) in CHEM 1062, concurrent registration is required (or allowed) in CHEM 1066, MATH 1271, PHYS 1201] or instr consent

ESCI 4703. Glacial Geology. (4 cr. ; Student Option; Fall Odd Year)

Formation and characteristics of modern glaciers; erosional and depositional features of Pleistocene glaciers; history of quaternary environmental changes in glaciated and nonglaciated areas. Field trips and labs. prereq: 1001 or instr consent

ESCI 4801. Geomicrobiology. (3 cr. ; Student Option; Every Spring)

Geosphere/biosphere interactions over temporal/spatial scales. Global biogeochemical cycling, microbe-metal interactions, microbial paleobiology, environmental geomicrobiology,

life detection, habitability of planets. prereq: One semester college level biology

ESCI 4911. Advanced Field Geology. (4 cr. ; A-F or Audit; Every Summer)

Geologic mapping; study of igneous, metamorphic, and sedimentary rocks; structures and surficial features; problem solving. Paper required. prereq: 3911, instr consent

ESCI 4971W. Field Hydrogeology. (WI; 4 cr. ; Student Option; Every Summer)

Aquifer, vadoze zone, and surface water hydrology field techniques. Shallow soil boring, sampling. Well installation. Single/multiple well aquifer testing. Ground water sampling for chemical analysis. Weather data collection, hydrogeologic mapping, water balance calculation. prereq: instr consent

ESCI 5102. Climate Change and Human History. (3 cr. ; Student Option; Spring Even Year)

Causes of long-/short-term climate change. Frequency/magnitude of past climate changes, their geologic records. Relationship of past climate changes to development of agrarian societies and to shifts in power among kingdoms/city-states. Emphasizes last 10,000 years. prereq: 1001 or equiv or instr consent

ESCI 5201. Time-Series Analysis of Geological Phenomena. (3 cr. ; A-F or Audit; Periodic Fall)

Time-series analysis of linear and nonlinear geological and geophysical phenomena. Examples drawn from ice age cycles, earthquakes, climatic fluctuations, volcanic eruptions, atmospheric phenomena, thermal convection and other time-dependent natural phenomena. Modern concepts of nonlinear dynamics and complexity theory applied to geological phenomena. prereq: Math 2263 or instr consent

ESCI 5203. Mineral and Rock Physics. (3 cr. ; Student Option; Periodic Spring)

Physical properties of minerals and rocks as related to the composition and dynamics of the Earth's crust, mantle, and core. prereq: 2201, Phys 1302

ESCI 5204. Geostatistics and Inverse Theory. (3 cr. ; Student Option; Fall Odd Year)

Statistical treatment of geological and geophysical data. Statistical estimation. Stochastic processes/fields. Non-linear/non-assumptive error analysis. Cluster analysis. Eigenvalue-eigenvector methods. Regional variables. Correlograms and kriging. Theoretical framework of linear geostatistics and geophysical inverse theory. prereq: Stat 3011 or instr consent

ESCI 5302. Isotope Geology. (3 cr. ; A-F or Audit; Every Fall)

Theory and uses of radioactive, radiogenic, and stable isotopes in geology. Radioactive dating, geothermometry, and tracer techniques in geologic processes. prereq: 3303W or instr consent

ESCI 5331. Hydrologic Modeling. (3 cr. ; Student Option; Spring Even Year)

Models are indispensable tools in hydrology that come in many shapes, forms, and sizes. The hydrological knowledge and computational skills needed for each can thus greatly vary. Students will be introduced to different hydrologic modeling approaches through hands-on examples (running simulations) and through "looking under the hood" (exposure to numerical methods and coding techniques). The goal is not to become an expert in every type of hydrological model, but it is to gain familiarity with the range of models in the hydrologic toolkit and how they work; be equipped to choose, implement, and interpret models effectively; and know how to critically assess model assumptions, sensitivities, and limitations. Students will learn common techniques for generating and calibrating model inputs, compiling and/or executing models, and plotting results. Prerequisites: Introductory level hydrology / hydrogeology, Calculus, Some previous exposure to Matlab or Python (or another programming language). Students without these prerequisites may contact the instructor to seek consent to register.

ESCI 5341. Numerical Geodynamic Modeling. (3 cr. ; Student Option; Spring Even Year)

The objective of this course is for students to gain a basic understanding of numerical geodynamic modeling. The course consists of a lecture component and in-class modeling exercise component. The lecture component will cover general concepts of continuum mechanics/fluid dynamics, classical geodynamic problems, such as heat transfer and mantle flow, and numerical approaches to solving these problems using the finite difference and finite element methods. Through the in-class modeling exercises and homework assignments, students will learn to write numerical codes to solve simple problems, such as 2-D heat conduction and Stokes flow. prereq: Instructor's consent is required if the following prerequisites are not met: Introductory/first-year Calculus (MATH 1371 and 1372 or equivalent), Linear Algebra and Differential Equations (MATH 2373 or equivalent), Multivariable Calculus and Vector Analysis (MATH 2374 or equivalent), and Introductory/first-year physics (PHYS 1301 and 1302 or equivalent).

ESCI 5353. Electron Microprobe Theory and Practice. (3 cr. ; Student Option; Periodic Fall)

Characterizing solid materials with electron beam instrumentation, including reduction of X-ray data to chemical compositions. prereq: [One yr chem, one yr physics] or instr consent

ESCI 5402. Science and Politics of Global Warming. (3 cr. ; Student Option; Spring Odd Year)

Detection/attribution of global warming using radiation, climate system, and carbon cycle. Effects on society/biodiversity. National/global efforts. Controversy over responses/consequences.

ESCI 5403. Computer Applications in Earth & Environmental Sciences. (3 cr. ; Student Option No Audit; Every Spring)

This class is meant to provide students with skills in scientific computer programming, with a special focus on the Earth & environmental sciences and other disciplines where spatial data are important. The course assumes no previous knowledge of computer programming. Although the class will use MATLAB, topics covered in the course include concepts common to all programming languages including functions, logic, branching, loops, data types, binary code, data formatting for input/output, among others. Additionally, students will develop problem-solving skills in learning how to design algorithms to achieve a task and in learning how to troubleshoot and debug their code. Students taking the class at the 5xxx level will be required to complete a programming project related to their own research. This course will be different from other introductory-level programming courses in that it will have a spatial emphasis and focus on examples and datasets related to the Earth and environmental sciences. Students will learn how to access a variety of Earth and environmental science data repositories and work with data in standard formats (i.e. NetCDF). Working with geographically referenced data in different projections will be explored using different toolboxes available for that purpose. Plotting of data will also be extensively covered including the production of publication-quality figures and animations.

ESCI 5503. Advanced Petrology. (3 cr. ; Student Option; Fall Odd Year)

Quantitative approach to modern igneous/metamorphic petrology. Emphasizes thermodynamics of minerals/melts and with applications to phase diagrams, thermobarometry, melting relationships, and energetics of petrologic mass transfer. prereq: 2302, CHEM 1061, CHEM 1065, [MATH 1372 or MATH 1272 or MATH 1572]

ESCI 5705. Limnogeology and Paleoenvironment. (3 cr. ; Student Option; Periodic Fall)

Within-lake, hydrogeologic, and landscape (geological/biological) processes that lead to formation of various proxy records of paleoenvironment. Systems approach to physical, geochemical, biogeochemical, and biotic proxies. Basic principles, case studies. Emphasizes how proxy records relate to paleoclimate. prereq: instr consent

ESCI 5805. Standards and Practices for Professional Geoscientists. (3 cr. ; Student Option; Every Spring)

This course is meant to provide students with a clear understanding of the standards and practices regularly used by Geoscience professionals in industry and agency. The course builds on the foundational knowledge offered through the core curriculum of the Earth Sciences undergraduate major, and fills a critical gap in showing how this knowledge is translated into common standards and practices, regulations, funding mechanisms, and even professional expectations within a variety of geoscience disciplines. In short, this course aims to smooth a student's transition from University to an entry-level position

from which they can build a successful and sustainable career. This course is targeted for both upper level undergraduates and graduate students. Aspects of the course include: - Detailed discussion of regional stratigraphy, bedrock and glacial geology and how they relate to various industrial applications and environmental issues. - Examination of state and federal environmental regulations, as well as the phases of environmental impact statements. - Survey of fundamental investigation techniques (GeoProbe drilling, hollow-stem auger drilling, well installation, analytical testing of soil, groundwater, air). - Introduction to environmental clean-up grants and their management. - Assessment of topics covered in the National Association of State Boards of Geology (ASBOG) Fundamentals of Geology (FG) exam. This exam is a required step on the way to becoming a registered geologist. The exam is offered in mid-March, and the expectation is that students participating in the class will take it. - Coordination and completion of the 40 hour HAZWOPER training through UMN. - Invited lectures from select representatives of various subfields and professional organizations (groundwater & contaminant hydrogeology, mining & geophysical exploration, environmental engineering, petroleum) to give students a jumpstart in their professional networking.

ESCI 5971. Field Hydrogeology. (2 cr. ; Student Option; Every Summer)

Aquifer, vadoze zone, and surface water hydrology field techniques. Shallow soil boring and sampling. Well installation. Single/multiple well aquifer testing. Ground water sampling for chemical analysis. Weather data collection, hydrogeologic mapping, water balance calculation. prereq: instr consent

ESCI 5980. Seminar: Current Topics in Earth Sciences. (1-4 cr. [max 12 cr.] ; S-N or Audit; Periodic Fall & Spring)

Topics in earth sciences investigated in a seminar format.

East Asian Studies (EAS)

EAS 3461. Introduction to East Asia I: The Imperial Age. (3-4 cr. ; Student Option; Every Fall & Spring)

Comparative survey of early history of China, Japan, Korea, and Vietnam; early Chinese thought; diffusion of Confucianism, Buddhism, and other values throughout East Asia; political and social history of region to 1600.

EAS 3462. From Subjects to Citizens: The History of East Asia From 1500 to the Present. (GP,HIS; 3-4 cr. ; Student Option; Every Spring)

How Asian states, societies, economies, and cultures linked with one another and with European powers. How period's historical effects still resonate. Covers India, China, Japan, Korea, and Indochina.

EAS 3462H. Honors: From Subjects to Citizens: The History of East Asia from 1500 to the Present. (GP,HIS; 3-4 cr. ; A-F only; Every Spring)

How Asian states, societies, economies, cultures linked with one another/European powers. Historical effects. Covers India, China, Japan, Korea, Indochina.

EAS 3468. Social Change in Modern China. (; 3 cr. ; Student Option; Every Fall)

Opium War and opening of Treaty Ports in 19th century; missionary activity and cultural influence; changes in education system; women's movement; early industrialization; socialism and collectivization after 1949; industrialization of Taiwan; PRC's entry into the world trading system.

EAS 3471. Modern Japan, Meiji to the Present (1868-2000). (HIS; 3 cr. ; Student Option; Every Fall & Spring)

Japan's early development as industrial/imperial power after Meiji Restoration of 1868. Political developments in Taisho years: social, cultural, economic trends that supported them. Militarization/mobilization for war in 1930s. Japan's war with China, Pacific War with the United States. American occupation. Postwar economic recovery, high growth. Changing political/popular culture of 1980s, '90s.

Ecology, Evolution, and Behav (EEB)

EEB 3001. Ecology and Society. (ENV; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer) Basic concepts in ecology. Organization, development, function of ecosystem. Population growth/regulation. Human effect on ecosystems. prereq: [Jr or sr] recommended; biological sciences students may not apply cr toward major

EEB 3002. Sex, Evolution, and Behavior: Examining Human Evolutionary Biology. (; 4 cr. ; A-F or Audit; Every Spring)

Methods/theories to understand humans in evolutionary framework. What can be known only/primarily from evolutionary perspective. How evolutionary biology of humans might lead to better evolutionary theory. How physiology, development, behavior, and ecology coordinate/coevolve in humans.

EEB 3407. Ecology. (3 cr. ; Student Option; Every Fall & Summer)

Principles of ecology from populations to ecosystems. Applications to human populations, disease, exotic organisms, habitat fragmentation, biodiversity and global dynamics of the earth.

EEB 3408W. Ecology. (WI; 4 cr. ; Student Option; Every Spring)

Principles of population growth/interactions, communities and ecosystem function applied to ecological issues. Regulation of populations, dynamics/impacts of disease, invasions by exotic organisms, biodiversity, global change. Lab. Scientific writing. Quantitative skill development (mathematical models, data analysis, statistics and some coding in R). prereq: [One semester college biology or instr consent], [MATH 1142 or MATH 1271 or Math 1272 or Math 1241 or Math 1242 or MATH 1281 or Math 1282 or equiv]

EEB 3409. Evolution. (3 cr. ; Student Option; Every Fall & Spring)

Diversity of forms in fossil record and in presently existing biology. Genetic mechanisms of evolution, including natural selection, sexual selection, genetic drift. Examples of ongoing evolution in wild/domesticated populations and in disease-causing organisms. Lab. prereq: One semester college biology

EEB 3411. Introduction to Animal Behavior. (3 cr. ; Student Option; Every Fall)

This course provides a broad introduction to animal behavior. As one of the most interdisciplinary fields in all of biology, understanding animal behavior requires an understanding of cell biology, physiology, genetics, development, ecology, endocrinology, evolution, learning theory, and even physics and economics! This course will draw on questions and methods from each of these disciplines to answer what on the surface appears to be a very simple question: ?Why is that animal doing that?? The course will review such key topics as feeding behavior, reproductive behavior, perception, learning, animal conflict, social behavior, parental care, and communication. The lecture parallels a required laboratory. prereq: Undergrad biology course Credit granted for only one of the following: EEB 3411, EEB 3412W, EEB 3811W, EEB 5412

EEB 3412W. Introduction to Animal Behavior, Writing Intensive. (WI; 4 cr. ; Student Option No Audit; Every Spring)

EEB 3412W is a lecture/lab writing-intensive course. Why do animals behave the way they do? This question is relevant to conservation, agriculture, human health, veterinary medicine, developing artificial intelligence, and understanding the origins of human behavior. This writing intensive course provides a broad introduction to animal behavior. As one of the most interdisciplinary fields in all of biology, understanding animal behavior requires an understanding of cell biology, physiology, genetics, development, ecology, endocrinology, evolution, learning theory, and even physics and economics! This course will draw on questions and methods from each of these disciplines to answer what on the surface appears to be a very simple question: Why is that animal doing that? The course will review such key topics as feeding behavior, reproductive behavior, perception, learning, animal conflict, social behavior, parental care, and communication. Throughout the course, students will be immersed in the scientific process, reading scientific literature, thinking critically, formulating their own research questions and answering them in an independent project. This is a writing intensive course that covers scientific process and how to formulate research questions. prereq: Undergrad biology course Credit granted for only one of the following: EEB 3411, EEB 3412W, EEB 3811W, EEB 5412

EEB 3500. Special Topics in Ecology, Evolution and Behavior. (; 1-3 cr. [max 4 cr.] ; S-N only; Every Fall & Spring) Special Topics in Ecology, Evolution and Behavior

EEB 3603. Science, Protection, and Management of Aquatic Environments. (; 3 cr. ; Student Option; Every Spring)

Fundamentals of aquatic ecology. Case study approach to water problems faced by society (e.g., eutrophication, climate change, invasive species, acid rain, wetland protection, biodiversity preservation). Science used to diagnose/remediate or remove problems. prereq: One semester college biology

EEB 3701. EEB Seminar. (; 1 cr. ; S-N only; Every Fall & Spring)

Learn about recent developments in cutting-edge topics in the area of Ecology, Education and Behavior and engage with the EEB community of faculty, graduate students and post docs and observe professional norms in the field. Engage directly with practicing scientists and the primary literature from their work and learn how to give a scientific talk by observing and critically evaluating and discussing seminars.

EEB 3807. Ecology. (4 cr. ; A-F or Audit; Every Summer)

Population growth/interactions. Ecosystem function applied to ecological issues. Regulation of human populations, dynamics/impacts of disease, invasions by exotic organisms, habitat fragmentation, biodiversity. Lab, field work. prereq: [One semester college biology], [MATH 1142 or MATH 1271 or MATH 1281 or equiv]

EEB 3811W. Animal Behavior in the Field. (WI; 4 cr. ; A-F or Audit; Every Summer)

In this course we will learn general principles governing the evolution of animal behavior. Being conducted at a field station, the approach is hands-on experiential learning through the application of the scientific method to the study of animal behavior. Thus, we will learn animal behavior by becoming animal behaviorists. Animal behaviorists communicate to one another through written reports in peer-reviewed literature and through oral talks at meetings. We will do both of these. All of these experiences culminate in the design, execution and presentation (written and oral) of an independent research project. Therefore, it is appropriate that this course is designated as writing-intensive. Writing comprises 90 points out of the course total of 140 points, representing 64% of the course grade. This is course meets two days per week from 8AM to 12N and from 1PM to 5PM over a 5-week period in May/June at the Itasca Biological Station and Labs. prereq: Undergrad biology course Credit granted for only one of the following: EEB 3411, EEB 3412W, EEB 3811W, EEB 5412

EEB 3851W. Health and Biodiversity. (ENV,WI; 3 cr. ; A-F only; Every Spring)

Basics of biodiversity, human/animal health, interdependence. Strategies for sustainable health. prereq: At least one year of college Biology or equivalent

EEB 4068. Plant Physiological Ecology. (; 3 cr. ; Student Option No Audit; Spring Even Year)

Plant function, its plasticity/diversity in an ecological context. Impact of environmental

stresses on major physiological processes of plants, including photosynthesis, respiration, water uptake/transport, and nutrient uptake/assimilation. Lab, field trip to Cedar Creek.

EEB 4129. Mammalogy. (; 4 cr. ; A-F or Audit; Every Fall)

Evolutionary and biogeographic history of mammalia. Recognize, identify, and study natural history of mammals at the ordinal level, North American mammals at familial level, and mammals north of Mexico at generic level. Minnesota mammals at specific level. Includes lab. prereq: Biol 1001 or Biol 2012

EEB 4134. Introduction to Ornithology. (; 4 cr. ; Student Option; Every Spring)

Structure, evolution, classification, distribution, migration, ecology, habitats, identification of birds. Lecture, lab, weekly field walks. One weekend field trip. prereq: Biol 1001 or Biol 2012

EEB 4329. Primate Ecology and Social Behavior. (; 3 cr. ; A-F or Audit; Periodic Fall)

Primates as model system to explore animal/human behavior. Factors influencing sociality/group composition. Mating systems. Prevalence of altruistic, cooperative, and aggressive behavior. Strength of social bonds in different species. Evolution of intelligence/culture. prereq: BIOL 1009 or BIOL 1951 or BIOL 3411 or ANTH 1001 or instr consent

EEB 4330W. Animal Communication. (WI; 3 cr. ; A-F or Audit; Fall Odd Year)

Mechanisms of signal production/perception, signal propagation. How signals can convey information. How signalers, signals, receivers are adapted for communication by natural/sexual selection. prereq: (Biol 1951 or Biol 1951H or Biol 1009) and (EEB 3412W or EEB 3411 or EEB 3811W)

EEB 4332W. The Biology of Politics. (WI; 3 cr. ; A-F only; Every Fall)

Survey of primary literature exploring the potential biological underpinnings of individual differences in political ideology. Students will critically examine peer-reviewed studies of behavioral genetics, physiology, neuroscience, animal behavior, and evolution to evaluate evidence for and against the claims that one's political ideology is shaped by biology and that people holding conservative and liberal views may be biologically predisposed to experience and interact with the world differently. Students will examine how biological influences on cognition, social and moral attitudes, and behaviors relate to individual differences in political ideology, with the ultimate goal of assessing whether an understanding of the biology of politics is required to fully contextualize political discourse in a democracy.

EEB 4609W. Ecosystem Ecology. (ENV,WI; 3 cr. ; Student Option; Every Fall)

Regulation of energy and elements cycling through ecosystems. Dependence of cycles on kinds/numbers of species within ecosystems. Effects of human-induced global changes on functioning of ecosystems.

EEB 4611. Biogeochemical Processes. (3 cr. ; Student Option; Periodic Spring)

Application of biochemistry, ecology, chemistry, and physics to environmental issues. Issues in biogeochemistry. Impact of humans on biogeochemical processes in soils, lakes, oceans, estuaries, forests, urban/managed ecosystems, and extreme environments (e.g., early Earth, deep sea vents, thermal springs). prereq: [BIOL 1009 or 2003] AND [CHEM 1081 or 1061 or 1071H] or instr consent

EEB 4793W. Directed Studies: Writing Intensive. (WI; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Writing Intensive Directed Studies is an individual-study, literature-based investigation in which the student is mentored directly by a faculty member. One main feature of this course is that the student will receive writing instruction and the written output of the course will be revised during the semester. The project needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, how writing instruction will take place, a timeline for when student writing will be handed in and how it will be assessed, methodology to be used by the student, and how assessment of learning will be conducted by the mentor. Additional oversight is established for this course near the end of the semester the written output is submitted to the DUGS for the major. The DUGS is responsible to determine that the writing meets standards set by the CBS Education Policy Committee for quality of writing, appropriate citation of literature, well-constructed figures, tables, and legends (if present), appropriate use and interpretation of statistics (if present), conclusions that are supported by evidence, and well-formatted references. This course is graded S/N and approval of the DUGS is required before a grade of S can be given by the faculty mentor. prereq: department consent, instructor consent, no more than 7 credits of 4793W, 4794W, 4993, 4994 counts towards CBS major requirements.

EEB 4794W. Directed Research: Writing Intensive. (WI; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Writing Intensive Directed Research is an individual-study, laboratory or field research experience in which the student is mentored directly by a faculty member. This course is intended for students who already have initiated a research project in the lab of the mentor and already have results. In this course the student will receive writing instruction. The written output usually is in the form of a scientific paper describing the results of the student's project. Written output of the course must be revised during the semester and a schedule for writing, assessment and revision needs to be in place at the beginning of the semester. The project needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the Director of Undergraduate Studies (DUGS)

for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, how writing instruction will take place, a timeline for when student writing will be handed in and how it will be assessed, methodology to be used by the student, and how assessment of learning will be conducted by the mentor. Additional oversight is established for this course - near the end of the semester the written output is submitted to the DUGS for the major. The DUGS is responsible to determine that the writing meets standards set by the CBS Education Policy Committee for quality of writing, appropriate citation of literature, well-constructed figures, tables, and legends (if present), appropriate use and interpretation of statistics (if present), conclusions that are supported by evidence, and well-formatted references. The DUGS can call for a final revision before a grade is given. This course is graded S/N and approval of the DUGS is required before a grade of S can be given by the faculty mentor. prereq: department consent, instructor consent, no more than 7 credits of 4793, 4794, 4993W, 4994W counts towards CBS major requirements.

EEB 4839. Field Studies in Mammalogy. (4 cr. ; A-F or Audit; Every Summer)

Techniques for studying small mammals. Lectures/field projects emphasize identification, distributions, community interactions, ecophysiology, population ecology. prereq: College-level biology course that includes study of animals or instr consent

EEB 4844. Field Ornithology. (3 cr. [max 4 cr.]; A-F or Audit; Every Summer)

Biology of breeding birds through use of field techniques at Itasca Biological Station/Laboratories. Daily fieldwork emphasizes identification, behavioral observations, netting/censusing. prereq: One semester college biology or instr consent

EEB 4993. Directed Studies. (; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Directed Studies is an individual-study, literature-based investigation in which the student is mentored directly by a faculty member. The topic for the course needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. prereq: department consent, instructor consent, no more than 7 credits of 4793W, 4794W, 4993, 4994 counts towards CBS major requirements.

EEB 4994. Directed Research. (; 1-6 cr. [max 42 cr.]; S-N only; Every Fall, Spring & Summer)

Directed Research is an individual-study, laboratory or field investigation course. The research topic needs to be agreed on by both the student and the faculty mentor and explained in a Research/Directed Studies

contract. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. prereq: department consent, instructor consent, no more than 7 credits of 4793W, 4794W, 4993, 4994 counts towards CBS major requirements.

EEB 5042. Quantitative Genetics. (; 3 cr. ; A-F only; Every Fall)

Fundamentals of quantitative genetics. Genetic/environmental influences on expression of quantitative traits. Approaches to characterizing genetic basis of trait variation. Processes that lead to change in quantitative traits. Applied/evolutionary aspects of quantitative genetic variation. prereq: [BIOL 4003 or GCD 3022] or instr consent; a course in statistics is recommended

EEB 5053. Ecology: Theory and Concepts. (; 4 cr. ; Student Option; Fall Odd Year)

Classical and modern mathematical theories of population growth, interspecific interactions, ecosystem dynamics and functioning, with emphasis on underlying assumptions and on effects of added biological reality on robustness of predictions, stability, interspecific interactions, ecosystem structure and functioning. prereq: Biol 3407 or instr consent

EEB 5068. Plant Physiological Ecology. (; 3 cr. ; Student Option No Audit; Spring Even Year)

Plant function, its plasticity/diversity in ecological context. Impact of environmental stresses on major physiological processes of plants, including photosynthesis, respiration, water uptake/transport, and nutrient uptake/assimilation. Lab, field trip to Cedar Creek. prereq: BIOL 2022 or BIOL 3002 or BIOL 3407 or BIOL 3408W or instr consent

EEB 5371. Principles of Systematics. (; 3 cr. ; Student Option; Fall Odd Year)

Theoretical/practical procedures of biological systematics. Phylogeny reconstruction. Computer-assisted analyses, morphological and molecular approaches, species concepts/speciation, comparative methods, classification, historical biogeography, nomenclature, use/value of museums. prereq: Grad student or instr consent

EEB 5381. Sustainability Science: Interactions Between Human and Environmental Systems. (3 cr. ; Student Option No Audit; Spring Odd Year)

This course addresses core ideas in sustainability science -- an emerging field of problem-driven research dealing with the interactions between human and environmental systems. The problem that motivates the course, and the field, is the challenge of sustainability: improving the well-being of present and future generations in ways that conserve the planet's life support systems over the long term. The goal of the course is to introduce students interested in sustainability science to the field's principle themes, cutting-edge findings, active debates, and unresolved

research questions. To this end, participants will critically discuss a set of presentations and papers covering the field in a systematic way, drawing on and integrating contemporary research from earth systems science, resource economics, institutional analysis, ecology, geography, development studies, health sciences, engineering, and other disciplines.

EEB 5407. Ecology. (3 cr. ; Student Option; Every Fall)

Principles of ecology from populations to ecosystems. Applications to human populations, disease, exotic organisms, habitat fragmentation, biodiversity, and global dynamics of the earth.

EEB 5409. Evolution. (3 cr. ; Student Option; Every Fall & Spring)

Diversity of forms in fossil record and in presently existing biology. Genetic mechanisms of evolution, including natural selection, sexual selection, genetic drift. Examples of ongoing evolution in wild/domesticated populations and in disease-causing organisms. Lab. prereq: One semester college biology

EEB 5412. Introduction to Animal Behavior. (3 cr. ; Student Option No Audit; Every Fall & Spring)

EEB 5412 is a lecture-only course for graduate students. Why do animals behave the way they do? This question is relevant to conservation, agriculture, human health, veterinary medicine, developing artificial intelligence and understanding the origins of human behavior. This writing intensive course provides a broad introduction to animal behavior. As one of the most interdisciplinary fields in all of biology, understanding animal behavior requires an understanding of cell biology, physiology, genetics, development, ecology, endocrinology, evolution, learning theory, and even physics and economics! This course will draw on questions and methods from each of these disciplines to answer what on the surface appears to be a very simple question: Why is that animal doing that? The course will review such key topics as feeding behavior, reproductive behavior, perception, learning, animal conflict, social behavior, parental care, and communication. Throughout the course, students will be immersed in the scientific process, reading scientific literature, thinking critically, formulating their own research questions, and answering them in an independent project. This is a writing intensive course that covers scientific process and how to formulate research questions. prereq: Undergrad biology course Credit granted for only one of the following: EEB 3411, EEB 3412W, EEB 3811W, EEB 5412

EEB 5534. Biodiversity Sci: The origins, maintenance, consequences, detection and assessment of biodiversity. (ENV; 3 cr. ; Student Option; Every Fall & Spring)

Biodiversity science is a rapidly expanding field of enquiry with increasing digital resources and global monitoring capabilities precisely at the moment in history that scientists recognize as the Sixth Extinction. In other words, we are currently facing a biodiversity crisis with threats to the Earth's biota not seen since

the dinosaurs perished 65 million years ago. "Biodiversity" was coined by W.G. Rosen and E.O Wilson in the 1980s to describe the variation in all of life on Earth. The term is now widely used in both the scientific and popular literature and is at the center of scientific enquiry, conservation efforts, large-scale collaborative pursuits of technological advances to allow monitoring from space, and global assessments that interface with international policy. Biodiversity requires integration across multiple disciplines from evolution, to ecology, remote sensing, conservation biology, economics and the social sciences, including the environmental policy. Biodiversity science is thus inherently interdisciplinary. As a consequence, rarely does a single course provide students the opportunity to focus on this critical topic from multiple perspectives and dimensions. This new course seeks to provide students intensive study of biodiversity from six perspectives: 1) the origins of biodiversity, including the processes of speciation and extinction over macroevolutionary timescales and those involved in generating biological variation at microevolutionary scales; 2) the ecological problem of species coexistence, given the nature of competitive interactions and biological filters with a focus on the interactions of individual species and major threats to biodiversity; 3) the consequences of biodiversity and biodiversity loss for ecosystem functions, focusing on ecosystem scale processes; 4) the services or benefits to humans attributed to biodiversity, including cultural benefits of biodiversity; here we discuss both practical and ethical arguments for sustaining biodiversity; 5) methods of detecting biodiversity including classic field biodiversity observations and taxonomic collections and emerging remote sensing methods that harness hyperspectral data and satellite imagery; and 6) scientific assessments of biodiversity that communicate the science of biodiversity to policymakers, particularly the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). The IPBES involves scientists from around the world and integrates indigenous and local knowledge (ILK). The United Nations and governments around the globe are sponsoring the IPBES, building on earlier assessments such as a prominent one in the UK. Several guest lecturers from across the University will participate in discussions and aid in development of computer labs (including Sharon Jansa (CBS), Keith Barker (CBS), Joe Knight (CFANS), and others).

EEB 5601. Limnology. (; 3 cr. ; Student Option; Every Fall)

Advanced introduction to description/analysis of interaction of physical, chemical, and biological factors that control functioning of life in lakes and other freshwater aquatic environments. prereq: Grad student or instr consent

EEB 5609. Ecosystem Ecology. (; 3 cr. ; Student Option; Every Fall)

Regulation of energy and elements cycling through ecosystems. Dependence of cycles on

kinds/numbers of species within ecosystems. Effects of human-induced global changes on functioning of ecosystems.

EEB 5611. Biogeochemical Processes. (3 cr. ; Student Option; Periodic Spring)
Application of biochemistry, ecology, chemistry, and physics to environmental issues. Issues in biogeochemistry. Impact of humans on biogeochemical processes in soils, lakes, oceans, estuaries, forests, urban/managed ecosystems, and extreme environments (e.g., early Earth, deep sea vents, thermal springs). prereq: [BIOC 2331, CHEM 2301] or instr consent

EEB 5851. Health and Biodiversity. (ENV; 3 cr. ; A-F only; Every Spring)
Basics of biodiversity, human/animal health, interdependence. Strategies for sustainable health. prereq: At least one year of college Biology or equivalent

Economics (ECON)

ECON 1101. Principles of Microeconomics. (GP,SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)
Microeconomic behavior of consumers, firms, and markets in domestic and world economy. Demand and supply. Competition and monopoly. Distribution of income. Economic interdependencies in the global economy. Effects of global linkages on individual decisions. prereq: knowledge of plane geometry and advanced algebra

ECON 1102. Principles of Macroeconomics. (; 4 cr. ; Student Option; Every Fall, Spring & Summer)
Aggregate consumption, saving, investment, and national income. Role of money, banking, and business cycles in domestic and world economy. International trade, growth, and development. U.S. economy and its role in the world economy. International interdependencies among nations. prereq: [1101 or equiv], knowledge of plane geometry and advanced algebra

ECON 1165. Business Economics. (SOCS; 4 cr. ; A-F only; Every Fall & Spring)
This course introduces the fundamentals of microeconomics and macroeconomics to business/other students who desire a primer on the working of an economy in a mutually dependent world. It includes the microeconomic interaction of businesses and consumers in markets and the determination of prices and quantities under conditions of competition and monopoly. Economic interdependencies in the global economy are analyzed to obtain the effects of economic changes on the country itself and on the world. The macroeconomics of aggregate consumption, saving, investment, and national income are also examined, as well as the role played by money, banking, and business cycles in the domestic and world economy. This course is only for CSOM undergraduate students.

ECON 2020. The Economics of COVID-19. (; 1 cr. ; Student Option; Periodic Summer)

This course explores incorporating the standard epidemiology models of disease into economic modeling. The student will gain an understanding of how these epidemiology models work, and how they can be extended to allow the careful consideration of the tradeoffs inherent in choosing safety vs. economic well being. Topics will include SIR models from epidemiology, how contagious disease relates to standard economic concepts such as externalities, calculations of the Statistical Value of Life from economics, and the uses and pitfalls of mathematical modeling.

ECON 3101. Intermediate Microeconomics. (; 4 cr. ; A-F only; Every Fall, Spring & Summer)
Behavior of households, firms, and industries under competitive/monopolistic conditions. Factors influencing production, price, and other decisions. Applications of theory. Economic efficiency. Distribution of well-being. prereq: [[1101, 1102] or equiv], [MATH 1271 or equiv]

ECON 3102. Intermediate Macroeconomics. (; 4 cr. ; A-F only; Every Fall, Spring & Summer)
Determinants of national income, employment, and price level; effects of monetary and fiscal policies; emphasis on a general equilibrium approach. Applications of the theory, especially to current modern macroeconomic policy issues. ApEc 3006 cannot be substituted for Econ 3102. prereq: 3101 or equiv

ECON 3896. Internship for Academic Credit. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)
An applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals, which may be related to a student's major field or area of interest. The work can be full or part time, paid or unpaid, primarily in off-campus environments. Internships integrate classroom knowledge and theory with practical application and skill development in professional or community settings. The skills and knowledge learned should be transferable to other employment settings and not simply to advance the operations of the employer. The student's work is supervised and evaluated by a site coordinator or instructor.

ECON 3951. Economics Capstone. (; 2 cr. ; A-F only; Every Fall, Spring & Summer)
Students produce a significant written work in economics. Projects demonstrate critical thinking, collection/analysis of data, problem solving, interpretation of findings. Modes of inquiry in economics. prereq: 3101, 3102, [STAT 3011 or equiv], [STAT 3022 or equiv], two [3xxx or 4xxx] ECON courses, at least one 4xxx ECON writing intensive course, freshman writing requirement satisfied

ECON 3960. Topics in Economics: Area Studies. (; 3 cr. [max 6 cr.]; A-F only; Every Fall & Spring)
Topics specified in class schedule. prereq: [1101, 1102] or equiv

ECON 3970. Topics in Economics. (; 3 cr. [max 6 cr.]; A-F only; Periodic Fall & Spring)

Topics specified in class schedule. prereq: ECON 3101 and 3102 or equivalents

ECON 3991. Independent Study. (; 1-3 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Students confirm topic of study with faculty supervisor or with director of undergraduate studies before beginning (otherwise no credit). prereq: 3101, 3102, dept consent

ECON 3993. Directed Studies. (; 1-3 cr. ; Student Option; Every Fall, Spring & Summer)
Guided individual reading or study in areas not available in regular course offerings. prereq: 3101, 3102, 4261, two semesters of statistics

ECON 4108. Advanced Game Theory and Applications. (4 cr. ; A-F only; Every Fall)
For Econ B.S. students only. Games. Normal form, extensive form. Wars of attrition. Games of timing. Bargaining applications in industrial organization, macroeconomics, international economics. prereq: ECON 3101, 3102, MATH 1271, MATH 1272 [or equiv courses]; and two 4xxx level ECON electives.

ECON 4113. Introduction to Mathematical Economics. (; 4 cr. ; A-F only; Periodic Fall & Spring)
Development of selected models of economic behavior in mathematical terms. Topics selected to illustrate advantages of mathematical formulation. prereq: [[3101, 3102] or equiv], [MATH 1271, MATH 1272, MATH 2243] or equiv]

ECON 4115. Uncertainty and Information. (4 cr. ; A-F only; Every Fall & Spring)
For Econ B.S. students only. This Microeconomic theory course focuses on economies under uncertainty with possibly asymmetric information. Individual behavior of consumers and that of markets are studied under uncertainty with incomplete information. Related topics in technology and innovation. the information economy, and networks will be examined. prereq: [[3101, 3102]] or equiv, [[MATH 1271, MATH 1272, and Math 2243] or equiv]; strongly suggest students complete Stat 4101 before taking this course; students should have successfully completed two 4xxx level UMNTC economics courses.

ECON 4118. Advanced Mathematical Economics. (4 cr. ; A-F only; Periodic Fall & Spring)
Development of selected models of economic behavior in mathematical terms. Topics selected to illustrate advantages of mathematical formulation. prereq: ECON 3101, 3102, MATH 1271, MATH 1272, MATH 2243 or equivalent courses; and at least two 4xxx level economics electives.

ECON 4161. Microeconomic Analysis I. (; 2 cr. ; A-F only; Every Fall)
Theories of consumer demand, producer supply, and market equilibrium. General equilibrium and welfare. May include topics such as externalities, economics of information/uncertainty. Seven-week course. prereq: 3101, 3102, MATH 2243, MATH 2263, [[STAT 4101, STAT 4102] or equiv]

ECON 4162. Microeconomic Analysis II. (; 2 cr. ; A-F or Audit; Every Fall)

Theories of consumer, producer, and market equilibrium. Includes general equilibrium, welfare, externalities, topics in information and uncertainty, and game theory. Seven-week course. prereq: 3101, 3102, 4161, MATH 2243, MATH 2263, [[STAT 4101, STAT 4102] or equiv]

ECON 4163. Microeconomic Analysis III. (; 2 cr. ; A-F only; Every Spring)

The course is an introduction to basic concepts of stochastic calculus and application in economic analysis and finance. The aim of the course is to provide a treatment of the prerequisites. The requirements are basic probability and real analysis concepts; these will be reviewed in the first lectures. prereq: 3101, 3102, 4162, MATH 2243, MATH 2263, dept consent

ECON 4164. Microeconomic Analysis IV. (; 2 cr. ; A-F only; Every Spring)

Theory and applications of dynamic optimal control to economic environments. Analysis of barrier problems, where a single decision must be made at some point in time; analysis of optimal control problems where multiple, continuous decisions are made over time. May include investment decisions, regulated decision-making and elements of dynamic contracting. prereq: 3101, 3102, 4163, MATH 2243, MATH 2263, [[STAT 4101, STAT 4102] or equiv], dept consent

ECON 4165. Macroeconomic Theory. (; 2 cr. ; Student Option; Every Fall)

Dynamic general equilibrium models: solving for paths of interest rates, consumption, investment, and prices. Seven-week course. Meets with 8105. prereq: 3101, 3102, MATH 2243, MATH 2263, [[STAT 4101, STAT 4102] or equiv], dept consent

ECON 4166. Macroeconomic Theory. (; 2 cr. ; Student Option; Every Fall)

Dynamic general equilibrium models: solving for paths of interest rates, consumption, investment, and prices. Seven-week course. Meets with 8106. prereq: 3101, 3102, 4165, MATH 2243, MATH 2263, [[STAT 4101, STAT 4102] or equiv], dept consent

ECON 4167. Macroeconomic Theory. (; 2 cr. ; Student Option; Every Spring)

General equilibrium models with uncertainty, search, matching, indivisibilities, private information. Implications of theory for measurement and data reporting. Overlapping generations, dynasty models with money/government. Variational/recursive methods. Seven-week course. Meets with 8107. prereq: 3101, 3102, 4166, MATH 2243, MATH 2263, [[STAT 4101, STAT 4102] or equiv], dept consent

ECON 4168. Macroeconomic Theory. (; 2 cr. ; Student Option; Every Spring)

General equilibrium models with uncertainty, search, matching, indivisibilities, private information. Implications of theory for measurement and data reporting. Overlapping generations, dynasty models with money/government. Variational/recursive methods. Seven-week course. Meets with 8108. prereq: 3101, 3102, 4167, MATH 2243, MATH 2263,

[[STAT 4101, STAT 4102] or equiv], dept consent

ECON 4211. Principles of Econometrics. (4 cr. ; Student Option; Every Fall)

Data analysis/quantitative methods in economics. Violation of classical regression model assumptions, modified estimation procedures that retain desirable properties. Multi-equation models. Computer applications/interpretation of empirical results. prereq: [3101 or equiv], [Stat 3011 or equivalent, Stat 3022 or equivalent] or higher level Stat courses]

ECON 4261. Introduction to Econometrics. (; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

For Econ B.S. majors only. Review of basic linear regression model, its variants. Time series/simultaneous equation models. Material may include panel data, censored/truncated regressions, discrete choice models. prereq: [3101 or equiv], [[Math 1271, Math 1272] or equiv], Math 2243, Math 2263, [[Stat 4101, Stat 4102] or [Stat 5101, Stat 5102]]; Math 4242 strongly recommended

ECON 4311. Economy of Latin America. (; 3 cr. ; Student Option; Every Fall & Spring)

Economic evolution in Latin America since 1950. Trade liberalization, poverty, inflation, development strategies in selected Latin American countries. Theory/applications of important issues. prereq: [1101, 1102] or equiv

ECON 4317. The Chinese Economy. (3 cr. ; A-F only; Every Fall, Spring & Summer)

Overview of the Chinese Economy; transition from command economy to a market-based one and effects on economic indicators; current economic issues and concerns of the Chinese economy; role of China in today's world economy.

ECON 4331W. Economic Development. (WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Economic growth in low income countries. Theory of aggregate and per capita income growth. Population growth, productivity increases, and capital formation. Allocation of resources between consumption and investment and among sectors. International assistance/trade. prereq: [[3101, 3102] or equiv], completion of freshman writing practice

ECON 4337. Comparative Economic Systems. (; 3 cr. ; Student Option; Every Fall & Spring)

Functions of economic systems; market economy versus centrally planned economy. Comparison of different economic systems. Post socialist transitions in Eastern Europe, Russia, and China. Initial conditions and strategies for reforms; results of reforms in terms of key economic indicators. prereq: 3101, 3102 or equiv

ECON 4341. Economics of Poverty and Income Inequality. (3 cr. ; A-F only; Every Fall)

This course focuses on the economic aspects of poverty and inequality in the United States. The course utilizes economic theory and empirical research to analyze the determinants of, and potential strategies to overcome poverty

and inequality. Topics include measurement and trends of poverty and income inequality, labor markets, education, discrimination, residential segregation, immigration, hunger and nutrition, US farm policy, food distribution, food security, food aid, the connection between food production and health outcomes, as well as other related themes. prereq: include Econ 3101 or equiv; Econ majors.

ECON 4401. International Economics. (GP; 3 cr. ; Student Option; Every Fall & Spring)

International trade flows. Commercial policy and welfare implications, protection. Global trade organizations. International factor mobility. Balance of payments analysis and open-economy macroeconomics. Foreign exchange markets and exchange rate determination. International monetary system. Regional integration. Case studies. prereq: [[1101, 1102] or equiv], not open to econ majors

ECON 4425. London: Trade and Brexit. (GP; 3 cr. ; A-F only; Periodic Summer)

The seminar includes a history of trade and culture in UK and London since the 1500s up until the formation of the EU. It also includes UK plans for Brexit, and will discuss economic outcomes of it on London and international trade.

ECON 4428. London's Economy, International Trade, and BREXIT. (GP; 3 cr. ; S-N only; Every Summer)

London is a "global city" and has evolved from being a city of merchandise trade to being one of the premier financial services centers and cultural melting-pot in the world. The course explores the role of financial services, merchandise trade, trade policy, immigrant populations and cultures, and current race relations in the evolution of modern London. Globalization, the interactions and interdependencies between the city of London and the rest of the world, are researched and explored through class work and daily site visits to major economic and cultural locales.

ECON 4431W. International Trade. (GP,WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Theories of trade/trade patterns. Trade restrictions/commercial policy. International factor movements. Economic growth/development. Multinational corporations. Regional integration. prereq: [3101, 3102] or equiv, freshman writing practice

ECON 4432W. International Finance. (WI; 3 cr. ; A-F only; Every Spring & Summer)

Balance of payments; international financial markets; exchange rate determination; international monetary system; international investment and capital flows; financial management of the multinational firm; open economy macroeconomic policy. prereq: 3101, 3102 or equiv;

ECON 4438W. Advanced International Trade. (GP,WI; 4 cr. ; A-F only; Every Spring)

Theories of trade/explanations of trade patterns. Trade restrictions. Commercial policy. International factor movements.

Economic growth/development. Multinational corporations. Regional integration. prereq: [3101, 3102] or equiv, Math 1271, completion of freshman writing practice, [Math 1272 or equiv]

ECON 4531. Labor Economics. (3 cr. ; Student Option; Every Fall & Spring)
Economic analysis of labor markets and their operations; population and labor force; labor market institutions; wage and employment theories; unions and collective bargaining; public policy. prereq: 3101, 3102 or equiv

ECON 4538. Advanced Labor Economics. (4 cr. ; A-F only; Every Fall & Spring)
For B.S. Econ majors only. Economic analysis of domestic and global labor markets; population and labor force; labor market institutions; wage and employment theories; unions and collective bargaining; public policy including immigration, outsourcing, living wages, earnings mobility, downsizing; special topics. prereq: 3101, 3102 or equiv; Calc 1 or equivalent

ECON 4631. Industrial Organization and Antitrust Policy. (3 cr. ; Student Option; Every Fall, Spring & Summer)
Relations between market structure, economic efficiency and welfare. Economic origins of monopoly and other restraints on competition. Purposes and effects of antitrust and related legislation. Industrial policy. prereq: 3101 or equiv

ECON 4721. Money and Banking. (3 cr. ; A-F only; Every Fall, Spring & Summer)
Theories of money demand and money supply. Financial intermediation and banking, banking practices and regulation, role of the Federal Reserve system. Monetary theory and policy. prereq: [3101, 3102] or equiv

ECON 4731. Macroeconomic Policy. (3 cr. ; Student Option; Every Fall & Spring)
Monetary vs. fiscal policy debate in the context of the underlying macroeconomic theory controversy. Comparison of Keynesian, Monetarist, and Classical theories; rational expectations; policy ineffectiveness; time inconsistency; rules vs. discretion; budget deficits; unemployment and inflation. prereq: 3101, 3102 or equiv

ECON 4751. Financial Economics. (3 cr. ; Student Option; Every Fall, Spring & Summer)
Financial decisions of firms/investors. Determination of interest rates and asset prices. Role of risk/uncertainty. Emphasizes economic models. prereq: [3101 or equiv], [MATH 1271 or equiv], one sem statistics

ECON 4758. Advanced Financial Economics. (4 cr. ; A-F only; Every Spring)
Efficiency/role of financial markets. Theoretical concepts, empirical evidence. Price of financial assets, value of investment projects, risk management trading strategies. prereq: 3101, [3102 or equiv], [Math 1271 or equiv], [Stat 3011 or equiv], [Math 1272 or equiv]

ECON 4821. Public Economics. (3 cr. ; A-F only; Every Fall & Spring)
Competing views on proper role of government in economy. Effects of tax/spending policies,

taking into account private agents' response to government actions/ways government officials may use powers. Optimal policies. Applications primarily to U.S. government. prereq: [3101, 3102] or equiv

ECON 4831. Cost-Benefit Analysis. (3 cr. ; A-F only; Every Fall, Spring & Summer)
Evaluation of benefits and costs of public projects and programs. Issues connected with definition and measurement of benefits and costs. Rate of return and discount. Market imperfections, risk, uncertainty. Case studies. prereq: ECON 3101

ECON 4960. Topics in Economics. (4 cr. [max 8 cr.] ; A-F only; Periodic Fall & Spring)
Topics specified in Class Schedule. prereq: [3101 or 3102 or equiv], MATH 1271

ECON 4968. Advanced Topics in Economics. (4 cr. [max 8 cr.] ; A-F only; Every Fall & Spring)
Topics specified in Class Schedule. prereq: [[3101, 3102] or equiv], MATH 1271, [Stat 3011 or equiv], successfully complete at least two 4xxx level UMNTC economics courses.

ECON 4970. Advanced Topics: Economics. (4 cr. [max 8 cr.] ; A-F only; Every Fall & Spring)
Topics specified in Class Schedule. prereq: [[3101, 3102] or equiv], MATH 1271, [Stat 3011 or equiv], successfully complete at least two 4xxx level UMNTC economics courses.

ECON 4993. Directed Study. (1-4 cr. ; Student Option; Every Fall, Spring & Summer)
Guided individual reading or study in areas not available in regular course offerings. prereq: dept consent

ECON 5890. Economics of the Health-Care System. (3 cr. ; A-F or Audit; Every Fall)
Economic analysis of U.S. health-care sector. Emphasizes problems of pricing, production, distribution. Health-care services as one factor contributing to nation's health. prereq: 3101 or instr consent

Ecuador (ECDR)

ECDR 1004. Intermediate Spanish IV. (4 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

ECDR 3011W. Spanish Grammar and Composition Workshop. (WI; 4 cr. ; Student Option; Every Fall, Spring & Summer)
ECDR 3011W Spanish Grammar and Writing Workshop is an intensive writing course designed to develop and strengthen the understanding and management of language skills acquired in previous courses and to develop knowledge about various cultures in Latin America and Ecuador. This course seeks to integrate the skills of speaking, writing, reading and understanding the real world of Ecuadorian and Latin American culture through the analysis of texts of varied socio-cultural, economic, political and other learning resources. The reading and writing tasks of this course will allow students through the reading and analysis of different texts an approach to

the reality of Ecuadorian and Latin American culture. Students will be exposed to learning in real contexts and to the appropriate use of vocabulary. During the course, each student will produce a series of original compositions with the objective of learning to write texts in a clear, precise and formal in Spanish using various rhetorical strategies. It is a course that will give students the possibility of acquiring basic guidelines to improve their style and composition.

ECDR 3015W. Spanish Composition and Communication. (WI; 4 cr. ; Student Option; Every Fall, Spring & Summer)

ECDR Spanish 3015W is a Spanish course with an emphasis on Spanish Composition and Communication designed to develop and strengthen oral and written language and communication skills acquired in courses 1001 - 1004. This course seeks to integrate in real contexts the skills of speaking, writing, reading, listening and understanding of Spanish at a higher level. This course will systematically expose students to a variety of texts within the context of Ecuador and Latin America that will enable them to improve their level of comprehension, analysis, discussion, reflection, enrich their vocabulary and accelerate their reading rhythm and comprehension. The development of language skills will allow students to gain a better understanding of Ecuador: their culture, history, economy and politics.

ECDR 3021. Advanced Spanish. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

ECDR 3030W. Introduction to Latin American Cultures. (WI; 4 cr. ; Student Option; Every Fall, Spring & Summer)
ECDR 3030W, Introduction to Latin American Cultures, is an intensive writing course designed to develop and strengthen the understanding and management of language skills acquired in previous courses and to develop knowledge about various cultures in Latin America and Ecuador. This course seeks to integrate the skills of speaking, writing, reading and understanding the real world of Ecuadorian and Latin American culture through the analysis of texts and other learning resources. Course 3030W will evaluate the concept of "culture" from an intercultural perspective taking into account the cultural diversity of Ecuador and Latin America. 3030W introduces students to key writing and cultural analysis skills. The writing tasks of this course will allow students to approach the reality of Ecuadorian and Latin American culture through the reading and analysis of different texts. Students will be exposed to learning in real contexts and to the appropriate use of vocabulary. At the end of the program students must demonstrate competence in the handling of components of cultural analysis and familiarity with research components in cultural topics. This course offers students a panoramic view of the Latin American and Ecuadorian narrative, placing it in their historical and cultural contexts so as to allow an analysis

of the styles of the mixture of our peoples. It is a course that will provide students with the possibility of acquiring basic guidelines to identify literary styles and narrative strategies.

ECDR 4001. International Development: Human Rights: Policy & Practice.

(GP,SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Students will critically analyze theories of development and the impact of development models throughout the world, but specifically Latin America and Ecuador. They will address development theories, assumptions of development, and alternatives to development through the lens of social services. This course starts by investigating the concept of globalization within international development and its prevalence in Latin America, and in particular Ecuador. There is an emphasis throughout the course on contrasting Western thinking with Andean thought processes and connecting the global to the local. The course will have a multidisciplinary approach, and will focus on how individuals, institutions, events, and ideas are connected. This course will focus on the critical analysis of social problems and will address the issue of social services as instruments for social inclusion through the restitution of rights and empowerment. The concept of social exclusion (discrimination, inequality, inequity, poverty) will be discussed, as well as how development has led to social inclusion or exclusion, and how social services have contributed. The course will focus on the priority care groups?children and adolescents, women, older adults, and people with disabilities?and the policies, programs, and services for them in Ecuador today.

ECDR 4002. International Development: Social Entrepreneurship & Microfinance.

(GP,SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Students will critically analyze theories of development, and the impact of development models throughout the world, but specifically Latin America and Ecuador. They will address development theories, assumptions of development, and alternatives to development through the lens of social entrepreneurship. This course starts by investigating the concept of globalization within international development and its prevalence in Latin America, and in particular Ecuador. There is an emphasis throughout the course on contrasting Western thinking with Andean thought processes and connecting the global to the local. The course will have a multidisciplinary approach, and will focus on how individuals, institutions, events, and ideas are connected. Students will identify the impacts of development on the Ecuadorian economy, specifically focusing on the concept of social entrepreneurship, which is recognized in the Ecuadorian constitution. They will study the history of this specific form of entrepreneurship, its relationship with local development, and as an alternate form of distribution and production of goods and services. Students will also analyze the economic impacts generated by these practices and how public, private, and

community actors interface with this type of economy.

ECDR 4003. International Development: Public Health & Traditional Andean Medicine.

(GP,SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Students will critically analyze theories of development, and the impact of development models throughout the world, but specifically Latin America and Ecuador. They will address development theories, assumptions of development, and alternatives to development through the lens of social entrepreneurship. This course starts by investigating the concept of globalization within international development and its prevalence in Latin America, and in particular Ecuador. There is an emphasis throughout the course on contrasting Western thinking with Andean thought processes and connecting the global to the local. The course will have a multidisciplinary approach, and will focus on how individuals, institutions, events, and ideas are connected. Students will begin to address social, economic, cultural, and environmental determinants of health as a mechanism for understanding the main health problems in Ecuador. There is an emphasis throughout the course on contrasting Western thinking and medicine with Andean worldviews and ancestral medicine. The course will discuss intercultural health processes to improve the health conditions of diverse cultural groups. The course will focus on the indigenous movement in Ecuador and the recovery of the Andean culture as it relates to health and traditional health practices. Understanding the new Ecuadorian constitution, which includes the right to health, will lead into discussions of the complex political and social dimensions of health. A comparative analysis of health reform processes in Ecuador and the United States will allow the students to identify the contrasting dimensions in the search to improve the collective health in both countries.

ECDR 4004. International Development: Environmental Challenges from the Andes to the Amazon.

(ENV,SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Students will critically analyze theories of development and the impact of development models throughout the world, but specifically Latin America and Ecuador. They will address development theories, assumptions of development, and alternatives to development through the lens of the environment and sustainability. This course starts by investigating the concept of globalization within international development and its prevalence in Latin America, and in particular Ecuador. There is an emphasis throughout the course on contrasting Western thinking with Andean thought processes and connecting the global to the local. The course will have a multidisciplinary approach, and will focus on how individuals, institutions, events, and ideas are connected. Students will identify the impacts of development on environmental challenges in Ecuador, and the relationship between environment, use and management of natural resources, and

local communities. Examination of cases that involve people?s rights over the environment, food sovereignty, water management, climate change, sustainable development, and local alternatives for natural resource management and conservation will be studied.

ECDR 4101. Historical & Political Context of Ecuador.

(4 cr. ; Student Option; Every Fall, Spring & Summer)

This course will begin with a historical review from the European conquest, moving to independence and the construction of a nation state, and finally the republican era until today. Main events and characteristics from each timeframe will be highlighted. Students will discuss the ?discovery of America? from the Ecuadorian and South American context, as well as the process and impact of conquering this continent. History and politics will come together when discussing the 20th Century. Topics such as liberal revolution, plutocracy, the uprising known as the Juliana Revolution, the populist velasquista phenomenon, dictatorships, and the return to democracy will all be examined. Additionally, the central elements of the so-called Citizen Revolution will be addressed. Current events such as the government of Moreno and his turn to the right will be discussed as well as political opposition, main actors in the political sphere, etc. The current state will be analyzed based on identifying the main elements that shape the country?s cultural diversity, its nationalities, and peoples. A comparative analysis between the western culture and the Andean culture will be carried out.

ECDR 4201. Research in Ecuador.

(4 cr. ; Student Option; Every Fall, Spring & Summer)

The goal of this course is to introduce the MSID student to various research concepts and practices, helping them select their study topic and title for their study, develop statements of problems and choose research questions and appropriate research design, study issues related to research ethics, develop their skills in choosing data collection instruments, and analyze the data they collect for their research. The course introduces various topics in the research cycle and provides a forum in which students can share with one another their research experience at each stage of the process. Research projects in this course are ideally projects that fit with the development agency?s goals and activities; therefore, the student?s research interests are expected to blend with what is realistically happening at the development agency. Students must have approved proposals before proceeding on to their research sites. They will then collect necessary data and complete data analysis before heading back to Quito at the end of the six-week field period. It is likely that students will participate in field activities, meetings, and other forms of engagement that will be indirectly related to and could inform their research projects. Through hands-on experiences as well as readings, discussions, and written assignments, students will deepen their understanding of the host-country cultural context and development work from an international perspective, as well as

critically examine their own worldview in order to develop, defend, and challenge their own values and beliefs.

ECDR 4896. Internship in Ecuador. (4 cr. ; Student Option; Every Fall, Spring & Summer) This course provides a cross-cultural experience of working on various development issues with a regional nonprofit organization. The course focuses on guiding students to understand their own identity as they integrate theory with reality by participation in local development sites. Students are prepared for entering into their community work through discussions on stakeholder and agency analysis, ethical considerations, culture specific gender and diversity context, and power and privilege. The mentoring continues while students are at their internship placement as they come in contact with social actors, community organizations, and local and national authorities, in various regions of Quito at the marginal urban and rural levels. The students are urged to play an active role in their internships by providing suggestions and solutions, discussing alternatives, and investigating all areas of their internship placement to garner a holistic experience on the realities of development work. Through practical internship experiences as well as readings, discussions, and written assignments, students will deepen their understanding of the host-country cultural context and development work from an international perspective, as well as critically examine their own worldview in order to develop, defend, and challenge their own values and beliefs.

Educational Psychology (EPSY)

EPSY 1261. Understanding Data Stories through Visualization & Computing. (MATH; 3 cr. ; Student Option; Every Fall & Spring) Academics and researchers have long used data & visualization to support and illuminate particular narratives in their scholarship. Today, data visualizations are found not only in the pages of academic journals; many non-academics, including journalists and activists, use increasingly complex data visualizations and statistical summaries to convey salient information and storylines. This course will help students build on their statistical thinking and understanding learned in high school to think critically about the use of summaries and visualization and their role in the data narrative. It will also cover the use of computational tools and methods for creating data summaries and visualization that facilitate seeing patterns and relationships in data, and producing better narrative through communicating with data. Students will learn course material through in-class activities and projects conducted in cooperative learning groups and through assignments requiring the application of concepts and technology presented in class to additional real-world examples of data visualization.

EPSY 1281. Psychological Science Applied. (SOCS; 4 cr. ; A-F only; Every Fall & Spring)

The course introduces students to applied psychology as a discipline and reviews fundamental principles of psychology through the lenses of applied and professional areas that are the foci of CEHD majors. Specifically, through the lenses of education, we review principles of learning, memory, development, intelligence, and interventions; through the lenses of health and wellness, we review personality, biological, social, and cognitive bases of normal and abnormal behavior, as well as treatments; and, through the lenses of business and organizations, we review principles of motivation, sensation perception, and social behavior. Thus, these psychological principles are considered theoretically, empirically, and through examples for application, with lab discussions and projects emphasizing education, business, health and wellness. The course serves as a foundation for future coursework in education, health sciences, and psychology, and is consistent with the APA's public education effort to demonstrate how the science and application of psychology benefits society and improves lives.

EPSY 1905. Beginners' Chess and 21st Century Skills. (; 3 cr. ; Student Option; Periodic Fall)

Examination of the basic components of chess, computer-based chess, how chess players think, including visual-spatial thinking and critical thinking, the psychology of critical thinking and other 21st Century reasoning skills, research on chess cognition, and the international chess community.

EPSY 2201. Basics of Research Methods. (2 cr. ; A-F only; Every Spring)

As part of a society that is saturated with "research," we have all at some point encountered at least one form of research--whether it is via election polls, market surveys, investigative findings reported on the 10pm news, or academic research for your papers. There is sometimes too much research to make sense of it all. As an undergraduate student, you have likely found many examples of research, and it will only become more important in your own academic career, and if you choose to pursue an academic route, in your own development as a scholar. Therefore, learning the basics of research--how it is conducted, how it can be used to answer everyday questions, and what makes it good quality--will make you not only a better researcher, but also a better consumer of academic and popular research.

EPSY 2201H. Basics of Research Methods for Honors Students. (; 2 cr. ; A-F only; Every Spring)

As part of a society that is saturated with "research," we have all at some point encountered at least one form of research--whether it is via election polls, market surveys, investigative findings reported on the 10pm news, or academic research for your papers. There is sometimes too much research to make sense of it all. As an undergraduate student, you have likely found many examples of research, and it will only become more important in your own academic career,

and if you choose to pursue an academic route, in your own development as a scholar. Therefore, learning the basics of research--how it is conducted, how it can be used to answer everyday questions, and what makes it good quality--will make you not only a better researcher, but also a better consumer of academic and popular research. This course aims to introduce you, as an honors student, to these topics.

EPSY 2601. Understanding Differences, Disabilities, and the Career of Special Education. (DSJ; 4 cr. ; A-F only; Every Fall & Spring)

Impact of disabilities on individual/family. Support systems for persons with disabilities, approaches for advocacy. Employ reflective practices when considering concept of disability. This course has an imbedded school-based practicum.

EPSY 3101. Creativity and Intelligence: an Introduction. (; 3 cr. ; Student Option No Audit; Every Fall & Spring)

Classic/contemporary theories of creativity/intelligence, their development, implications for behavioral/social sciences and psychological/educational practices.

EPSY 3105. Community Engaged Research Experiences in K-12 Contexts. (DSJ; 3 cr. ; A-F only; Every Spring)

This course is designed as an introduction to community-engaged, educational research. Students will learn about educational research methodology that includes descriptive, experimental, and applied methods. We will highlight the ways that data is collected and analyzed to answer various types of research questions. By participating in the course activities, students will learn skills to develop a research question and design and conduct their own study. The course activities will build on existing research partnerships in Minneapolis and St. Paul Public Schools. Students enrolled in the course will be able to work with teachers, students, and families as a part of their experience. The course instructor(s) have large-scale, existing research projects that explore various mechanisms (technology, parent involvement, culturally responsive pedagogy) to support middle school students' science learning. We will create a community of undergraduate scholars that is simultaneously social and intellectual. The course lectures, activities, and research experiences are designed to create an environment that respects and values the students' diverse cultural backgrounds.

EPSY 3119. Learning, Cognition, and Assessment. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Principles of learning, cognition, cognitive development, classroom management, motivation, instruction, and assessment. Topics: behaviorism, cognitive and social constructivism, human information processing theory, intelligence, knowledge acquisition, reasoning skills, scholastic achievement, standardized testing, reliability, validity, student evaluation, performance assessment, and portfolios.

EPSY 3132. Psychology of Multiculturalism in Education. (DSJ; 3 cr. ; A-F or Audit; Every Spring)

Course critically examines social and cultural diversity in the United States, confronting social issues of poverty, handicappism, homophobia, racism, sexism, victim-blaming, violence, and so on, and presenting models for change. Students examine how and why prejudices develop.

EPSY 3264. Basic and Applied Statistics.

(MATH; 3 cr. ; Student Option; Every Fall, Spring & Summer)
Introductory statistics. Emphasizes understanding/applying statistical concepts/procedures. Visual/quantitative methods for presenting/analyzing data, common descriptive indices for univariate/bivariate data. Inferential techniques.

EPSY 3301. Introduction to Educational Psychology. (SOCS; 3 cr. ; Student Option No Audit; Every Fall)

History, current work. Future promise of educational psychology. Major topics in educational psychology. Focuses on interplay between theory, empirical research, and practical applications.

EPSY 3302. Introduction to Communication Skills for Educational and Community Settings. (3 cr. ; Student Option No Audit; Every Fall)

Working with diverse individuals/groups in educational/community settings. Communication skills/concepts. Self-reflection on communication style.

EPSY 3303. Educational Psychology Undergraduate Practicum. (; 3 cr. [max 6 cr.] ; A-F or Audit; Every Spring)

This culminating course familiarizes students with the principles and practice of applied psychology in educational and community settings. Through supervised fieldwork experiences in either research or practice settings, students will develop an understanding of ethical considerations in educational psychology and explore how psychological research can be used to advance the practice of psychology in applied settings. This course is designed for undergraduate students completing an Educational Psychology undergraduate minor or the Special Education major. The course meets for 120 minutes weekly, and students complete 90 hours of fieldwork (approximately 8-10 hours/week). This is a community-engaged learning course. Fieldwork experiences can include: * A research experience conducted with an approved Educational Psychology faculty member. * A practical experience in an approved community engaged service-learning setting. Note: students in the special education major must complete fieldwork related to disabilities and/or special education.

EPSY 3303H. Honors Educational Psychology Undergraduate Practicum. (; 3 cr. [max 6 cr.] ; A-F or Audit; Every Spring)

This culminating course familiarizes students with the principles and practice of applied psychology in educational and

community settings. Through supervised fieldwork experiences in either research or practice settings, students will develop an understanding of ethical considerations in educational psychology and explore how psychological research can be used to advance the practice of psychology in applied settings. This course is designed for undergraduate students completing an Educational Psychology undergraduate minor or the Special Education major. The course meets for 120 minutes weekly, and students complete 90 hours of fieldwork (approximately 8-10 hours/week). Honors students will be involved in Directed Faculty Research conducted with an approved Educational Psychology faculty member. The research project will be used to direct the honors thesis. In addition, honors students will present their research at the Undergraduate Research Symposium Note: students in the special education major must complete fieldwork related to disabilities and/or special education.

EPSY 3613. Foundations of Special Education I. (DSJ; 3 cr. ; A-F or Audit; Every Fall & Spring)

To review the foundations of special education, culminating in an understanding of the application of the IDEAL Problem Solving Model. The course will address concepts related to exceptionality; historical and legal foundations; problem solving and tools of inquiry; collaborative relationships with families, educational, and community professionals; support of students with disabilities in general education; characteristics of students with high and low incidence disabilities, and ethics. Teacher candidates will learn methods of formative assessment using curriculum-based measures (CBM) and practice analyzing data to make instructional decisions and inform early intervention for struggling students.

EPSY 3701. Practicum: Field Experience in General Education - Inclusive Classrooms. (; 1-2 cr. ; S-N only; Every Fall & Spring)

Field-Based Practicum. Observe and actively participate in an inclusive (with and without disabilities) general education classroom. An emphasis is placed on communication skills and reflective practice.

EPSY 3801. The Science of Human Resilience and Wellbeing: Foundational Knowledge for Career and Life Success. (SOCS; 3 cr. ; A-F or Audit; Every Spring)

This course is for any undergraduate student interested in learning about and applying the theory and practice as it relates to resilience and wellbeing. This course integrates key cross-cutting, scientific findings from a range of psychological disciplines, including positive psychology, clinical psychology, developmental psychology, neuropsychology, and social psychology. Stated simply, resilience refers to the human capacity and ability to both survive and thrive in the face of life circumstances. Students will develop a deep understanding of the theoretical concepts of stress, resilience, and wellbeing, as well as specific resilience practices scientific research has shown enable people to better manage and bounce back from stressful situations and enhance their social,

emotional, and behavioral functioning in career and personal aspects of life.

EPSY 3802. Contemporary Issues in School Psychology. (3 cr. ; A-F only; Periodic Fall & Spring)

This survey-level course is designed to facilitate understanding of the intersections of psychological processes with current issues facing the U.S. schools and is targeted toward students interested in working with children and adolescents in school settings. Students will develop basic understanding of scholarship and professional opportunities in school psychology and related fields. The course is designed to overview how psychological processes impact students, teachers, educational staff, families, and school communities through use of data and research to inform school practices that promote safe and healthy school environments, support students' mental health, and meet the needs of unique learners. Lectures, discussions, and interactive activities will be used to facilitate learning.

EPSY 4001. Teaching Students with Special Needs in Inclusive Settings. (1 cr. ; A-F only; Every Spring)

Historical perspectives, definitions/professional language, characteristics, needs, service delivery systems for each area of exceptionality. prereq: Must be enrolled in either the initial teaching licensure program for music education or agricultural education students. All other initial teaching licensure candidates should enroll in 5015 and 5016.

EPSY 4994. Faculty Directed Research in Educational Psychology. (1-6 cr. [max 20 cr.] ; A-F only; Periodic Fall, Spring & Summer)
Arranged independently with individual faculty members. prereq: instr consent**EPSY 5001. Learning, Cognition, and Assessment.** (3 cr. ; Student Option; Every Fall, Spring & Summer)

Principles of learning, cognition, cognitive development, classroom management, motivation, instruction, assessment. Behaviorism, cognitive/social constructivism, human information processing theory. Intelligence, knowledge acquisition, reasoning skills, scholastic achievement, standardized testing, reliability/validity, student evaluation, performance assessment, portfolios, demonstrations. Applications to instruction/organization of curricular materials. prereq: MED/initial licensure student or CLA music ed or preteaching major or instr consent; psych course recommended

EPSY 5015. Teaching Students with Special Needs in Inclusive Settings. (1 cr. ; A-F only; Every Summer)

Areas of exceptionality defined in federal/state regulations. Historical perspectives, definitions, etiology, characteristics, needs, and service delivery systems. Collaborating with special education personnel. prereq: Enrolled in a teacher initial licensure program

EPSY 5016. Teaching Students with Special Needs in Inclusive Settings. (1 cr. ; A-F only; Every Fall & Spring)

Attending to constant transitions/development in which children/adolescents negotiate their road to adulthood. How to foster learning/positive development. prereq: Enrolled in teacher initial licensure program

EPSY 5017. Teaching Exceptional Students in General Education Classrooms. (2 cr. ; A-F or Audit; Every Summer)

This course will provide an overview of the areas of exceptionality defined in federal and state regulations. The focus of this course will be on historical perspectives, definitions, etiology, characteristics, needs, and service delivery systems for each area of exceptionality as well as the general educator's role in collaborating with special education personnel in order to meet the needs of students with special needs.

EPSY 5101. Intelligence and Creativity. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Contemporary theories of intelligence and intellectual development and contemporary theories of creativity and their implications for educational practices and psychological research.

EPSY 5114. Psychology of Student Learning. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

This course is an introduction to the theories, data, and methods of Educational Psychology most relevant to understanding student thinking and learning. The first third of the course reviews those aspects of cognitive development that are foundational for education. The second third considers how cognitive psychology informs questions of learning, memory, knowledge, and transfer. With this background in place, the final third of the course will focus on the classroom: on instruction, motivation, individual differences, and group differences. The course concludes by considering the neural correlates of classroom learning.

EPSY 5116. Education of the Gifted and Talented. (; 3 cr. ; Student Option No Audit; Every Spring)

Theories of giftedness, talent development, instructional strategies, diversity and technological issues, implications for educational practices and psychological inquiry, and international considerations.

EPSY 5119. Mind, Brain, and Education. (; 3 cr. ; Student Option No Audit; Periodic Spring)
How educationally relevant skills/concepts develop in both typical/atypical children. prereq: 3301 or equiv

EPSY 5121. Debugging Failure in Learning.

(3 cr. ; Student Option; Fall Odd Year)
This course investigates the double-edge potential of failure to catalyze and thwart learning. The goal is to develop a multi-dimensional framework drawing on psychological, cognitive, interpersonal, and systemic perspectives that can be used in research to document, understand, problematize, and ultimately support students experiences with failure during learning. Central topics include causal attributions, play-based failures, counter storytelling,

inequities, framing, and motivation. Course activities include reviews of experimental and observational research; reflections on video of students and instructors navigating moments of failure; and opportunities to develop research designs and/or analyze new data attending to failure.

EPSY 5122. Programming Fundamentals for Social Science Research. (3 cr. ; Student Option; Every Fall)

What is computer programming, and how can it be used to improve your research? This course teaches the fundamental concepts and techniques of programming using the open-source Python 3 language, while emphasizing a variety of applications to social science research, including data analysis, visualization, task automation, and retrieving data from the internet through APIs and scraping. The course covers fundamental programming concepts, as well as software engineering topics such as writing robust code, testing, debugging, collaboration, version control, and working with file systems. The course is taught with an active, hands-on approach to programming, including class discussions and group work. It is designed to be accessible to students without any prior programming experience.

EPSY 5123. Programming Workflows for Psychological Research. (3 cr. ; Student Option; Every Spring)

How can researchers use open-source programming to create a reproducible and flexible workflow? This course teaches programming and computer-based skills that are increasingly important methods in psychological research, like fundamental programming concepts, data wrangling in R, online experiments and surveys with JavaScript, version control with git, using the Open Science Framework, and writing reproducible reports with R Markdown. It emphasizes open science practices and readily implementable skills for a more streamlined and automated research workflow. The course is taught with an active, hands-on approach to programming, including class discussions and group work. It is designed to be accessible to students without any prior programming experience. prereq: Students should have taken an undergraduate- or graduate-level statistics course.

EPSY 5135. Human Relations Workshop. (; 4 cr. ; Student Option; Every Fall & Summer)

Experiential course addressing issues of prejudice and discrimination in terms of history, power, and social perception. Includes knowledge and skills acquisition in cooperative learning, multicultural education, group dynamics, social influence, effective leadership, judgment and decision-making, prejudice reduction, conflict resolution.

EPSY 5151. Cooperative Learning. (; 3 cr. ; Student Option; Every Spring)

Participants learn how to use cooperative learning in their setting. Topics include theory and research, teacher's role, essential components that make cooperation work, teaching social skills, assessment procedures, and collegial teaching teams.

EPSY 5157. Social & Developmental Psychology of Education. (; 3 cr. ; A-F or Audit; Every Fall)

Social and developmental psychology provide underpinnings for a range of methods for conducting research in real-world settings. They also lay conceptual foundations for understanding a range of social and developmental processes. The course will cover a full range of topics within social and developmental psychology, plus selected topics in personality psychology, and examine their implications for understanding and structuring educational and other professional settings. Discussions will include a strong focus on educator and practitioner applications of the research.

EPSY 5200. Special Topics: Psychological Foundations. (; 1-4 cr. [max 12 cr.] ; Student Option; Periodic Fall & Spring)

Focus on special topics in psychological and methodological concepts relevant to advanced educational theory, research, and practice not covered in other courses.

EPSY 5216. Introduction to Research in Educational Psychology and Human Development. (3 cr. ; A-F or Audit; Every Fall)

Designing/conducting a research study. Reviewing literature, formulating research problem, using different approaches to gather data, managing/analyzing data, reporting results. prereq: 5261 or intro statistics course

EPSY 5220. Special Topics: Quantitative Methods. (; 1-4 cr. [max 30 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Focus on special topics in methodological concepts involving theory, research, and practice in statistics, measurement, evaluation, and statistics education not covered in other courses.

EPSY 5221. Principles of Educational and Psychological Measurement. (; 3 cr. ; Student Option; Every Fall & Spring)

Concepts, principles, and methods in educational/psychological measurement. Reliability, validity, item analysis, scores, score reports (e.g., grades). Modern measurement theories, including item response theory and generalizability theory. Emphasizes construction, interpretation, use, and evaluation of assessments regarding achievement, aptitude, interests, attitudes, personality, and exceptionality.

EPSY 5243. Principles and Methods of Evaluation. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Introductory course in program evaluation; planning an evaluation study, collecting and analyzing information, reporting results; overview of the field of program evaluation.

EPSY 5244. Survey Design, Sampling, and Implementation. (; 3 cr. ; Student Option; Every Fall)

Survey methods, including mail, phone, and Web-based/e-mail surveys. Principles of measurement, constructing questions/forms, pilot testing, sampling, data analysis, reporting. Students develop a survey proposal and a draft

survey, pilot the survey, and develop sampling/data analysis plans. prereq: [5221 or 5231 or 5261 or equiv], [CEHD grad student or MEd student]

EPSY 5245. Advanced Survey Data Analysis for Categorical and Rating Scale Data. (; 1 cr. ; Student Option; Periodic Spring)
Practical course. Specific nature of survey data (typically categorical or ordinal). Appropriate data analytic methods. prereq: 5244, 5261

EPSY 5247. Qualitative Methods in Educational Psychology. (; 3 cr. ; Student Option; Every Fall)
Introduction to qualitative methods of inquiry. Contrasting different research traditions (e.g., case study, phenomenology, ethnography, social interactionism, critical theory). Practice with field notes, observations, and interviewing. Use of NVIVO to track/code data. prereq: Graduate student or Applied Psychology in Educational and Community Settings Minor

EPSY 5261. Introductory Statistical Methods. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

EPSY 5261 is designed to engage students in statistics as a principled approach to data collection, prediction, and scientific inference. Students first learn about data collection (e.g., random sampling, random assignment) and examine data descriptively using graphs and numerical summaries. Students build conceptual understanding of statistical inference through the use of simulation-based methods (bootstrapping and randomization) before going on to learn parametric methods, such as t-tests (one-sample and two-sample means), z-tests (one-sample and two-sample proportions), chi-square tests, and regression. This course uses pedagogical methods grounded in research, such as small group activities and discussion. Attention undergraduates: As this is a graduate level course, it does not fulfill the Mathematical Thinking Liberal Education requirement. If you would like to take a statistics course in our department that fulfills that requirement, please consider EPSY 3264.

EPSY 5262. Intermediate Statistical Methods. (; 3 cr. ; Student Option; Every Fall & Spring)

Application of statistical concepts/procedures. Analysis of variance, covariance, multiple regression. Experimental design: completely randomized, block, split plot/repeated measures. prereq: 3264 or 5261 or equiv

EPSY 5271. Becoming a Teacher of Statistics. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Current methods of teaching first courses in statistics. Innovative teaching methods, materials, and technological tools. Types of first courses, reform recommendations, goals for student learning, recommended content, teaching methods, technology, student assessment. prereq: 5261 or equiv

EPSY 5272. Statistics Teaching Internship. (; 1-3 cr. ; S-N only; Every Fall & Spring)
Supervised teaching experience. prereq: Grad student, instr consent

EPSY 5400. Special Topics in Counseling Psychology. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Theory, research, and practice in counseling and student personnel psychology. Topics vary.

EPSY 5401. Counseling Procedures. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)
Emphasis on the counseling relationship and principles of interviewing. Case studies, role playing, and demonstration. For individuals whose professional work includes counseling and interviewing. prereq: Upper div student

EPSY 5402. Counseling History and Theories. (; 3 cr. [max 4 cr.] ; A-F only; Every Fall)

This course provides a broad introduction to professional counseling. Students will explore the major historical and contextual factors that have influenced the counseling field, with particular focus on theories and models of counseling practice. Roles and responsibilities of the professional counselor will also be discussed. Coursework will emphasize professional development via self-reflection, awareness of context and culture, and cultivation of counselor identity.

EPSY 5403. Counseling Diverse Populations. (; 3 cr. ; A-F or Audit; Every Spring)

This course addresses counseling implications for diverse individuals and families. Students will understand the impact of worldview and other factors such as ethnicity, culture, religious preference, socioeconomic status, gender identity, sexual orientation, and disabilities in community, higher education, and school settings. Students will examine their own worldviews as it relates to the topics discussed. Advocacy and social justice practices for working with diverse populations will also be addressed.

EPSY 5404. Group Counseling. (; 3 cr. ; A-F or Audit; Every Spring)

This course addresses foundations of group counseling that can be applied to multiple settings with a variety of diverse populations and age groups. Essential group leadership skills, types of groups, stages, planning, and evaluating groups will be covered. Additional topics include legal and ethical issues involved in group counseling, group dynamics, and therapeutic factors.

EPSY 5405. Career Counseling. (; 3 cr. ; A-F or Audit; Every Fall)

This course covers career development theories, career counseling procedures and techniques, career assessment/interpretation, and career development programming across the lifespan. Career interventions and resources will be discussed that relate to diverse populations within school, community, and higher education settings.

EPSY 5406. Ethics in Counseling. (; 3 cr. ; A-F only; Every Fall)

This course will help students deeply explore the ethical standards and legal principles that

must be referenced when making decisions in the practice of counseling. Students will learn how to apply the ethical standards and federal/state legal statutes to complex counseling cases. Ethical standards related to assessment, diagnosis, and practice are discussed in relation to counseling diverse populations in school, community, and higher education settings.

EPSY 5407. Diagnosis and Treatment in Counseling. (; 3 cr. [max 4 cr.] ; A-F only; Every Spring)

Etiology, symptom patterns, and assessment/treatment for various psychological disorders. Models of diagnosis. Empirically validated psychological assessment and counseling methods. Attention to cultural competency in assessment, diagnosis, and treatment.

EPSY 5408. Evidence-Based Counseling Relationships. (3 cr. ; A-F only; Every Fall)

This course introduces students to fundamental techniques and skills of professional counseling. Students will practice basic interviewing skills, with a focus on rapport-building and evidence-based counseling relationships. Specific techniques for facilitating exploration, insight, and change will also be covered. Finally, students will integrate the knowledge of counseling models and basic skills through a series of videotaped counseling practice and self-reflection assignments.

EPSY 5409. Trauma and Crisis Counseling. (3 cr. ; A-F only; Every Spring)

This course provides an overview of theories and skills commonly used by counselors working with clients in crisis. The first half of the course will cover assessment, impacts, and treatment of psychological trauma, including trauma-informed approaches to crisis situations. The second half of the course will cover specific types of crises commonly seen by counselors in a range of community and educational settings, with a focus on ethical and multicultural-competent practice. There will be an emphasis on resiliency and self-care throughout the course.

EPSY 5414. School Counselor Accountability, Advocacy, and Leadership. (3 cr. ; A-F only; Every Fall)

This course will equip school counselors-in-training with the knowledge and skills to develop intentional, data-driven school counseling programs. Focus will be given to evidence-based counseling interventions. Students will learn how to use data both in the development and evaluation of their school counseling program. Students will practice using data to advocate while also developing their leadership skills.

EPSY 5415. Counseling Children and Adolescents. (; 3 cr. [max 4 cr.] ; A-F or Audit; Every Fall & Summer)

Development, issues, and needs of children, kindergarten through high school ages. Counseling/developmental theory/strategies. Cultural diversity, legal/ethical issues in counseling children/adolescents. prereq: Grad student or MEd student or K-12 [counseling endorsement or licensure] student

EPSY 5416. Introduction to Clinical Mental Health Counseling. (3 cr. ; A-F only; Every Fall)

This course will help students understand the foundations of the clinical mental health counseling profession. The major focus will be on developing a counselor identity and learning about the history and evolution of mental health counseling as a field.

EPSY 5417. Counseling Research Practicum. (; 1-2 cr. [max 3 cr.] ; Student Option; Every Fall & Spring)

The purpose of this course is to enable students to develop applied research expertise consistent with their responsibilities as licensed professional counselors, licensed professional clinical counselors, higher education counselors, school counselors, career counselors, and professionals in other counseling-related fields. This is the first course in the 2-course Counseling Research Practicum sequence.

EPSY 5427. Advanced Counseling Research Practicum. (; 2 cr. [max 6 cr.] ; Student Option; Every Fall & Spring)

The purpose of this course is to enable students to gain further skills in developing applied research expertise consistent with their responsibilities as licensed professional counselors, licensed professional clinical counselors, higher education, school, and career counselors, and professionals in other counseling-related fields. This is the second of a 2-course Counseling Research Practicum sequence. prereq: Completion of EPSY 5417 for 2 credit hours

EPSY 5429. Advanced Concepts in Community Counseling. (3 cr. ; A-F only; Every Fall)

This course provides advanced counseling students a deeper opportunity to research and discuss recent trends and new ideas in community counseling. Current research and practice around addiction and co-occurring disorders, alternative health treatments, neurocounseling, and genetics will be covered. Students will also become familiar with the history and current role of psychopharmacology in counseling, including current treatment guidelines for common psychotropic medications. Finally, students will investigate and discuss "big ideas," such as the use of technology, for the future of counseling practice in both community mental health settings.

EPSY 5435. Introduction to School Counseling. (3 cr. [max 6 cr.] ; A-F only; Every Fall)

History/evolution of school counselor role in schools. Duties/demands of school counselor. Examine comprehensive guidance programming in K-12 schools. Issues in school counseling profession. prereq: Ed Psych Counselor Ed grad student in school counselor prog or instr consent

EPSY 5436. Crisis Management and Consulting in Schools. (3 cr. ; A-F or Audit; Every Fall)

Issues, topics, problems. Diversity in school counseling. Review, discussion, analysis of

current literature. Students develop prevention, intervention, guidance programs for K-12 schools. prereq: CSPP grad student in school counselor program or instr consent

EPSY 5437. Counseling Research Design & Evidence-Based Practices. (; 3 cr. ; A-F only; Every Spring)

This capstone course is an integration of science and practice. Students will learn research design techniques that are relevant and accessible to counselors in full-time practice, counselor educators, counseling consultants, and others in the counseling professions. Students will develop knowledge and skills related to identifying evidence-based counseling practices, developing and measuring client outcomes, analyzing and using data in counseling, and understanding how to implement ethical and culturally relevant research, data interpretation, and reporting strategies. The bulk of coursework will be the development, presentation, and defense of a research proposal in students' areas of interest. Students will learn the importance of research in advancing the counseling profession, and will practice using multiple data sources to inform programs and services in schools, counseling agencies, and higher education settings.

EPSY 5439. Case Conceptualization and Treatment Planning. (3 cr. ; A-F only; Every Spring)

This course introduces students to fundamental assessment, interviewing, case conceptualization, and treatment planning skills used by counselors in community and higher education settings. Students will have the opportunity to observe and practice intake interviews, to conceptualize clients from a culturally-informed, biopsychosocial perspective, and identify and communicate measurable treatment goals and effective interventions. Students will also work in groups to more deeply investigate and apply various approaches to case conceptualization and receive feedback from peers.

EPSY 5461. Cross-Cultural Counseling. (; 3 cr. ; A-F or Audit; Every Fall)

Effect of cross-cultural/cross-national psychological differences in human traits/characteristics. Framework for development/implementation of counseling interventions.

EPSY 5481. Practicum in School Counseling. (; 3 cr. ; A-F only; Every Spring)

This course is designed to support student growth in their development as a school counselor and to add to the training that they receive at their on-site placements. While enrolled in this course, students will be counseling clients in schools for the first time since entering this program. This class is designed to provide group supervision and support during their time on site. It is also designed to provide classroom instruction in areas that are relevant to the practice of school counseling. The course content will be delivered via class discussion, case presentations, tape review and online discussions. During the practicum, students will accrue a minimum of 100 hours, but will

not exceed 200 hours at their practicum site. Faculty will collaborate biweekly with site supervisors to ensure that their needs are met and to provide support for the individual supervision that takes place on site.

EPSY 5482. Practicum in Community and Higher Education Counseling. (; 3 cr. ; A-F only; Every Summer)

This course is designed to support student growth in their development as a counselor and to add to the training that they receive at their on-site placements. While enrolled in this course, students will be counseling clients in various settings for the first time since entering this program. This class is designed to provide group supervision and support during their time on site. It is also designed to provide classroom instruction in areas that are relevant to the practice of counseling. The course content will be delivered via class discussion, case presentations, tape review and online discussions.

EPSY 5483. Internship I. (; 3 cr. [max 4 cr.] ; A-F or Audit; Every Fall)

Supervised practice in counseling with individuals and groups; emphasizes systematic evaluation of student's counseling practice through direct observations, video, and audio tapes.

EPSY 5484. Internship II. (; 3 cr. [max 4 cr.] ; A-F or Audit; Every Spring)

Intermediate supervised practice in counseling with individuals and groups; emphasizes ethical issues with systematic evaluation of student's practice through direct observations, video, and audio tapes.

EPSY 5604. Transition From School to Work and Community Living for Persons With Special Needs. (3 cr. ; Student Option; Every Spring & Summer)

Use of strategies/models for improving transition of youth from school to work and community living. Course content that specifically addresses all phases of student assessment, individualized transition planning. Parent, family, and student involvement in designing post school options. Community-based services (employment, residential living, social and recreational services, etc). Comprehensive interagency approaches.

EPSY 5605W. Collaborative Practices for the Special Educator. (WI; 3 cr. ; A-F only; Every Spring)

Skills/knowledge required to consult/collaborate with school personnel, families, other professionals to maintain effective educational support.

EPSY 5609. Infants and Toddlers with Delays/Disabilities: Family-Centered Approaches to Early Intervention. (; 3 cr. ; A-F or Audit; Every Fall)

This course was designed to provide pre-service and current teachers as well as related service providers with the knowledge and skills needed to understand the dynamic ecosystems of families with a child with disabilities. Students will be introduced to the major methods, philosophies, and current research that emphasize effective family-professional collaboration in planning and

service delivery for infants and young children with disabilities. The focus is on a family-centered approach to assess and design educational plans and interventions, with a specific emphasis on relationship building and understanding the diverse perspectives on family life and developmental expectations.

EPSY 5613. Foundations of Special Education I. (DSJ; 3 cr. ; A-F or Audit; Every Fall & Spring)

To review the foundations of special education, culminating in an understanding of the application of the IDEAL Problem Solving Model. The course will address concepts related to exceptionality; historical and legal foundations; problem solving and tools of inquiry; collaborative relationships with families, educational, and community professionals; support of students with disabilities in general education; characteristics of students with high and low incidence disabilities, and ethics. Teacher candidates will learn methods of formative assessment using curriculum-based measures (CBM) and practice analyzing data to make instructional decisions and inform early intervention for struggling students.

EPSY 5614W. Assessment and Due Process in Special Education. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

Participants will learn basic standardized assessment and how it directly relates to special education. In addition, students will use the assessment as part of an ongoing process for making instructional programming decisions. Students will apply skills in designing and evaluating assessment plans and in making eligibility decisions.

EPSY 5616W. Classroom Management and Behavior Analytic Problem Solving. (WI; 3 cr. ; Student Option; Every Fall & Spring)

Focuses on principles of behavior analysis and procedures used in the assessment and management of classroom behavior. Although the application of behavioral principles in educational settings is the central purpose of this course, complementary issues related to general classroom management will also be addressed. Consistent with the mission of the College of Education and Human Development, this course aims to strengthen effective educational practice, promote inquiry, and build leadership skills for regular and special educators and professionals in allied fields. prereq: For online sections, students must be an ASD certificate candidate or a Special Education Major or Special Education M.Ed./M.A.

EPSY 5617. Academic and Social Interventions for Students with Mild to Moderate Disabilities. (3 cr. ; A-F only; Every Spring)

Use problem solving model to make data-based decisions regarding implementation and evaluation of instruction for students with academic and behavioral difficulties. prereq: instr consent

EPSY 5618. Specialized Interventions for Students With Mild/Moderate Disabilities in Reading & Written Language. (; 3 cr. ; A-F or Audit; Every Fall)

The purpose of this course is to prepare teachers of students at risk and with academic disabilities to address their specific learning needs in the area of reading and written language, using a data-based decision-making approach. Through course readings, lectures, discussions, cooperative group work, microteaching, and field experiences, students will gain knowledge and skills to address the needs of children with difficulties or disabilities that affect reading and writing, including children with dyslexia and dysgraphia.

EPSY 5622. Programs and Curricula for Students with Developmental Disabilities. (; 3 cr. ; Student Option; Every Summer)

Developing programs/curricula for students with moderate, severe, profound developmental delays, as well as severe multihandicapping conditions. Special consideration given to preparing children/youth for integrated community environments. prereq: 5621 or [5661 and 5662]

EPSY 5623. Ethics in Applied Behavior Analysis. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

This course explores ethical and professional considerations that pertain to the practice of applied behavior analysis as well as ethical and disciplinary standards of the profession. Specifically, this course examines the Professional and Ethical Compliance Code for Behavior Analysts. Emphasis will be placed upon ethical and professional conduct and legal issues relevant to BCBA level practitioners. Topics such as informed consent, due process, protection of confidentiality, and selection of least intrusive, least restrictive behavior change procedures will be discussed. This course will focus on ethical decision-making processes. Issues related to cultural and ethnic diversity and ethics in applied behavior analysis will also be explored.

EPSY 5625. Education of Infants, Toddlers, and Preschool Children with Disabilities: Introduction. (; 2 cr. ; A-F or Audit; Every Fall)

Examination of key issues and practices related to early intervention and early childhood special education, with an emphasis on family-focused and inclusive services for children birth to age six. Students enrolled in this course will be provided with a background in historical and philosophical issues relating to special education, components of due process and data privacy, the IEP/IFSP process, an overview of various disabilities and disorders, and information regarding how disabilities may affect individuals and families.

EPSY 5629. Strategic Instructional Methods for Students Academically At-Risk. (3 cr. ; A-F only; Every Fall & Summer)

Knowledge/skills needed to teach KU-CRL research-based learning strategies for students considered academically at-risk. Content relevant to basic skills/content instruction for students in K-12 settings will be included. prereq: Special Education graduate or licensure student or instr consent

EPSY 5631. Module 1: Introduction to Augmentative and Alternative

Communication. (; 1 cr. ; A-F only; Every Fall, Spring & Summer)

Terms/concepts related to augmentative/alternative communication. Myths/facts regarding AAC.

EPSY 5632. Module 2: Evidence-based Methods for AAC Assessment and Intervention. (; 2 cr. ; A-F only; Every Fall & Summer)

Evidence-based tools to conduct augmentative/alternative communication (AAC) assessments. AAC intervention plans. Data-driven strategies to evaluate progress.

EPSY 5637. Core Practices in Special Education: Foundations of Special Education. (; 1 cr. ; S-N only; Every Fall)

This course is an online module designed to be taken the first semester of a 4-semester sequence in the Clinical EBD Licensure Program. All materials necessary for proficient completion of the course will be delivered via on-line course. There will be no additional readings associated with this online module. prereq: Enrolled in Special Ed MEd or Special Ed ILP MEd program with EBD Residency-Based subplan

EPSY 5638. Core Practices in Special Education: IEP Writing. (; 1 cr. ; S-N only; Every Spring)

This course is an online module designed to be taken the second semester, in conjunction with the IEP Process course, of a 4-semester sequence in the Clinical EBD Licensure Program. All materials necessary for proficient completion of the course will be delivered via on-line course. There will be no additional readings associated with this online module.

EPSY 5641. Foundations of Deaf Education. (; 3 cr. ; A-F only; Every Fall)

Philosophical foundations of deaf and hard of hearing (DHH) education. Engage in discussion, debates, and processes that have influenced deaf education, communication methodologies, and placement options in the US. Considered from the perspective of deaf and hard of hearing children, adults, and their families.

EPSY 5642. Early Intervention for Infants, Toddlers and Families: Deaf and Hard of Hearing. (; 3 cr. ; A-F only; Every Summer)

Early identification and intervention with deaf and hard of hearing children including the development of ASL and English, Emergent Literacy in the homes and the role of Deaf Mentors. Emphasis on the importance of early exposure to fully accessible language and addressing the issue of language deprivation. prereq: Preservice teacher in deaf education licensing program or instr consent.

EPSY 5643. Seminar: Identity, Culture and Diversity in Deaf Education. (; 2 cr. ; A-F only; Every Fall)

Reflecting on your own identity as a future teacher of the deaf and how to facilitate the identity development of your students. Having a deep understanding of the diversity of students and their families and how best to foster these relationships and communication. Synthesis of previously learned material into practice.

EPSY 5644. Early Childhood Language and Literacy Development and Best Practices: Deaf and Hard of Hearing. (; 3 cr. ; A-F only; Every Fall)

Perspectives and best practices related to the development of early language and literacy skills in ASL and English for deaf and hard of hearing children. prereq: Preservice teacher in deaf education licensing program or instr consent

EPSY 5645. Deaf Plus: Educating and Understanding Deaf Students with Disabilities. (; 2 cr. ; A-F only; Every Spring)

Building an understanding of the complex issues and best practices involved in educating deaf learners with disabilities. Working with families and service providers, identifying resources, understanding identification, placement, assessment and intervention strategies to modify curriculum to work with deaf students with varying disabilities.

EPSY 5646. Best Practices Teaching Reading and Writing for School Age: Deaf and Hard of Hearing. (; 3 cr. ; A-F only; Every Spring)

Understanding and application of best practices for teaching reading/writing with DHH students in school age settings including incorporating bilingual strategies (making connections between ASL and English).

EPSY 5647. Spoken Language Practices and Assistive Technology: Deaf and Hard of Hearing. (; 2 cr. ; A-F only; Every Summer)

Study of the role and function of spoken English and Assistive technology in classrooms with students who are deaf or hard of hearing. Including understanding of speech and hearing mechanisms. Emphasis on application of spoken language practices in bimodal settings. prereq: EPSY 5642, 5644

EPSY 5651. Best Practices Teaching Content Areas: Deaf Education. (; 3 cr. ; A-F only; Every Spring)

The purpose of this course is to prepare future teachers of the deaf to understand and apply best practices for teaching students who are deaf and hard of hearing across curricular subject areas and emphasizes infusion of language and literacy into all content areas. This course is designed to be a highly practical ?how to? course that will prepare students to go into classrooms with an understanding of how to integrate content across curricula using bilingual strategies and how to adapt materials to meet the needs of deaf and hard of hearing students at various reading levels.

EPSY 5652. Incorporating Academic ASL in the Classroom: Deaf and Hard of Hearing. (; 3 cr. ; A-F only; Every Fall)

Understanding/application of best practices incorporating Academic ASL in classrooms for students who are deaf or hard of hearing. Practice their own academic ASL skills while learning to facilitate their future students academic language. Demonstrating complex ASL across all subject areas using bilingual strategies and conceptually accurate signs.

EPSY 5653. ASL/English Structure and Application. (; 3 cr. ; A-F only; Every Fall)

Understanding the structure and assessment of ASL and English in deaf and hard of hearing children and how to analyze each language. Students gain knowledge of the parts of each language, various assessments prepare future teachers to evaluate and facilitate the development of ASL and English. Readings drawn from both bilingual and Deaf education.

EPSY 5654. Current Research, Issues Trends in Deaf Education. (; 1 cr. ; A-F only; Every Spring)

Examining current research, issue trends in Deaf Education to help prepare future teachers to develop an understanding of research and apply critical thinking to analyze new issues, problem solve, and consider participating in research to practice opportunities that may arise during their career in Deaf Education.

EPSY 5657. Interventions for Behavioral Problems in School Settings. (3 cr. ; A-F or Audit; Every Fall)

Comprehensive behavioral programs for students with social and or emotional disabilities. Instructing students with social and or emotional disabilities.

EPSY 5659. Foundations of Behavior Analysis. (3 cr. ; A-F only; Every Fall)

Behavior analysis is the science of behavior along a continuum of basic to applied learning processes, both operant and respondent. Applied behavior analysis (ABA) is concerned with the improvement and understanding of human behavior. It is the science in which strategies derived from the principals of basic behavior analysis are applied systematically to improve socially significant behavior and experimentation is used to identify the variables responsible for change (Cooper, Heron, & Heward, 2007). This course focuses on basic concepts and methodologies involved in behavior analysis, and their relation to other theories of learning and behavior. This course is designed for individuals interested in learning from the perspective of behavior analysis and individuals who are interested in learning theory as it applies to individuals with significant cognitive and language impairments. This course is also designed to prepare students for the Behavior Analyst Certification Board (BACB) exam.

EPSY 5661. Introduction to Autism Spectrum Disorder. (; 3 cr. ; A-F only; Every Fall)

Knowledge/skills needed to promote learning/success for school age children with Autism Spectrum Disorder. Definition, etiology, and characteristics of ASD. Current research/issues. Collaborative problem solving, family-professional partnerships, educational programming.

EPSY 5663. Assessment and Intervention for Individuals with Autism Spectrum Disorder. (; 3 cr. ; A-F only; Every Spring)

Selection/use of range of procedures, including non-biased, specific assessments to screen/identify children with autism spectrum disorder. Specific intervention strategies designed to teach beginning communication/social skills to children with Autism Spectrum Disorder (ASD). prereq: 5661, Special Ed grad, licensure

student, ASD Certificate student, IDP major or instr consent

EPSY 5681. Educating Preschoolers with Disabilities: Specialized Approaches and Interventions. (; 3 cr. ; A-F only; Every Spring)

This course provides an opportunity to engage in in-depth learning related to a variety of specialized approaches and interventions designed to maximize developmental and educational outcomes for young children, birth to age 6, with disabilities and their families in home, community, and school-based settings. Early educators and early childhood special educators play a major role in the development, implementation, and evaluation of individualized programming and are called upon to provide services that are interdisciplinary, multicultural, family-centered, inclusive, developmentally appropriate, and effective. Thus, early childhood professionals must be knowledgeable of and proficient in their application of curricular adaptations and instructional strategies that address the needs of young children with a broad range of disabilities in a broad range of preschool settings. prereq: [5616, 5625] or instr consent

EPSY 5699. Experimental Teaching Seminar. (2 cr. ; A-F only; Every Fall & Spring)

EPsy 5699 will be taken concurrently with the student teaching experience. Coursework will center around experimental teaching utilizing data-based instruction for affecting student growth academically. Students will demonstrate this understanding by planning and conducting a 3-to-5 lesson instructional sequence for a selected focus learner during their student teaching year. In addition, students will record their instruction and reflect on the effectiveness of their academic instruction. Prereq: instr consent

EPSY 5701. Practicum: Field Experience in General Education - Inclusive Classrooms. (; 1-2 cr. ; S-N only; Every Fall & Spring)

Field-Based Practicum. Observe and actively participate in an inclusive (with and without disabilities) general education classroom. An emphasis is placed on communication skills and reflective practice.

EPSY 5702. Applied Behavior Analysis: Supervision Seminar I. (; 1 cr. [max 3 cr.] ; A-F only; Every Fall)

This course is designed to provide didactic instruction in supervision. Class meets weekly for one hour.

EPSY 5703. Applied Behavior Analysis: Supervision Seminar II. (; 1 cr. ; A-F only; Every Spring)

This course is designed to provide didactic instruction in supervision. Class meets weekly for one hour.

EPSY 5704. Clinical: Field Experiences in Middle and Secondary (HS/T) Special Education Classrooms. (; 1-2 cr. ; S-N only; Every Fall & Spring)

Field experiences (prior to student teaching) meet the requirements set by Minnesota's Professional Educator Licensing and Standards Board (PELSB). The focus of this course is

for initial licensure teacher candidates in the field of special education in preparation for practicing principles required for successful inclusion of students in their least restrictive environment (LRE). Teacher candidates will observe and interact with students with disabilities (license specific) teachers in middle and secondary (high school or transition) school settings. Consistent with the mission of the College of Education and Human Development and the Special Education Programs, this field experience strengthens effective educational practices, promotes inquiry and problem solving skills, and builds leadership skills for special educators who work with students with disabilities specific to the licensure area. All placements are requested and confirmed by the Field Placement Coordinator in the Special Education Program. Placements are based on licensure program requirements and information (e.g., availability) teacher candidates provide on the Field Experience Placement Questionnaire. Field experiences occur during the regular school day; scheduled between the hours of 7:30 a.m. and 4:00 p.m. Schedules vary by school and cooperating teacher. You will receive an email with all placement details once finalized.

EPSY 5705. Clinical: Field Experiences in ECSE or Elementary Special Education Classrooms. (; 1-2 cr. ; S-N only; Every Fall & Spring)

Field experiences (prior to student teaching) meet the requirements set by Minnesota's Professional Educator Licensing and Standards Board (PELSB). The focus of this course is for initial licensure teacher candidates in the field of special education in preparation for practicing principles required for successful inclusion of students in their least restrictive environment (LRE). Teacher candidates will observe and interact with students with disabilities (license specific) teachers in ECSE and elementary school settings. Consistent with the mission of the College of Education and Human Development and the Special Education Programs, this field experience strengthens effective educational practices, promotes inquiry and problem solving skills, and builds leadership skills for special educators who work with students with disabilities specific to the licensure area. All placements are requested and confirmed by the Field Placement Coordinator in the Special Education Program. Placements are based on licensure program requirements and information (e.g., availability) teacher candidates provide on the Field Experience Placement Questionnaire. Field experiences occur during the regular school day; scheduled between the hours of 7:30 a.m. and 4:00 p.m. Schedules vary by school and cooperating teacher. You will receive an email with all placement details once finalized.

EPSY 5706. Practicum in Moderate to Severe Developmental Disabilities. (2 cr. ; S-N only; Every Fall & Spring)
Practicing principles required for successful inclusion. Address model for best practices/requirements specified by Minnesota Board of Teaching.

EPSY 5707. Practicum in Moderate to Severe Learning Disabilities. (3 cr. ; S-N only; Every Fall & Spring)

Moderate/severe learning disabilities. Transfer of theoretical knowledge to practical application. Role of LD teacher in variety of settings.

EPSY 5708. Practicum in Moderate to Severe Emotional/Behavioral Disorders. (2 cr. [max 3 cr.] ; S-N only; Every Fall & Spring)

Moderate/severe emotional behavior disorders. Transfer of theoretical knowledge to practical application. Role of EBD teacher in variety of settings.

EPSY 5741. Student Teaching: Academic and Behavioral Strategist. (3-6 cr. ; S-N only; Every Fall & Spring)

Transfer of theoretical knowledge to practical application. Responsibilities of special education teacher in variety of settings. prereq: Special education licensure program or instr consent

EPSY 5742. Student Teaching: Autism Spectrum Disorders. (6 cr. ; S-N only; Every Fall & Spring)

Transfer of theoretical knowledge to practical application. Role/responsibilities of special education teacher in settings of elementary/secondary age.

EPSY 5751. Student Teaching for Deaf Education. (; 1-6 cr. [max 60 cr.] ; A-F only; Every Spring)

Students participate in educational programming for infants, children, and youth who are deaf or hard of hearing. On-site, directed experiences under supervision of master teachers of deaf/hard of hearing students.

EPSY 5755. Student Teaching: Developmental Disabilities, Mild/Moderate. (; 1-6 cr. ; A-F or Audit; Every Fall & Spring)

Supervised student teaching, or special practicum project, in schools or other agencies serving students at elementary/secondary levels who have mild to moderate developmental disabilities. prereq: Completion of all licensure coursework, instr consent

EPSY 5756. Student Teaching: Developmental Disabilities, Moderate/Severe. (; 1-6 cr. ; A-F or Audit; Every Fall & Spring)

Supervised student teaching, or special practicum projects, in schools or other agencies serving students at elementary/secondary levels who have moderate to severe developmental disabilities. prereq: Completion of all licensure coursework, instr consent

EPSY 5761. Student Teaching in Early Childhood Special Education Settings for Children Aged Three to Five Years. (; 3 cr. [max 6 cr.] ; S-N only; Every Fall & Spring)

Student teachers work closely with their cooperating teacher and University supervisor to design/implement programming for children in classrooms. Course includes a seminar with discussion, cooperative learning experiences, and some lectures. prereq: Licensure candidate in Early Childhood/Early Childhood Licensure Program, completion of all other

licensure requirements for ECSE, instr consent; completion of Birth-3 student teaching should be completed after age 3-5 student teaching when possible

EPSY 5762. Student Teaching in Early Childhood Special Education for Children Aged Birth to Three Years. (; 3 cr. [max 6 cr.] ; S-N only; Every Fall & Spring)

Student teachers work closely with cooperating teacher and University supervisor to design/implement programming for families with children aged birth-to-three in their homes. Course includes seminar with discussion, cooperative learning experiences, and some lectures. prereq: Licensure candidate in Early Childhood/Early Childhood Licensure Program, completion of all other licensure requirements for ECSE, instr consent; completion of Birth-3 student teaching should be completed after age 3-5 student teaching when possible

EPSY 5763. Practicum in Special Education: Behavior Intervention Planning and Implementation. (2 cr. ; S-N only; Every Fall)

This course will be delivered within a clinical model of instruction where the instructor serves as a coaching guide and the candidates participate in a community of practice with their peers. It is expected that given the instructor's coaching and the interactions within the community of practice, that the candidate will complete the portfolio associated with this course and, as part of that completion, demonstrate proficiency in all competencies associated with this course in order to earn a passing grade. As such, there is not a didactic instruction component or assigned readings for this clinical model of instruction-based course.

EPSY 5765. Practicum in Special Education: Instructional Planning and Delivery. (2 cr. ; S-N only; Every Fall)

This course will be delivered within a clinical model of instruction where the instructor serves as a coaching guide and the candidates participate in a community of practice with their peers. It is expected that given the instructor's coaching and the interactions within the community of practice, that the candidate will complete the portfolio associated with this course and, as part of that completion, demonstrate proficiency in all competencies associated with this course in order to earn a passing grade. As such, there is not a didactic instruction component or assigned readings for this clinical model of instruction-based course.

EPSY 5802. History & Scientific Bases of Psychology. (3 cr. ; A-F only; Every Fall)

The course is designed to provide discipline-specific knowledge comprising the core of psychology. Accordingly, students will attain substantial knowledge in (1) history and systems of psychology, (2) affective, (3) biological, (4) cognitive, (5) developmental, and (6) social aspects of behavior.

EPSY 5849. Multi-tiered Systems of Support in Early Childhood Education. (; 3 cr. ; A-F only; Spring Even Year)

This course explores how multi-tiered systems of support (MTSS) are applied in early childhood settings. The course features

content on early childhood assessment, intervention, data-based decision making, treatment integrity and information on how to apply MTSS models with unique early childhood populations. This course focuses on educational settings for children ages birth to 5 and is intended primarily for educational psychology students (or students from related disciplines) interested in basic and applied information regarding evidence-based service delivery for young children. The course will explore the three primary components of MTSS frameworks: assessment, intervention and data-based decision making including review of assessments and intervention techniques for infants and preschoolers in various developmental domains. Enrolled students will engage in a variety of instructional strategies to learn the noted content including large and small group discussion, lectures, active learning opportunities to practice and build capacity for specified interventions, technology-based interactions to support intervention, assessment and databased decision making and cooperative learning opportunities to engage content using dynamic methods.

EPSY 5851. Engaging Diverse Students and Families. (; 3 cr. ; Student Option; Every Fall & Spring)

Theoretical, practical, scientific issues involved in school psychological practice/training/research. Theoretical/empirical bases for developing appropriate dispositions, practices, strategies. Illustrative lectures, discussions, group activities, case studies, presentations. prereq: Honors senior or grad student

EPSY 5991. Independent Study in Educational Psychology. (; 1-8 cr. [max 20 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Self-directed study in areas not covered by regular courses. Specific program of study is jointly determined by student and advising faculty member. prereq: instr consent

Educational/Human Development (EDHD)

EDHD 1051. Editing for Writers. (; 2 cr. ; Student Option; Every Fall, Spring & Summer) Editing one's own writing. Linguistic features of standard written English. Styles/language utilized in academic writing. Small-group activities, individual/peer conferencing.

EDHD 1525V. CEHD First Year Experience. (WI; 4 cr. ; A-F only; Every Fall) Writing intensive multidisciplinary approach to addressing the common question, "How can one person make a difference?" Students read a common book/work collaboratively to produce a final project. Active learning strategies to develop students' skills in critical reading, thinking, and writing. prereq: CEHD student, honors, 1st-term fr

EDHD 1525W. CEHD First Year Experience. (WI; 4 cr. ; A-F only; Every Fall & Spring) Writing intensive multidisciplinary approach to addressing the common question, "How

can one person make a difference?" Students read a common book/work collaboratively to produce a final project. Active learning strategies to develop students' skills in critical reading, thinking, and writing.

EDHD 1620. Current Topics: Strategies for Student Success. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring) For topics see Class Schedule.

EDHD 1701. Identity, Culture, and College Success. (; 1 cr. ; A-F only; Every Fall) How culture/identity play role in educational experience. Self-authorship skills to create educational/personal path that aligns with values/beliefs. Lecture, discussion, readings, activities. prereq: TRIO or PES student

EDHD 1904. Globalizing your Undergraduate Curriculum. (GP,IP; 3 cr. [max 6 cr.] ; A-F only; Periodic Fall & Spring) EDHD 1904 is designed to engage domestic and international students in the multiple ways of thinking and doing for the expressed purpose of infusing a global perspective in their undergraduate education. Students will virtually engage with undergraduate students in Russia and China exploring what it means to be a student and adult participant on the world stage. Student will have exposure and experiences with international students, international student organizations, service learning, Collaborative Online International Learning (COIL), Massive Open Online Courses (MOOCs), Internationalization at Home (IaH), Study Abroad, and other international-based research, learning, or extracurricular processes and opportunities. This course will prepare students to embrace intercultural competency and its impact on self-awareness, social settings, course work, research projects, and career choices.

EDHD 2701. Your Future: Identity, Culture & Career Success. (2 cr. ; Student Option No Audit; Every Spring)

One of the biggest challenges for any college student is choosing a major and career! Making decisions about your major and future career can be overwhelming, confusing, and intimidating. Students often wonder, "What is the right major/career for me? How do I know my options? What steps do I need to take to reach my career goals? Who can I go to for help?" In this course you'll develop a clearer sense of self and create greater awareness of your multiple identities and how they influence your career decision-making and future success. You'll also learn the importance of social and cultural capital and how to build the capital needed to move forward in your career journey. Through community building, storytelling, reflection, readings, lecture, discussion, in-class activities and projects, you'll be empowered to define career success through your own lived experiences and cultural lenses, gain confidence in your career decision-making abilities, and author your own career journey.

EDHD 3100. International Topics for Undergraduates. (; 1-12 cr. ; Student Option; Every Fall, Spring & Summer)

Off-campus course. Topics from research exploration to academic/engagement activities. Delivered in international setting. Course requirements are determined by instructor(s) and reflect advanced undergraduate rigor. prereq: instr consent

EDHD 3161. Great Minds of the Renaissance. (GP,HIS; 4 cr. ; A-F only; Every Spring)

The Great Minds of the Renaissance course focuses on the development of scientific thought and the great minds behind those ideas; it delves into the intersection of scientific ideas with art, culture, religion, politics, etc. In doing so, it also covers a wide range of general or liberal education objectives.

EDHD 3300. Special Topics in Education and Human Development. (; 1-6 cr. [max 12 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Special topics in education/human development.

EDHD 3302. Demystifying and Engaging the Research Process. (3 cr. ; Student Option; Every Spring & Summer)

Have you ever considered participating in academic research but felt intimidated or uncertain about what the process includes? If so, this course is for you. The University of Minnesota is one of the largest research universities in the world and provides ample opportunity to get involved with world-class faculty and cutting-edge research. The primary goal of the class is to simultaneously introduce and engage students in demystifying the research process. The course includes guest lecturers and draws upon the expertise of nationally recognized faculty and professional staff from across campus representing a broad range of disciplines.

EDHD 5100. International Topics for Graduate Students. (; 1-12 cr. ; Student Option; Every Fall, Spring & Summer)

Off-campus course. Topics from research exploration to academic/engagement activities. Delivered in international setting. Course requirements are determined by instructor(s) and reflect graduate-level rigor.

EDHD 5300. Special Topics: Ed & Human Dev. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer) Special topics in education and human development.

Electrical & Computer Eng (EE)

EE 1001. Introduction to Electrical and Computer Engineering. (; 1 cr. ; S-N or Audit; Every Spring) Introduction to engineering/computer engineering. Techniques and technologies developed by electrical and computer engineers.

EE 1301. Introduction to Computing Systems. (; 4 cr. ; Student Option; Every Fall & Spring) C/C++ programming constructs, binary arithmetic and bit manipulation, data representation and abstraction, data types/

structures, arrays, pointer addressing, control flow, iteration, recursion, file I/O, basics of object-oriented programming. An Internet-of-Things lab is integral to the course.

EE 1701. Climate Crisis: Implementing Solutions. (TS; 3 cr. ; Student Option; Every Fall & Summer)

Energy from renewables such as solar and wind to combat potentially catastrophic climate change resulting from our use of fossil fuels; electrifying our transportation; ways to increase energy efficiency and energy conservation; need for energy storage to increase the penetration of renewables; role of technology, societal benefits and the ethics. Note: EE 1701 and EE 1703 (the lab) need to both be taken to fulfill the Physical Science Core requirement. EE 1701 alone fulfills the Technology and Society theme requirement.

EE 1703. Laboratory for Climate Crisis: Implementing Solutions. (PHYS; 1 cr. ; Student Option; Every Fall & Spring)

Laboratory to complement and accompany EE 1701. Experiments to include among: 1) Demonstration of Global Warming by CO₂, 2) characteristics of Light for Power Generation through PVs, Lighting through LEDs, and Growing Plants in Greenhouses, 3) Energy Generation Using PV Panels and the Maximum Power Point, 4) PV Panels in Series and Parallel combinations, 5) Wind Turbine Characteristics and the Maximum Coefficient of Performance, 6) Wind Turbine Characteristics for varying wind speeds and Pitch Control of Blades, 7) Battery Characteristics, 8) AC Electric Systems: Real and Reactive Power, 1-Phase, 9) Three-Phase Systems, Motors and Generators, 10) LEDs compared to Incandescent Lamps and CFLs, 11) Growing Plants using LEDs and batteries in Greenhouses, 12) Air Conditioning and Heat Pumps, 13) Simulation of various energy resources to meet the load demand on the electric grid, 14) Economic Calculations of using an Electric Vehicle and Participating in Community SolarGardens. EE 1701 and EE 1703 (the lab) need to both be taken to fulfill the Physical Science Core requirement. EE 1701 alone fulfills the Technology and Society theme requirement. prereq: EE 1701 or concurrent registration is required (or allowed) in EE 1701

EE 2015. Signals, Circuits and Electronics. (4 cr. ; Student Option; Every Fall, Spring & Summer)

Introduction to analog electrical systems with particular emphasis on audio circuits and signals. Time and frequency domain representations. Kirchhoff's laws. Power. Inductance and Capacitance. Introduction to op-amp circuits and their audio applications. Complex numbers and phasors. Introduction to Fourier Series. RLC circuits and basic filter networks. Laboratory experiments on audio amplifiers, distortion, intermodulation products, low-level differential amplifiers, bass/treble filters. prereq: concurrent registration is required (or allowed) in PHYS 1302, concurrent registration is required (or allowed) in (MATH 2243 or MATH 2373 or MATH 2573)

EE 2115. Analog and Digital Electronics.

(4 cr. ; Student Option; Every Fall, Spring & Summer)

An introduction to electronic circuits with emphasis on switching speed and analog mixed signal models. Transient analysis of RC, RL and RLC circuits. Gate delays and limitations on CMOS digital circuit switching. Transient response of lumped 1st and 2nd order ladder networks. Laplace transform and applications. Introduction to analog filters. Elementary sampled data filters. A/D and D/A circuit technologies. Laboratory experiments on AM modulation and superheterodyne receivers with focus on electronic implementation. prereq: 2015

EE 2301. Introduction to Digital System Design. (; 4 cr. ; Student Option; Every Fall & Spring)

Boolean algebra, logic gates, combinational logic, logic simplification, sequential logic, design of synchronous sequential logic, Verilog modeling, design of logic circuits. Integral lab. Prereq: [EE 1301 (preferred) or CSCI 1113 or CSCI 1103 or CSci 1133]

EE 2361. Introduction to Microcontrollers.

(; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Basic computer organization, opcodes, assembly language programming, logical operations and bit manipulation in C, stack structure, timers, parallel/serial input/output, buffers, input pulse-width and period measurements, PWM output, interrupts and multi-tasking, using special-purpose features such as A/D converters. Integral lab. prereq: EE 2301

EE 2701. Sustainable Electricity Supply: Renewables and Conservation. (TS; 3 cr. ; Student Option; Every Spring)

This course is on the very timely topic of combating climate change by looking closely at electricity generation, delivery, and its use for a sustainable future. Generating electricity from renewables and conservation in all forms, including improving energy efficiency, are the most important tools we have for combating climate change. This course will help you understand the historical development of energy production, the economic impacts of energy sources, the political implications, and primarily the technical understanding of solar power, wind power, electric vehicles, battery storage, fuel cells, energy distribution, and conservation. It will help you consider the potential societal benefits such as reduced energy bills, cleaner air and water, increased economic opportunities, and prepare you for exciting and meaningful careers in renewable energy and sustainability. Prerequisite: Physics 1302W (or equivalent)

EE 2703. Sustainable Electricity Supply: Renewables and Conservation Lab. (; 1 cr. ; Student Option; Every Spring)

This online lab is to complement what students are learning in the associated three-credit course EE2701. Students will conduct experiments related to Wind Turbines, Electronic Converters, Photovoltaics, LEDs, and the Smart Grid. Since all the experiments

are digitally controlled, they can easily be performed online. Co-requisite: EE2701

EE 3005. Fundamentals of Electrical Engineering. (; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Fundamentals of analog electronics, digital electronics, and power systems. Circuit analysis, electronic devices and applications, digital circuits, microprocessor systems, operational amplifiers, transistor amplifiers, frequency response, magnetically coupled circuits, transformers, steady state power analysis. prereq: Math 2243, Phys 1302; not for EE majors

EE 3006. Fundamentals of Electrical Engineering Laboratory. (; 1 cr. ; Student Option; Every Fall, Spring & Summer)

Lab to accompany 3005. prereq: Concurrent enrollment in 3005 is allowed but not required

EE 3015. Signals and Systems. (; 3 cr. ; Student Option; Every Fall & Spring)

Basic techniques for analysis/design of signal processing, communications, and control systems. Time/frequency models, Fourier-domain representations, modulation. Discrete-time/digital signal/system analysis. Z transform. State models, stability, feedback. Suggest taking EE 3101 concurrently. prereq: [2115, CSE Upper Division] or dept consent

EE 3025. Statistical Methods in Electrical and Computer Engineering. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Notions of probability. Elementary statistical data analysis. Random variables, densities, expectation, correlation. Random processes, linear system response to random waveforms. Spectral analysis. Computer experiments for analysis and design in random environment. prereq: [3015, CSE upper division] or instr approval

EE 3101. Signals, Circuits and Electronics Laboratory. (; 1 cr. ; A-F only; Every Fall & Spring)

Experiments in electronic systems for information processing; modulation, demodulation, and filtering using analog and digital electronics; sampling, quantization and digital filtering; feedback and phase lock loops. prereq: [2115, &3015, &3115, CSE Upper Division] or dept consent

EE 3102. Circuits and Electronics Laboratory II. (; 2 cr. ; Student Option; Every Fall, Spring & Summer)

Experiments in circuits/electronics. Team design project. prereq: [3101 or CSE or dept consent], attendance first day of class.

EE 3115. Analog Electronics. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Basic differential amplifiers using FETs and BJTs. Current sources for differential amplifiers. Op- amp-based differential amplifiers. IC op amps as multi-stage amplifiers. Ideal (dc) feedback. Stability and compensation of negative feedback amplifiers. Sinusoidal oscillators. Waveshaping circuits. Power amplifiers. Use of circuit simulators. EE 3015 and EE 3101 should be taken before or concurrently with EE 3115. prereq: [EE 2115, &EE 3015, CSE upper division] or dept consent

EE 3161. Semiconductor Devices. (; 3 cr. ; Student Option; Every Fall & Spring)
Elementary semiconductor physics; physical description of pn junction diodes, bipolar junction transistors, field-effect transistors. prereq: Upper div CSE, 2115, Phys 1302, Phys 2303 or Chem 1022

EE 3601. Transmission Lines, Fields, and Waves. (; 3 cr. ; Student Option; Every Fall & Spring)
Properties of transmission lines, electrostatics, magnetostatics, and electromagnetic waves in unbounded space. Guides, cavities, radiation theory, antennas. prereq: [2015, [Math 2374 or Math 2263 or Math 2574H or Math 3584H], [Phys 1302 or Phys 1402], CSE] or dept consen

EE 3940. Special Topics in Electrical and Computer Engineering. (; 1-4 cr. [max 8 cr.] ; Student Option; Every Summer)
Topics that are not available in regular courses. Topics vary. prereq: instr consent

EE 3951W. Junior Design Project. (WI; 2 cr. ; Student Option; Every Fall & Spring)
Prereq - EE 3101. Team participation in formulating/solving a structured common design problem emphasizing instrumentation systems. Oral/written presentations.

EE 3990. Curricular Practical Training. (1-2 cr. [max 12 cr.] ; S-N only; Every Fall, Spring & Summer)
Industrial work assignment involving advanced electrical engineering technology. Reviewed by faculty member. Final report covering work assignment prereq: instr consent, undergrad EE or CompE major

EE 4043W. Industrial Assignment II. (WI; 4 cr. ; A-F only; Every Fall, Spring & Summer)
Solution of system design problems that require developing criteria, evaluating alternatives, and generating a preliminary design. Final report emphasizes design communication and describes design decision process, analysis, and final recommendations. prereq: 3041

EE 4044. Industrial Assignment III. (; 2 cr. ; A-F only; Every Fall, Spring & Summer)
Industrial work assignment in engineering co-op program. Evaluation based on student's formal written report covering semester work assignment. prereq: 4043W

EE 4111. Advanced Analog Electronics Design. (; 4 cr. ; Student Option; Every Spring)
Basic integrated circuit building blocks of differential amplifiers, high bandwidth, instrumentation amplifiers. Current/voltage references. Feedback, stability, and noise in electronic circuits. Integral lab. prereq: 3015, 3115

EE 4161W. Energy Conversion and Storage. (WI; 3 cr. ; Student Option; Every Spring)
Fundamental physics/chemistry of selected energy conversion and energy storage devices. Connections with their electric power applications. Role of grid, application to electric vehicles. Lectures, lab, student presentations. prereq: 3161 or instr consent

EE 4163. Energy Conversion and Storage Laboratory. (; 1 cr. ; Student Option; Every Spring)
Provides laboratory experiences with the topics of 4161W, including the fundamental physics and chemistry of selected energy conversion and energy storage devices, their application, and their connection strategies in electric power applications. prereq: concurrent registration is required (or allowed) in 4161W

EE 4231. Linear Control Systems: Designed by Input/Output Methods. (3 cr. ; Student Option; Every Fall)
Modeling, characteristics, performance of feedback control systems. Stability, root locus, frequency response methods. Digital implementation, hardware considerations. prereq: [3015, [upper div CSE or grad student in CSE major]] or instr consent

EE 4233. State Space Control System Design. (; 3 cr. ; Student Option; Every Spring)
State space models, performance evaluation, numerical issues for feedback control. Stability, state estimation, quadratic performance. Implementation, computational issues. prereq: [3015, upper div CSE] or instr consent

EE 4235. Linear Control Systems Laboratory. (; 1 cr. ; Student Option; Every Fall)
Lab to accompany 4231. prereq: 4231 or concurrent registration is required (or allowed) in 4231

EE 4237. State Space Control Laboratory. (; 1 cr. ; Student Option; Every Spring)
Lab to accompany 4233. prereq: 4233 or concurrent registration is required (or allowed) in 4233; no cr for [EE or CompE] grad students

EE 4301. Digital Design With Programmable Logic. (; 4 cr. ; Student Option; Every Fall & Summer)
Introduction to system design/simulation. Design using Verilog code/synthesis. Emulation using Verilog code. prereq: 2301, [1301 or CSCI 1113 or CSCI 1901]

EE 4303. Introduction to Programmable Devices Laboratory. (; 1 cr. ; Student Option; Periodic Spring)
Verilog Language. Combinatorial and sequential logic synthesis with Verilog. Implementation in Field Programmable Gate Arrays (FPGAs). prereq: 2301, 2361; cannot receive cr for 4303 if cr granted for EE 4301

EE 4341. Embedded System Design. (; 4 cr. ; Student Option; Every Spring)
Microcontroller interfacing for embedded system design. Exception handling/interrupts. Memory Interfacing. Parallel/serial input/output methods. System Buses and protocols. Serial Buses and component interfaces. Microcontroller Networks. Real-Time Operating Systems. Integral lab. prereq: 2301, 2361, upper div CSE

EE 4363. Computer Architecture and Machine Organization. (; 4 cr. ; Student Option; Every Fall & Spring)
Introduction to computer architecture. Aspects of computer systems, such as pipelining,

memory hierarchy, and input/output systems. Performance metrics. Examines each component of a complicated computer system. prereq: 2361

EE 4389W. Introduction to Predictive Learning. (WI; 3 cr. ; Student Option; Fall Odd Year)
Empirical inference and statistical learning. Classical statistical framework, model complexity control, Vapnik-Chervonenkis (VC) theoretical framework, philosophical perspective. Nonlinear methods. New types of inference. Application studies. prereq: [3025, ECE student] or STAT 3022; computer programming or MATLAB or similar environment is recommended for ECE students

EE 4501. Communications Systems. (; 3 cr. ; Student Option; Every Fall)
Systems for transmission/reception of digital/analog information. Characteristics/design of wired/wireless communication systems. Baseband, digital, and carrier-based techniques. Modulation. Coding. Electronic noise and its effects on design/performance. prereq: 3025

EE 4505. Communications Systems Laboratory. (; 1 cr. ; Student Option; Every Fall)
Experiments in analysis/design of wired/wireless communication systems. Lab to accompany 4501. prereq: 4501 or concurrent registration is required (or allowed) in 4501

EE 4521. Introduction to Machine Learning and Data Science for Electrical and Computer Engineers. (3 cr. ; Student Option; Every Fall)
Computational techniques for analysis and inference from data. Python language programming. Elementary numerical optimization and statistical data analysis. Computational methods for clustering, dimensionality reduction, classification, regression, and time series analysis. Construction, training, and utilization of deep neural networks. Application case studies using datasets arising in Electrical and Computer Engineering. [Prereq: EE3025; MATH 2263 or 2374; MATH 2142, 2243, 2373 or CSCI 2033]

EE 4541. Digital Signal Processing. (; 3 cr. ; Student Option; Every Fall & Summer)
Review of linear discrete time systems and sampled/digital signals. Fourier analysis, discrete/fast Fourier transforms. Interpolation/decimation. Design of analog, infinite-impulse response, and finite impulse response filters. Quantization effects. prereq: [3015, 3025] or instr consent prereq: [3015, 3025] or instr consent

EE 4607. Wireless Hardware System Design. (; 3 cr. ; Student Option; Every Spring)
Random processes, noise, modulation, error probabilities. Antenna operation, power transfer between antennas, rf propagation phenomena, transmitters/receivers, transmission lines, effect of antenna performance on system performance, rf/microwave device technologies, small-signal amplifiers, mixers, power amplifiers, rf oscillators. prereq: [3015, 3115, 3601, CSE student] or dept consent

EE 4616. Antennas: Theory, Analysis, and Design. (3 cr. ; Student Option; Every Fall)

With the widespread use of cell phones autonomous vehicles, and the coming of the Internet of Things, there is an increasing need to understand wireless communications and radar sensors. A key component of these systems is the antenna. The purpose of this course is to help the student develop knowledge in the area of antennas. This involves understanding the parameters that are used to characterize antennas and how these effect system performance. An important aspect of the course is to provide the student with an understanding of the operating principles behind the most commonly used antennas. This is followed with exposure to basic design principles. These can be used to perform antenna design or can be used as starting points for design using an electromagnetic simulator. As part of the course, students will be exposed to simulator use through homework assignments and course project work. [EE 3601 or equivalent]

EE 4623. Introduction to Modern Optics. (3 cr. ; Student Option; Every Fall)

Modern optics broadly defined as geometrical, physical, and quantum optics, including interference and diffraction, optical polarization, Fourier optics, cavity optics, optical propagation, optical coherence, lasers, optical detection, and optical instruments. prereq: [Phys 2503 or Phys 2303] and [Math 2374 or MATH 2263 or MATH 2573H]; instr consent.

EE 4701. Electric Drives. (3 cr. ; Student Option; Every Spring)

AC/DC electric-machine drives for speed/position control. Integrated discussion of electric machines, power electronics, and control systems. Computer simulations. Applications in electric transportation, robotics, process control, and energy conservation. prereq: 3015

EE 4703. Electric Drives Laboratory. (1 cr. ; Student Option; Every Spring)

Laboratory to accompany 4701. Simulink-based simulations of electric machines/drives in applications such as energy conservation and motion control in robotics. prereq: 4701 or concurrent registration is required (or allowed) in 4701

EE 4721. Introduction to Power System Analysis. (3 cr. ; Student Option; Every Fall)

AC power systems. Large power system networks. Mathematics/techniques of power flow analysis. Short-circuit analysis, transient stability analysis. Use of power system simulation program for design. prereq: 2011

EE 4722. Power System Analysis Laboratory. (1 cr. ; Student Option; Every Fall)

Lab analysis of AC power systems, power system networks, power flow, short circuit, transient stability. prereq: 4721 or concurrent registration is required (or allowed) in 4721

EE 4741. Power Electronics. (3 cr. [max 4 cr.] ; Student Option; Every Fall)

Switch-mode power electronics. Switch-mode DC power supplies. Switch-mode

converters for DC and AC motor drives, wind/photovoltaic inverters, interfacing power electronics equipment with utility system. Power semiconductor devices, magnetic design, electro-magnetic interference (EMI). prereq: 3015, 3115

EE 4743. Switch-Mode Power Electronics Laboratory. (1 cr. ; Student Option; Every Fall)

Laboratory to accompany 4741. PSpice/Simulink-based simulations of converters, topologies, and control in switch-mode dc power supplies, motor drives for motion control, and inverters for interfacing renewable energy sources to utility grid. prereq: 4741 or concurrent registration is required (or allowed) in 4741

EE 4893. Directed Study. (1-3 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Studies of approved projects, either theoretical or experimental. prereq: dept consent

EE 4894. Honors Directed Research I.

(2 cr. ; Student Option; Every Fall, Spring & Summer)

Experience in research/design for electrical/computer engineering. Oral/written reports. This courses is part 1 of a two-part course that spans one year of research/design for electrical or computer engineering students. Students must apply and qualify for the course and obtain a faculty sponsor. Prereq: Departmental Consent

EE 4930. Special Topics in Electrical and Computer Engineering Laboratory. (1-2 cr. [max 6 cr.] ; A-F only; Periodic Fall, Spring & Summer)

Lab work not available in regular courses. Topics vary. prereq: CSE sr or grad student or instr consent

EE 4940. Special Topics in Electrical and Computer Engineering. (1-4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Topics that are not available in regular courses. Topics vary. prereq: CSE or instr consent

EE 4951W. Senior Design Project. (WI; 4 cr. ; Student Option; Every Fall & Spring)

Team participation in formulating/solving open-ended design problems. Oral/written presentations. prereq: 3015, 3115, 3102, attendance first day of class

EE 4981H. Senior Honors Project I. (2 cr. ; Student Option; Every Fall)

Experience in research/design for electrical/computer engineering. Oral/written reports. prereq: ECE honors, sr, instr consent

EE 4982V. Senior Honors Project II. (WI; 2 cr. ; Student Option; Every Spring)

Experience in research/design for electrical/computer engineering. Oral/written reports. prereq: 4981

EE 4994. Honors Directed Research II. (2 cr. ; Student Option; Every Fall, Spring & Summer)

Experience in research/design for electrical/computer engineering. Oral/written reports. This courses is part 2 of a two-part course that spans one year of research/design for

electrical or computer engineering students. Students must apply and qualify for the course and obtain a faculty sponsor.

EE 4999. Special Exam. (2 cr. ; Student Option;)**EE 5041. Industrial Assignment for Graduate Students.** (1 cr. ; S-N only; Every Fall, Spring & Summer)

Optional industrial work assignment. Evaluation based on student's formal written report covering semester's work assignment. This course counts for 6 credits of Academic Progress for the semester in which it is taken. prereq: Consent of Advisor and Office of the DGS

EE 5121. Transistor Device Modeling for Circuit Simulation. (3 cr. ; Student Option; Periodic Fall & Spring)

Basics of MOS, bipolar theory. Evolution of popular device models from early SPICE models to current industry standards. prereq: [3115, 3161, CSE grad student] or dept consent

EE 5141. Introduction to Microsystem Technology. (4 cr. ; Student Option; Every Spring)

Microelectromechanical systems composed of microsensors, microactuators, and electronics integrated onto common substrate. Design, fabrication, and operation principles. Labs on micromachining, photolithography, etching, thin film deposition, metallization, packaging, and device characterization. prereq: [3161, 3601, CSE grad student] or dept consent

EE 5163. Semiconductor Properties and Devices I. (3 cr. ; Student Option; Every Fall)

Principles/properties of semiconductor devices. Selected topics in semiconductor materials, statistics, and transport. Aspects of transport in p-n junctions, heterojunctions. prereq: [3161, 3601, CSE grad student] or dept consent

EE 5164. Semiconductor Properties and Devices II. (3 cr. ; Student Option; Every Spring)

Principles/properties of semiconductor devices. Charge control in different FETs, transport, modeling. Bipolar transistor models (Ebers-Moll, Gummel-Poon), heterostructure bipolar transistors. Special devices. prereq: 5163 or instr consent

EE 5171. Microelectronic Fabrication. (3 cr. [max 4 cr.] ; Student Option; Every Fall)

Fabrication of microelectronic devices. Silicon integrated circuits, GaAs devices. Lithography, oxidation, diffusion. Process integration of various technologies, including CMOS, double poly bipolar, and GaAs MESFET. prereq: CSE grad student or dept consent

EE 5173. Basic Microelectronics Laboratory. (1 cr. ; Student Option; Every Fall)

Students fabricate a polysilicon gate, single-layer metal, NMOS chip, performing 80 percent of processing, including photolithography, diffusion, oxidation, and etching. In-process measurement results are compared with final electrical test results. Simple circuits are used to estimate technology performance. prereq: [[5171 or concurrent registration is required (or

allowed) in 5171], CSE grad student] or dept consent

EE 5181. Micro and Nanotechnology by Self Assembly. (; 3 cr. ; Student Option; Spring Odd Year)

Self-assembly process of micro and nano structures for realization of 1-, 2-, 3-dimensional micro- and nano-devices. Micro and nanoscale fabrication by electrostatic, magnetic, surface tension, Capillary, intrinsic and extrinsic forces. Nanoscale lithographic patterning. Devices packaging, Self-healing process. prereq: EE 3161, Phys 1302

EE 5231. Linear Systems and Optimal Control. (; 3 cr. ; Student Option; Every Fall)

Properties and modeling of linear systems. Linear quadratic and linear-quadratic-Gaussian regulators. Maximum principle. prereq: [3015, CSE grad student] or instr consent

EE 5235. Robust Control System Design. (; 3 cr. ; Student Option; Every Spring)

Development of control system design ideas; frequency response techniques in design of single-input/single-output (and MI/MO) systems. Robust control concepts. CAD tools. prereq: CSE grad, 3015, 5231 or instr consent

EE 5239. Introduction to Nonlinear Optimization. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Nonlinear optimization. Analytical/computational methods. Constrained optimization methods. Convex analysis, Lagrangian relaxation, non-differentiable optimization, applications in integer programming. Optimality conditions, Lagrange multiplier theory, duality theory. Control, communications, management science applications. prereq: [3025, Math 2373, Math 2374, CSE grad student] or dept consent

EE 5241. Optimal Control and Reinforcement Learning. (3 cr. ; Student Option; Every Fall)

(Prereq-CSE grad student or instructor consent) A wide variety of control problems such as "walk from home to school via the shortest path" or "maintain a constant temperature" can be modeled using optimization. This course will survey a variety of methods for modeling and solving optimal control problems. In particular, we will cover numerical optimal control, model predictive control, system identification, dynamic programming, and reinforcement learning. Examples from robotics and aerospace systems will be given.

EE 5251. Optimal Filtering and Estimation. (; 3 cr. ; Student Option; Every Fall)

Basic probability theory, stochastic processes. Gauss-Markov model. Batch/recursive least squares estimation. Filtering of linear/nonlinear systems. Continuous-time Kalman-Bucy filter. Unscented Kalman filter, particle filters. Applications. prereq: [[[MATH 2243, STAT 3021] or equiv], CSE grad student] or dept consent; 3025, 4231 recommended

EE 5271. Robot Vision. (3 cr. ; Student Option; Every Fall)

Modern visual perception for robotics that includes position and orientation, camera

model and calibration, feature detection, multiple images, pose estimation, vision-based control, convolutional neural networks, reinforcement learning, deep Q-network, and visuomotor policy learning. [Math 2373 or equivalent; EE 1301 or equivalent basic programming course]

EE 5301. VLSI Design Automation I. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Basic graph/numerical algorithms. Algorithms for logic/high-level synthesis. Simulation algorithms at logic/circuit level. Physical-design algorithms. prereq: [2301, CSE grad student] or dept consent

EE 5302. VLSI Design Automation II. (; 3 cr. ; Student Option; Every Spring)

Basic algorithms, computational complexity. High-level synthesis. Test generation. Power estimation. Timing optimization. Current topics. prereq: [5301, CSE grad student] or dept consent

EE 5323. VLSI Design I. (; 3 cr. ; Student Option; Every Fall)

Combinational static CMOS circuits. Transmission gate networks. Clocking strategies, sequential circuits. CMOS process flows, design rules, structured layout techniques. Dynamic circuits, including Domino CMOS and DCVS. Performance analysis, design optimization, device sizing. prereq: [2301, 3115, CSE grad student] or dept consent

EE 5324. VLSI Design II. (; 3 cr. ; Student Option; Every Spring)

CMOS arithmetic logic units, high-speed carry chains, fast CMOS multipliers. High-speed performance parallel shifters. CMOS memory cells, array structures, read/write circuits. Design for testability, including scan design and built-in self test. VLSI case studies. prereq: [5323, CSE grad student] or dept consent

EE 5327. VLSI Design Laboratory. (; 3 cr. ; Student Option; Every Spring)

Complete design of an integrated circuit. Designs evaluated by computer simulation. prereq: [4301, [5323 or concurrent registration is required (or allowed) in 5323], CSE grad student] or dept consent

EE 5329. VLSI Digital Signal Processing Systems. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Programmable architectures for signal/media processing. Data-flow representation. Architecture transformations. Low-power design. Architectures for two's complement/redundant representation, carry-save, and canonic signed digit. Scheduling/allocation for high-level synthesis. prereq: [[5323 or concurrent registration is required (or allowed) in 5323], CSE grad student] or dept consent

EE 5333. Analog Integrated Circuit Design. (; 3 cr. ; Student Option; Every Fall)

Fundamental circuits for analog signal processing. Design issues associated with MOS/BJT devices. Design/testing of circuits. Selected topics (e.g., modeling of basic IC components, design of operational amplifier or comparator or analog sampled-data circuit

filter). prereq: [3115, CSE grad student] or dept consent

EE 5334. CMOS VLSI Data Converter Design. (3 cr. ; Student Option; Spring Odd Year)

This course covers the design of modern CMOS VLSI data converters. After a brief introduction to sampling theory and quantization noise the course will focus on various Nyquist rate and oversampled converters. In particular, we will discuss flash, pipelined, successive approximation and sigma-delta converters. The course will involve a design project that will require the use of the Cadence design tools or equivalent analog/digital VLSI design software.

EE 5340. Introduction to Quantum Computing and Physical Basics of Computing. (3 cr. ; Student Option; Every Spring)

Physics of computation will explore how physical principles and limits have been shaping paradigms of computing. A key goal of this course is to understand how (and to what extent) a paradigm shift in computing can help with emerging energy problems. Topics include physical limits of computing, coding and information theoretical foundations, computing with beyond-CMOS devices, reversible computing, quantum computing, stochastic computing. A previous course in computer architecture is suggested but not required.

EE 5351. Applied Parallel Programming. (3 cr. ; Student Option; Every Fall)

Parallel programming/architecture. Application development for many-core processors. Computational thinking, types of parallelism, programming models, mapping computations effectively to parallel hardware, efficient data structures, paradigms for efficient parallel algorithms, application case studies. prereq: [4363 or equivalent], programming experience (C/C++ preferred)

EE 5355. Algorithmic Techniques for Scalable Many-core Computing. (3 cr. ; Student Option; Spring Odd Year)

Algorithm techniques for enhancing the scalability of parallel software: scatter-to-gather, problem decomposition, binning, privatization, tiling, regularization, compaction, double-buffering, and data layout. These techniques address the most challenging problems in building scalable parallel software: limited parallelism, data contention, insufficient memory bandwidth, load balance, and communication latency. Programming assignments will be given to reinforce the understanding of the techniques. prereq: basic knowledge of CUDA, experience working in a Unix environment, and experience developing and running scientific codes written in C or C++. Completion of EE 5351 is not required but highly recommended.

EE 5364. Advanced Computer Architecture. (; 3 cr. ; Student Option; Every Fall)

Instruction set architecture, processor microarchitecture. Memory and I/O systems. Interactions between computer software and hardware. Methodologies of computer

design. prereq: [[4363 or CSci 4203], CSE grad student] or dept consent

EE 5371. Computer Systems Performance Measurement and Evaluation. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Tools/techniques for analyzing computer hardware, software, system performance. Benchmark programs, measurement tools, performance metrics. Deterministic/probabilistic simulation techniques, random number generation/testing. Bottleneck analysis. prereq: [4363 or 5361 or CSci 4203 or 5201], [CSE grad student] or dept consent

EE 5373. Data Modeling Using R. (1 cr. ; A-F only; Periodic Fall & Spring)
Introduction to data modeling and the R language programming. Multi-factor linear regression modeling. Residual analysis and model quality evaluation. Response prediction. Training and testing. Integral lab. An introductory course in probability and statistics is suggested but not required; basic programming skills in some high-level programming language, such as C/C++, Java, Fortran, etc also suggested.

EE 5389. Introduction to Predictive Learning. (3 cr. ; Student Option; Fall Even Year)
Empirical inference and statistical learning. Classical statistical framework, model complexity control, Vapnik-Chervonenkis (VC) theoretical framework, philosophical perspective. Nonlinear methods. New types of inference. Application studies. prereq: EE 3025, STAT 3022 or equivalent; computer programming or MATLAB or similar environment is recommended.

EE 5393. Circuits, Computation, and Biology. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Connections between digital circuit design and synthetic/computational biology. Probabilistic, discrete-event simulation. Timing analysis. Information-Theoretic Analysis. Feedback in digital circuits/genetic regulatory systems. Synthesizing stochastic logic and probabilistic biochemistry.

EE 5501. Digital Communication. (; 3 cr. ; Student Option; Every Fall)
Theory/techniques of modern digital communications. Communication limits. Modulation/detection. Data transmission over channels with intersymbol interference. Optimal/suboptimal sequence detection. Equalization. Error correction coding. Trellis-coded modulation. Multiple access. prereq: [3025, 4501, CSE grad student] or dept consent

EE 5505. Wireless Communication. (; 3 cr. ; Student Option; Every Spring)
Introduction to wireless communication systems. Propagation modeling, digital communication over fading channels, diversity and spread spectrum techniques, radio mobile cellular systems design, performance evaluation. Current European, North American, and Japanese wireless networks. prereq: [4501, CSE grad student] or dept consent; 5501 recommended

EE 5531. Probability and Stochastic Processes. (; 3 cr. ; Student Option; Every Fall)
Probability, random variables and random processes. System response to random inputs. Gaussian, Markov and other processes for modeling and engineering applications. Correlation and spectral analysis. Estimation principles. Examples from digital communications and computer networks. prereq: [3025, CSE grad student] or dept consent

EE 5542. Adaptive Digital Signal Processing. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Design, application, and implementation of optimum/adaptive discrete-time FIR/IIR filters. Wiener, Kalman, and Least-Squares. Linear prediction. Lattice structure. LMS, RLS, and Levinson-Durbin algorithms. Channel equalization, system identification, biomedical/sensor array processing, spectrum estimation. Noise cancellation applications. prereq: [4541, 5531, CSE grad student] or dept consent

EE 5545. Digital Signal Processing Design. (; 3 cr. ; Student Option; Every Spring)
Real-time implementation of digital signal processing (DSP) algorithms, including filtering, sample-rate conversion, and FFT-based spectral analysis. Implementation on a modern DSP Platform. Processor architecture. Arithmetic operations. Real-time processing issues. Processor limitations. Integral laboratory. prereq: [4541, CSE grad student] or dept consent

EE 5549. Digital Signal Processing Structures for VLSI. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Pipelining. Parallel processing. Fast convolution. FIR, rank-order, IIR, lattice, adaptive digital filters. Scaling and roundoff noise. DCT. Viterbi coders. Lossless coders, video compression. prereq: [4541, CSE grad student] or dept consent

EE 5561. Image Processing and Applications: From linear filters to artificial intelligence. (; 3 cr. ; Student Option; Every Spring)
Image enhancement, denoising, segmentation, registration, and computational imaging. Sampling, quantization, morphological processing, 2D image transforms, linear filtering, sparsity and compression, statistical modeling, optimization methods, multiresolution techniques, artificial intelligence concepts, neural networks and their applications in classification and regression tasks in image processing. Emphasis is on the principles of image processing. Implementation of algorithms in Matlab/Python and using deep learning frameworks. prereq: [4541, 5581, CSE grad student] or instr consent

EE 5581. Information Theory and Coding. (; 3 cr. ; Student Option; Fall Even Year)
Source/channel models, codes for sources/channels. Entropy, mutual information, capacity, rate-distortion functions. Coding theorems. prereq: [5531, CSE grad student] or dept consent

EE 5583. Error Control Coding. (; 3 cr. ; Student Option; Periodic Spring)
Error-correcting codes. Concepts, properties, polynomial representation. BCH, Golay, Reed-Muller/Reed-Solomon codes. Convolutional codes. Iterative codes. prereq: [[3025, Math 2373] or equiv], [CSE grad student or dept consent]

EE 5585. Data Compression. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Source coding in digital communications and recording. Codes for lossless compression. Universal lossless codes. Lossless image compression. Scalar and vector quantizer design. Loss source coding theory. Differential coding, trellis codes, transform/subband coding. Analysis/synthesis schemes. prereq: CSE grad student or dept consent

EE 5601. Introduction to RF/Microwave Engineering. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Fundamentals of EM theory and transmission lines concepts. Transmission lines and network analysis. CAD tool. Lumped circuit component designs. Passive circuit components. Connectivity to central communication theme. prereq: [3601, CSE grad student] or dept consent

EE 5602. RF/Microwave Circuit Design. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Transmission lines, network analysis concepts. CAD tools for passive/active designs. Diode based circuit designs (detectors, frequency multipliers, mixers). Transistor based circuit design (amplifiers, oscillators, mixer/doubler). prereq: [5601 or equiv], [CSE grad student or instr consent]

EE 5607. Wireless Hardware System Design. (; 3 cr. ; Student Option; Every Spring)
Review of random processes, noise, modulation, and error probabilities. Basis antenna operation, power transfer between antennas, rf propagation phenomena, transmitters/receivers, transmission lines, effect of antenna performance on system performance, rf/microwave device technologies, small-signal amplifiers, mixers, power amplifiers, rf oscillators.

EE 5611. Plasma-Aided Manufacturing. (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)
Manufacturing using plasma processes. Plasma properties as a processing medium. Plasma spraying, welding and microelectronics processing. Process control and system design; industrial speakers. Cross-disciplinary experience between heat transfer design issues and manufacturing technology. prereq: [[ME 3321, ME 3322] or equiv], [upper div CSE or grad student] or dept consent

EE 5613. RF/Microwave Circuit Design Laboratory. (; 2 cr. ; A-F only; Every Spring)
Scattering parameters, planar lumped circuits, transmission lines, RF/microwave substrate materials, matching networks/tuning elements, resonators, filters, combiners/dividers, couplers. Integral lab. prereq: [[5601 or concurrent registration is required (or allowed) in 5601], CSE grad student] or dept consent

EE 5616. Antenna Theory and Design. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Antenna performance parameters, vector potential/radiation integral, wire antenna structures, broadband antenna structures, microstrips/aperture theory, antenna measurements. prereq: [[5601 or concurrent registration is required (or allowed) in 5601], CSE grad student] or dept consent

EE 5621. Physical Optics. (; 3 cr. ; Student Option; Every Spring)
Physical optics principles, including Fourier analysis of optical systems/images, scalar diffraction theory, interferometry, and coherence theory. Diffractive optical elements, holography, astronomical imaging, optical information processing, microoptics. prereq: [3015, CSE grad student] or dept consent

EE 5622. Physical Optics Laboratory. (; 1 cr. ; Student Option; Every Spring)
Fundamental optical techniques. Diffraction and optical pattern recognition. Spatial/temporal coherence. Interferometry. Speckle. Coherent/incoherent imaging. Coherent image processing. Fiber Optics. prereq: [[5621 or concurrent registration is required (or allowed) in 5621], CSE grad student] or dept consent

EE 5624. Optical Electronics. (; 4 cr. ; Student Option; Every Fall)
Fundamentals of lasers, including propagation of Gaussian beams, optical resonators, and theory of laser oscillation. Polarization optics, electro-optic, acousto-optic modulation, nonlinear optics, phase conjugation. prereq: [[3601 or Phys 3002], CSE grad student] or dept consent

EE 5627. Optical Fiber Communication. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Components/systems aspects of optical fiber communication. Modes of optical fibers. Signal degradation/dispersion. Optical sources/detectors. Digital/analog transmissions systems. Direct/coherent detection. Optical amplifiers. Optical soliton propagation. prereq: [3015, 3601, CSE grad student] or dept consent

EE 5640. Introduction to Nano-Optics. (3 cr. ; Student Option; Every Fall)
This course will cover the physics and technology of nano-optics and plasmonics and their potential applications in biochemical sensing, super-resolution imaging, optical trapping, light emission, and spectroscopy. The following topics will be covered: - Maxwell's equations, E&M of metals - Fresnel's equations, light propagation in periodic media - Physics of surface plasmon waves - Metallic waveguides: metal-insulator-metal vs. insulator-metal-insulator - Optical antennas - Noble metal nanoparticles: Synthesis, optical properties, and applications - Optical biosensors based on surface plasmon resonance (SPR) - Surface enhanced Raman scattering (SERS) - Surface enhanced Infrared Absorption (SEIRA) - Super-resolution imaging and near-field optical microscopy - Light transmission through nano-apertures (extraordinary optical transmission) - Plasmonics at long wavelengths (infrared and terahertz) - Plasmonics in atomically thick

materials Knowledge of Maxwell's equations, Matlab, or Mathematica coding is suggested but not required.

EE 5649. Infrared Devices and Technology. (3 cr. ; Student Option; Periodic Fall)
One of the most economically and scientifically important but relatively unknown device technologies is infrared detection, sensing and imaging. Today the application space is much larger than traditional military applications and includes weather and climate satellites, industrial process control, petrochemical analysis, pollution sensing, astronomy, and biomedical clinical diagnostics. This class covers the basic physics of infrared emission and absorption in solid-state materials, molecules, and the atmosphere. It also discusses detector technology (with particular emphasis on types of semiconductor and quantum-dot photon detectors, microbolometers, and thermoelectric detectors) and the infrared spectroscopy of molecules to show why the infrared is so important in the study of chemical, biological, and atmospheric systems. The class will also examine types of commonly used spectrometers: cavity, dispersive, and FTIR and sampling of important applications: passive and active standoff detection, satellite climate and atmospheric monitoring, industrial and petrochemical analysis, and LIDAR. Other topics will be introduced as time allows.

EE 5653. Physical Principles of Magnetic Materials. (; 3 cr. ; Student Option; Every Fall)
Physics of diamagnetism, paramagnetism, ferromagnetism, antiferromagnetism, ferrimagnetism. Ferromagnetic phenomena. Static/dynamic theory of micromagnetics, magneto-optics, and magnetization dynamics. Magnetic material applications. prereq: CSE grad student or dept consent

EE 5655. Magnetic Recording. (; 3 cr. ; Student Option; Periodic Spring)
Magnetic fundamentals, recording materials, idealized models of magnetic records/reproduction, analytic models of magnetic record heads, sinusoidal magnetic recording, digital magnetic recording, magnetic recording heads/media, digital recording systems. prereq: CSE grad student or dept consent

EE 5657. Physical Principles of Thin Film Technology. (; 4 cr. ; Student Option; Every Fall)
Fabrication, characterization, and application of thin film and nanostructured materials and devices. Focuses on vacuum deposition. Materials science. Hands-on, team-based labs.

EE 5670. Spintronic Devices. (3 cr. ; Student Option; Spring Odd Year)
Basic concepts and physical principles underlying spintronic devices; engineering designs and basic features of matured spintronic devices: GMR and MTJ sensor, MRAM, etc; new opportunities and engineering designs and challenges of spintronic devices: STT-RAM, spin torque oscillator and all spin logic, etc.

EE 5705. Electric Drives in Sustainable Energy Systems. (; 3 cr. ; Student Option; Periodic Spring)

Role of electric drives in wind-electric systems, inertial storage, elec/hybrid vehicles. AC machines for energy-efficient operation using d-q axis modeling. Vector-/direct-torque-controlled induction motor drives. Permanent-magnet and interior-permanent magnet ac motor drives. Sensorless drives. Voltage space-vector modulation technology. prereq: [4701, CSE grad student] or dept consent

EE 5707. Electric Drives in Sustainable Energy Systems Laboratory. (; 1 cr. ; Student Option; Periodic Spring)
Lab to accompany 5705. prereq: 5705 or concurrent registration is required (or allowed) in 5705

EE 5721. Power Generation Operation and Control. (; 3 cr. ; Student Option; Spring Odd Year)
Engineering aspects of power system operation. Economic analysis of generation plants & scheduling to minimize total cost of operation. Scheduling of hydro resources and thermal plants with limited fuel supplies. Loss analysis, secure operation. State estimation, optimal power flow. Power system organizations. prereq: [4721, CSE grad student] or dept consent

EE 5741. Advanced Power Electronics. (; 3 cr. ; Student Option; Periodic Spring)
Physics of solid-state power devices, passive components, magnetic optimization, advanced topologies. Unity power factor correction circuits, EMI issues, snubbers, soft switching in dc/ac converters. Practical considerations. Very low voltage output converters. Integrated computer simulations. prereq: CSE grad student] or dept consent

EE 5745. Wind Energy Essentials. (2 cr. ; Student Option; Every Fall)
Design, planning, development/operation of wind energy facilities. Wind turbine generator types, wind forecasting/assessment, wind farm project development, grid integration, wind turbine controls, blade aerodynamics/acoustics, mechanical/hydrostatic transmissions, materials/structural reliability, wind turbine foundations, radar interference, role of public policy in wind energy. prereq: CSE grad student or dept consent

EE 5811. Biological Instrumentation. (; 3 cr. ; Student Option; Spring Odd Year)
This course will cover the physics and technology of biological instruments. The operating principles of optical, electrical, and mechanical biosensors will be discussed, followed by transport and delivery of biomolecules to the sensors. Techniques to manufacture these sensing devices, along with microfluidic packaging, will be covered. Lectures will be complemented by lab demo sessions to give students hands-on experiences in microfluidic chip fabrication, microscopy, and particle trapping experiments.

EE 5940. Special Topics in Electrical Engineering I. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Special topics in electrical and computer engineering. Topics vary.

EE 5960. Special Topics in Electrical Engineering III. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)
Special topics in electrical and computer engineering. Topics vary.

EE 5980. Teaching, Grading, and Lab Instruction Seminar. (1 cr. ; No Grade Associated; Every Fall)

The purpose of this course is to provide guidance and instruction in teaching, grading, and laboratory procedures. In addition, you will be provided with structured links to self-help resources, support from faculty, peers, and staff that will improve your effectiveness and efficiency while teaching and grading. The course is broken out into four components:
- A pre-semester orientation and series of three workshops (4 hours) - A series of bi-weekly seminars spaced throughout the semester (approx. 4 hours) - A private teaching consultation by CEI (3 hours, lab TAs only) - A wrap-up discussion session (2 hours)

EE 5990. Curricular Practical Training. (; 1-2 cr. [max 6 cr.] ; S-N or Audit; Every Fall, Spring & Summer)

Industrial work assignment involving advanced electrical engineering technology. Review by faculty member. Final report covering work assignment. prereq: Grad student, instr consent

Endodontics (ENDO)

ENDO 5300. Endodontics Orientation. (; 2 cr. ; A-F or Audit; Every Summer)

Clinic policies/procedures. Anatomy, access, evaluation, diagnosis. Pulp biology/microbiology. Etiology/cracks. Instrumentation. Obturation. Management of pain. Lab.

ENDO 5304. Advanced Clinical

Endodontics. (; 1-6 cr. ; A-F or Audit; Every Fall & Summer)

Diagnosis/treatment of clinical cases. Complex cases, new/unique techniques.

ENDO 5305. Advanced Clinical

Endodontics. (; 1-6 cr. ; A-F or Audit; Every Fall)

Diagnosis/treatment of clinical cases. Complex cases, new techniques. prereq: 5304

ENDO 5306. Advanced Clinical

Endodontics. (; 1-6 cr. ; A-F or Audit; Every Spring)

Diagnosis/treatment of clinical cases. Complex cases, new techniques.

ENDO 5307. Advanced Clinical

Endodontics. (; 1-6 cr. ; A-F or Audit; Every Summer)

Diagnosis/treatment of clinical cases. Complex cases, new techniques. prereq: 5306

ENDO 5308. Advanced Clinical

Endodontics. (; 1-6 cr. ; A-F or Audit; Every Fall)

Diagnosis/treatment of clinical cases. Complex cases, new techniques. prereq: 5307, dept consent

ENDO 5309. Advanced Clinical

Endodontics. (; 1-6 cr. ; A-F or Audit; Every Spring)

Diagnosis/treatment of clinical cases. Complex cases, new techniques. prereq: 5308

ENDO 5310. Advanced Clinical

Endodontics. (; 1-6 cr. ; A-F or Audit; Every Summer)

Diagnosis/treatment of clinical cases. Complex cases, new techniques. prereq: 5309

ENDO 5311. Advanced Endodontic

Emergency. (; 1 cr. ; S-N or Audit; Every Summer)

Each student is assigned weekly periods (8 hours/week) and is responsible for all emergencies in the endodontic clinic during this time. prereq: dept consent

ENDO 5312. Advanced Endodontic

Emergency. (; 1 cr. ; S-N or Audit; Every Fall)
Students assigned 8 hrs/wk, are responsible for emergencies in clinic. prereq: 5311

ENDO 5313. Advanced Endodontic

Emergency. (; 1 cr. [max 2 cr.] ; S-N or Audit; Every Spring)

Students assigned 8 hrs/wk, are responsible for emergencies in clinic. prereq: 5312

ENDO 5314. Advanced Endodontic

Emergency. (; 1 cr. ; S-N or Audit; Every Summer)

Students assigned 8 hrs/wk, are responsible for emergencies in clinic. prereq: 5313

ENDO 5315. Advanced Endodontic

Emergency. (; 1 cr. ; S-N or Audit; Every Fall)
Students assigned 8 hrs/wk, are responsible for emergencies in clinic. prereq: 5314, dept consent

ENDO 5316. Advanced Endodontic

Emergency. (; 1 cr. ; S-N or Audit; Every Spring)

Students assigned 8 hrs/wk, are responsible for emergencies in clinic. prereq: 5315

ENDO 5317. Advanced Endodontic

Emergency. (; 1 cr. ; S-N or Audit; Every Summer)

Students assigned 8 hrs/wk, are responsible for emergencies in clinic. prereq: 5316

ENDO 5329. Clinical Seminar I. (; 1 cr. ; A-F or Audit; Every Fall)

Oral/visual presentation of endodontic cases with follow up. Presentation of surgery cases before surgery. prereq: dept consent

ENDO 5330. Review of Cases. (; 1-2 cr. ; A-F or Audit; Every Spring & Summer)

Oral/visual presentation of endodontic cases with follow up. Presentation of cases before surgery. prereq: 5329

ENDO 5331. Review of Cases. (; 1 cr. ; A-F or Audit; Every Fall)

Oral/visual presentation of endodontic cases with follow up. Presentation of cases before surgery. prereq: 5330

ENDO 5332. Review of cases. (; 1 cr. ; A-F or Audit; Every Spring)

Oral and visual presentation of endodontic cases with follow up. Presentations of surgery cases before surgeries. prereq: dept consent

ENDO 5400. Advanced Endodontics for

the General Dentist. (; 1 cr. ; S-N or Audit; Periodic Fall & Spring)

Advanced diagnosis/treatment of endodontics in clinic/office setting. Internship. prereq: dept consent

ENDO 5600. Endodontic Histopathology. (; 1 cr. [max 2 cr.] ; S-N or Audit; Periodic Spring & Summer)

Physiology of pulpal/periapical diseases. Normal histology of pulpal/periapical tissues. Histopathology of abnormal pulpal/periapical tissues. Differential diagnosis of periapical radiolucencies.

English as a Second Language (ESL)

ESL 3001. Integrated Skills for Academic English. (; 2 cr. [max 4 cr.] ; Student Option; Every Fall & Spring)

This course focuses on the academic and language skills necessary to thrive in a U.S. university setting. Students will strengthen English language communication skills, both written and oral, that will help them succeed in their other content area courses at the University. Focus is on setting and achieving goals for academic success, understanding and using academic resources for the U.S. university, and building strategies and language for more effective communication with instructors and peers in academic writing, presentations, discussions, and group projects. Prerequisite: non-native speaker of English

ESL 3006. English for Business

Interactions. (2 cr. [max 4 cr.] ; Student Option; Every Fall & Spring)

This 2-credit course is designed for high-intermediate to advanced non-native speakers of English who are currently business majors or in a closely related major. The goal of this course is to help students polish their English skills for effective and culturally appropriate communication in the world of business. The course covers topics such as email for business communication, successful group work, cultural values, communication styles, interviewing, networking, and delivering effective presentations. This course has two major objectives: 1) to help students improve their English skills for internship- or job-seeking purposes, and 2) to help students improve their language, communication, and teamwork skills for use in a professional context in the U.S. prereq: non-native speaker of English

ESL 3007. English for Physics. (1 cr. [max 2 cr.] ; Student Option; Every Fall & Spring)

This course is designed for non-native speakers of English who have high-intermediate to advanced English skills and are currently enrolled in Physics 1301W. The goal of this course is to help students further develop the English and academic skills needed to be successful in their physics class. Students taking this course will gain more support and practice with the conventions of writing scientific lab reports, applying the concepts of academic integrity, interacting and participating in lab-type discussions and small group projects, using academic listening and note-taking strategies, and identifying campus resources for additional academic/social support. This course also

equips students with techniques to aid in their continual improvement of English skills for science and engineering contexts beyond the class. Prerequisite: non-native speaker of English

ESL 3008. English for Chemistry. (1 cr. ; Student Option; Every Fall & Spring)
This course is designed for non-native speakers of English who are currently enrolled in an introductory chemistry course (CHEM 1061 or 1065). Students taking this course will gain more support and practice with the conventions of writing scientific lab reports, interacting and participating in classroom and lab discussions, interpreting authentic texts (both written and aural), applying the concepts of academic integrity, and understanding the cultural expectations for seeking additional academic/social support. One of the goals of this course is to equip participants with techniques to aid in continual improvement of English skills for science contexts beyond the class.

ESL 3102. English Grammar for Academic Purposes. (; 4 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

In this course, students work on increasing their accuracy and range in English grammar. Topics that are especially relevant to academic writing, such as conciseness and smooth connections between sentences, are emphasized. Among the traditional topics of grammar, these are likely to be included: subordination, coordination, and transition expressions; tense, aspect, and associated adverbials; gerunds, infinitives, and other types of complementation; and lexical grammar--the grammar associated with individual words. Activities and regular assignments improve students' ability to analyze grammar, including their own mistakes, and to use English grammar more effectively. Prerequisite: a first language other than English

ESL 3202W. Academic Reading and Composition. (WI; 5 cr. ; Student Option; Every Fall & Spring)

This course is designed for students who are enrolled in degree programs at the University of Minnesota. In this course students will build and refine advanced-level skills and strategies, including audience awareness and incorporating sources, for reading authentic college-level texts and writing multi-draft papers in English. Students will read essays and articles on a variety of topics from multiple sources. Students will improve their ability to identify main ideas and details, analyze and critique support, and respond with their own ideas in writing and discussion. Students will plan and develop multi-draft papers to practice applying persuasive and expository modes of writing to accomplish specific purposes as writers and also develop informal writing skills. Prerequisite: a first language other than English. prereq: non-native speaker of English.

ESL 3402. Research Writing for the American University. (; 4 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

This course enables students to develop the methods of citation, conventions of style

and organization, and critical reading and thinking skills necessary for writing college-level research papers in English. Students apply a process approach to produce an academic research paper on a topic of interest. Structure and vocabulary usage are addressed individually. In addition, students learn how to use library resources effectively and become familiar with writing resources on campus. Prerequisite: a first language other than English

ESL 3502. Academic Listening and Speaking. (; 5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

In this course students will develop skills and strategies for listening to authentic academic content and for speaking in discussions and presentations on academic topics in English. Students will listen to academic lectures, develop note-taking skills, and synthesize and respond to content. This course will help students further develop both their fluency and accuracy through work on pronunciation, spoken grammar, and academic vocabulary. Students will develop skills for making effective academic presentations in English. prereq: a first language other than English

ESL 3550. Pronunciation Improvement. (; 2 cr. [max 4 cr.] ; Student Option; Every Summer)

This course provides an overview of pronunciation in English. Pronunciation Improvement is designed for advanced students who want to polish their pronunciation skills in English. In order to improve awareness and production of sounds in spoken English, a variety of areas of pronunciation are covered while paying special attention to individual needs. Students will also be equipped with techniques for independent pronunciation practice. Topics covered include word stress, sentence stress, rhythm, intonation, and linking. prereq: a first language other than English

ESL 3551. English Pronunciation. (; 4 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

This course is designed for students who want to polish their pronunciation skills in English and become more aware of the sounds of the English language. In order to improve students' ability to understand and pronounce English, a variety of areas of pronunciation will be covered while paying special attention to individual difficulties. Students will also be equipped with techniques to practice pronunciation improvement on their own. Topics covered include English sounds (individually and in combination with other sounds), word stress, sentence stress, rhythm, intonation, linking, understanding fast speech, pronunciation, and spelling connections. Open to students, visiting scholars, and members of the community with advanced English skills. Prerequisite: a first language other than English

ESL 3602. Speaking for Academic Purposes. (; 4 cr. [max 8 cr.] ; Student Option; Periodic Fall & Spring)

The goal of this course is to help advanced English speakers develop the skills needed to participate in academic interactions at the American university. The course covers

presentations, group presentations, seminar-style discussions, and informal exchanges. In this class, students learn to present themselves professionally and socially in academic settings in English with accuracy, variety, and flexibility. They learn to organize and outline academic presentations, present information clearly and effectively, explain concepts and processes from their academic field, involve audience members and respond to questions, and monitor and improve their spoken fluency, grammar, and pronunciation. Prerequisite: a first language other than English

ESL 3900. Special Topics in ESL. (; 1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

Topics vary. prereq: Non-native speaker of English

ESL 5006. English for Business Interactions. (2 cr. [max 4 cr.] ; Student Option; Every Fall & Spring)

This course is designed for students who are currently in a graduate program in business or in a closely related graduate program. The goal of this course is to help students polish their English skills for effective and culturally appropriate communication in the world of business. The course covers topics such as email for business communication, successful group work, cultural values, communication styles, interviewing, networking, and delivering effective presentations. This course has two major objectives: 1) to help students improve their English skills for internship- or job-seeking purposes, and 2) to help students improve their language, communication, and teamwork skills for use in a professional context in the U.S. Prerequisites: Graduate student, a first language other than English

ESL 5008. Speaking for Professional Settings. (2 cr. ; Student Option; Every Fall & Spring)

This course is designed for graduate students who speak a first language other than English and are seeking to improve their English speaking skills for professional contexts. The goal of this course is to help students refine their English skills for effective and culturally appropriate communication in specific professional situations. The course covers topics such as small talk, networking, interviewing, and presentation skills. Students will increase their confidence to communicate in a variety of settings including informal exchanges, career fairs, conference presentations, and job interviews. Prerequisite: Graduate student, a first language other than English

ESL 5009. Advanced English Conversation Skills for Professionals. (2 cr. ; Student Option; Periodic Fall & Spring)

This hybrid course is designed for graduate students who speak a first language other than English and are seeking to improve their English conversation skills for informal, professional settings. The goal of this course is to build fluency and apply culturally appropriate strategies to be effective communicators in English with peers, professors, and colleagues in graduate and post-graduate

work. Participants will increase their fluency and confidence to communicate in a variety of situations, and on a range of topics, by engaging in speaking practice outside of class such as informational interviews, peer networking, professional development events, and co-curricular activities. Prerequisites: Graduate student, a first language other than English

ESL 5302. Academic Writing. (; 4 cr. [max 8 cr.] ; Student Option; Every Fall & Spring) This course is designed for graduate students who speak a first language other than English. The course focuses on foundational writing skills and emphasizes the writing process - developing ideas, drafting, revising, and editing. Guided textual analyses of discipline-specific readings are used to develop writing skills through the close examination of strategies employed by accomplished writers. Through ongoing, active participation, students learn to (1) match writing to audience and purpose, (2) produce different genres of academic writing, (3) incorporate discipline-specific source material into writing, and (4) critique their writing and that of others. Gains in writing skills culminate in students' ability to transfer acquired skills into discipline-specific writing. Through development of personal voice and an appreciation for the importance of the credibility of the writer, students also learn to recognize and avoid plagiarism. Problems with sentence structure, lexical grammar, and diction are addressed individually. Prerequisites: Graduate student, a first language other than English

ESL 5900. Special Topics in English Language. (; 1-5 cr. [max 15 cr.] ; Student Option; Periodic Fall, Spring & Summer) Topics vary. prereq: Non-native speaker of English

English: Literature (ENGL)

ENGL 1001W. Introduction to Literature: Poetry, Drama, Narrative. (LITR,WI; 4 cr. ; Student Option; Every Fall, Spring & Summer) This is a writing-intensive course that also meets the Literature Core requirement. From epic battles against monsters in legendary kingdoms to stories about characters in worlds similar to our own, literature engages us with the diverse perspectives and experiences that make up our communities and world. ENGL 1001W introduces students to ways of understanding and appreciating literature in English across cultures and historical periods. Throughout this course, we will develop skills to help us understand literature, especially the ability to read language closely (a skill valuable in many disciplines beyond literature). We will explore how writers use language and literary aspects, such as genre, voice, tone, symbol, motif, theme, imagery, narrative, and form. We also will learn how to write about literature, sharing our interpretations of how and why literary works have meaning for ourselves and others, while viewing them through critical cultural lenses, including ways to understand how gender, race, ethnicity, religion, and class can function in literary texts.

ENGL 1003W. Women Write the World. (GP,WI,LITR; 3 cr. ; Student Option; Every Fall) Concepts in literary studies. Poems, plays, short stories, novels, essays, letters by women from different parts of world. Focuses on lives, experiences, and literary expression of women, including basic concepts of women's studies.

ENGL 1011. Laughter and Literature Through the Ages. (CIV,LITR; 3 cr. ; Student Option; Every Spring) Explaining how comedy differs from tragedy, Aristotle observed that "Man is the only animal who laughs and cries." Like our other emotions, laughter and grief are not rational (a purely reasonable animal would not be swayed by feelings), and that's why any attempt to rationalize either of these paradoxical emotions is likely to fail. Traditionally, grief is separated from laughter by using the twin categories of comic and tragic. But even in drama or literature, grief is not utterly desperate and laughter is not always funny. This last paradox -that laughter need not be comic- serves as a basic axiom for our course, which will study not just the laughter presented in literature but historical (e.g., classical and medieval) examples. Instead of focusing on contradictory generic theories, this course examines laughter in specific dramatic, narrative and historical works from ancient Greece and Rome down through the medieval and modern eras. This course will show students how to bring a historical perspective to bear on the philosophical question, "What is laughter?" As modern readers, they will learn that the best way for us to study a past culture is to start with critical thinking about our own.

ENGL 1031. Introduction to the Short Story. (LITR; 3 cr. ; Student Option; Every Fall) English literature boasts some of the most powerful, beautifully crafted short stories in world literature. In this class, we will use the short story as a path for understanding the craft of writing: how writers use language to present a vividly imagined world in a short number of pages. We will also examine the importance of genre: how, for example, a detective short story differs from a slice of life story. This is a lecture course, but will involve substantial student discussion.

ENGL 1041. Adaptation: Literature into Film. (AH; 3 cr. ; Student Option; Every Fall & Spring) Do you refuse to see a film until you've first read the book on which it is based, so it doesn't affect how you imagine the characters? Or does a film inspire you to go back and read the original book, to see what the filmmakers changed or left out? Either way, if you love book covers that say "Now a major motion picture," this is the class for you. "Adaptation: Literature to Film" explores the historical, cultural, and aesthetic contexts in which both literary and cinematic texts are produced and received. We will ask such questions as: When we read a book or a play and then watch an adaptation of it, are we in any sense encountering the "same" text? Does the intention of the author necessarily define the meaning of a text, as readers see it? What

other elements enter into the formulation of meaning(s)? How are elements of an inter-textual system always, in some sense, "in dialogue" with each other, and how do different media affect us differently -- whether emotionally, aesthetically, or intellectually? In this class you will learn skills related to interpreting and writing about both literature and moving image media (i.e., film, television, animation, etc.), including concepts and vocabulary specific to each, and your written assignments will include close readings of both books and films.

ENGL 1051. Progress & Madness: Literature, Science & Technology. (LITR; 3 cr. ; Student Option; Every Fall) This introductory, Liberal Education course explores the conflicts and conversations that occur at the frontiers of scientific thinking and technological innovation by examining select literary and cinematic texts from a variety of historical moments and points of view. We will consider the ambivalence and anxiety that attend progress via topics such as electricity, telegraphy, photography, the railroad, the cinema, Fordism, the atomic bomb, genetic engineering, and the Internet. We will also track the archetype of the mad scientist, whose dangerous knowledge and often-fatal hubris typically turn a tale "cautionary." Students engage in detailed analysis of and reflection on works of literature and film that address both historical and contemporary developments in science and technology. The course introduces students to a range of technologies that have had a measurable impact on contemporary society. Class discussion uses the representation of these innovations as case studies in how technologies develop through the application of individual and collective effort, as well as how society adopts or rejects these technologies. By considering a variety of points of view on these developments, students are exposed to multiple perspectives through which a technology can be understood, and they develop skills in evaluating conflicting views that provide a framework with which to evaluate new technology in the future.

ENGL 1172. The Story of King Arthur. (LITR; 3 cr. ; Student Option; Every Spring) Of all the stories familiar to the western world, few have exerted a greater influence on literary, pictorial, and musical productions than the legend of King Arthur and his Round Table. Although thousands of years have passed since the earliest versions of the story appeared, creative artists and their audiences continue to be fascinated by stories about Arthur, Merlin, Lancelot, Guinevere, Gawain, and Tristan. In this course, we will study adaptations of the legend in order to understand how literary writers and their readers remade the story to fit specific, historical circumstances. The course will pay particular attention to two related aspects of the legend. The first is the way that stories about Arthur emphasize the importance of personal integrity as a shaping force of history. The second is the relationship between personal responsibility and communal or civic order. We will see how these ideas are reshaped by

writers in various times and places (ranging from early medieval Wales and England to twenty-first-century America). We will think comparatively about these times and places by paying close attention to the literary traditions and forms that are employed by writers who remake the story of Arthur.

ENGL 1181W. Introduction to Shakespeare. (LITR,WI; 4 cr. ; Student Option; Every Fall & Spring)

This course explores the richness and variety of the playwright William Shakespeare through intensive study of representative plays and poems. Although Shakespeare died over 400 years ago, he is now more popular than ever. In his own day, Shakespeare was able to entertain, shock, amuse, and inform his audiences. Today, his work continues to have a global influence in nearly every corner of the world. Through class lectures, discussions and written work, students will be challenged and inspired by the many complexities and connections that we still have with the world's greatest playwright.

ENGL 1201W. Contemporary American Literature. (LITR,WI; 4 cr. ; Student Option; Every Spring & Summer)

In this course, we will focus on the analysis of literature, specifically novels and short stories published since 1960 by American authors. We will emphasize close reading, consistently and specifically addressing issues of language and meaning. Our books will also fuel an ongoing discussion of the formal aspects of literature, including style, characterization, plot, theme, tone, and symbolism, and their capacity to evoke a powerful response from readers. This four-credit writing intensive class requires attendance at a twice-weekly lecture and once-weekly discussion section.

ENGL 1301W. Introduction to Multicultural Literatures of the United States. (DSJ,WI,LITR; 4 cr. ; Student Option; Every Fall & Summer)

This course will include representative works by American Indian, African American, Asian American, Chicano/Chicana writers, and/or Jewish American writers, ranging from Nobel and Pulitzer prize-winning masters to upcoming genre authors and debut authors. In reading these works, we will discuss social and cultural factors informing America's literary past and present. As these authors honor identity, celebrate community, and deal with the complexities of the modern age, they also explore America's shared and problematic past. Because this course is Writing Intensive, we will spend considerable time drafting, discussing, and revising papers. Techniques for writing a paper, close reading strategies, and relevant critical approaches will be discussed. As we tease out the meanings and methods of our texts, we'll also identify and analyze key literary devices.

ENGL 1401W. Introduction to World Literatures in English. (GP,WI,LITR; 4 cr. ; Student Option; Every Fall & Spring)

This writing-intensive course will introduce you to texts from geographical locations such as Africa, Asia, and the Caribbean with the aim of

examining the impact that colonialism has had on previously colonized nations, as well as the world as a whole. Through close readings of these texts, we will examine questions related to concepts such as "third world," nationalism, difference, representation, and displacement.

ENGL 1501W. Literature and Public Life. (WI,LITR,CIV; 4 cr. ; A-F only; Every Fall & Spring)

This course explores how literary language builds the collective knowledge, shared reality, and civic relationships that make up public life. Literature's power in the public sphere goes far beyond the quiet, solitary experience of reading. We will investigate how telling stories, documenting events, imagining possibilities, communicating ideals, representing conflict, and even creating fictional characters contribute to public life. Through a wide variety of texts, we will reflect on the nature of public life and on how reading and writing build civic relationships and democratic potential. This course will also offer you two tracks for actively engaging in public life. A service-learning option will give you the experience of building literacy, developing skills in communication and public media, and strengthening roles in work and family. This recommended learning framework can engage your role as a citizen, broaden the impact of your education, and help you explore potential professional interests. Alternatively, an individually designed public project will prompt you to consider the links between literary/media culture, personal action, and public life, and to make your own intervention in these fields. To succeed in all areas of this class you must display active engagement, independent thinking and motivation, and organization.

ENGL 1701. Modern Fiction. (LITR; 3 cr. ; Student Option; Every Fall, Spring & Summer)

In Modern Fiction, we will study a selection of novels and short stories by some of the most compelling and original writers of our time. We will read work by contemporary authors and classic modernists whose stylistic innovations influenced a generation. Because literature is a continuum in which the present responds to the past, we'll note evolutions and developments in the genre over time. We will identify and analyze such elements of fiction as theme, genre, structure, form, language, and context.

ENGL 1701H. Honors: Modern Fiction. (LITR; 3 cr. ; A-F only; Every Fall & Spring)

In Modern Fiction, we will study a selection of novels and short stories by some of the most compelling and original writers of our time. We will read work by contemporary authors and classic modernists whose stylistic innovations influenced a generation. Because literature is a continuum in which the present responds to the past, we'll note evolutions and developments in the genre over time. We will identify and analyze such elements of fiction as theme, genre, structure, form, language, and context. prereq: Honors or instr consent

ENGL 1914. The Immigrant and the Refugee. (DSJ; 3 cr. ; A-F only; Periodic Fall)

This course will examine several case studies in the literature of immigration in the United

States: the Declaration of Independence, our founding text, which stages the country as a "nation of immigrants"; Ocean Vuong's *On Earth We're Briefly Gorgeous*, a queer Asian-American novel by a second generation immigrant; and the story of Ilhan Omar, Minneapolis's congressional representative, who is a Muslim woman, Somali-American, and both immigrant and refugee. Omar's story also serves as transition to the problem of the refugee, which we will address in two instances: the Jew in mid-twentieth century Europe, as staged in Hannah Arendt's *Who Are the Refugees?* and today's Palestinian, in Edward Said's *After the Last Sky*. As we read, we will consider how the figures of the immigrant and the refugee can signal both dispossession (the loss of home, nation, and community) and disruption (the troubling of these same notions of home, nation, and community that we so often take for granted).

ENGL 1923. Very Short Poems. (; 3 cr. ; A-F only; Periodic Fall)

Poetry has such a fiercely loyal subculture of readers that in 2017, Amanda Gorman was named the first National Youth Poet Laureate. *Very Short Poems* will introduce you to an adaptive art form that is ideal for our online world; every poem in the syllabus is found online. Featuring work ranging from Amanda Gorman (1998-) to Thomas Wyatt (1503-1542), but with a focus on the contemporary as well as the timeless, this seminar will be a literary "lab" class for reading short poems: identifying their effects, understanding how poets achieve those effects, and engaging the ways poets use non-narrative language and space to set a scene, convey an emotion, make an argument, and get us to inhabit a point of view. Class discussions will focus on the poems that most fascinate class members. What bothered or thrilled you? How did the poet make you feel this way with that phrase? Expect to learn why you love some poems and dislike others? a debate all fans of this art form enjoy.

ENGL 3001V. Honors: Textual Analysis: Methods. (WI; 4 cr. ; A-F only; Every Fall & Spring)

This course is designed for English majors and minors, as well as students interested in and attracted to literature and reading. Our concern will be to develop the intellectual foundations to move past our base, instinctive reactions to literature to deeper modes of reading, interpretation, and written analysis/argument. Our goal will be to develop the skills of slow-motion, skeptical reading: to savor the crafting of literary form and to explore how literary rhetoric engages our intellect and emotions; to read not simply for superficial content, but to engage and question the multi-faceted operation of literary texts. In terms of foundational writing skills for the English major, we will work on the development of compelling written literary arguments by breaking the writing process down into various phases. We will work with the basics of argumentation: developing a strong, coherent thesis, drafting, the logic of argument, revision, proper citation and effective use of primary and secondary sources, and more. prereq: Honors, [English

major or minor or approved BIS or IDIM program with English area]

ENGL 3001W. Textual Analysis: Methods.

(WI; 4 cr. ; A-F only; Every Fall & Spring)
This course is designed for English majors and minors, as well as any students interested in and attracted to literature and reading. Our concern will be to develop the intellectual foundations to move past our base, instinctive reactions to literature to deeper modes of reading, interpretation, and written analysis/argument. Our goal will be to develop the skills of slow-motion, skeptical reading: to savor the crafting of literary form and to explore how literary rhetoric engages our intellect and emotions; to read not simply for superficial content, but to engage and question the multi-faceted operation of literary texts. In terms of foundational writing skills for the English major, we will work on the development of compelling written literary arguments by breaking the writing process down into various phases. We will work with the basics of argumentation: developing a strong, coherent thesis, drafting, the logic of argument, revision, proper citation and effective use of primary and secondary sources, and more. prereq: [English major or minor or approved BIS or IDIM program with English area]

ENGL 3002. Modern Literary Criticism and Theory. (; 3 cr. ; Student Option; Every Fall & Spring)

This course is an introduction to contemporary literary criticism and theory. The goal is to provide you with a foundation in theory's terminologies, the different methodologies used in literary and cultural analysis, and a sense of the various schools of criticism that have developed in the postwar period. We will look at the ways that various texts perform as texts; they are not transparent or one dimensional, but rather open themselves to many different readings and styles of engagement.

ENGL 3003W. Historical Survey of British Literatures I. (HIS,WI; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This course will provide a historical survey of British literature from the Middle Ages to the end of the eighteenth century. Our focus will be on tracing the interactions between literature and wider British culture as well as on tracing the development of literary form during this period. You should leave this course being able to identify major literary trends and authors and link them to corresponding formal techniques and innovations. You should also have a sense of the major historical and political events, rulers, and social conditions in Britain at this time. Additionally, because this is a writing intensive course, you will leave this class familiar with the process of writing a research paper with a literary focus, which includes finding and successfully incorporating contemporary scholarly research about your topic into your paper, crafting an original argument, utilizing textual evidence, and evaluating existing scholarship.

ENGL 3004W. Historical Survey of British Literatures II. (HIS,WI; 4 cr. ; Student Option; Every Fall, Spring & Summer)

In this wide-ranging survey of British and post-colonial literature from the late eighteenth century to the present, we will explore representative literary texts and genres from British Romanticism, the Victorian period, Modernism, and the postwar era. Besides analyzing the language, aesthetic features, and technical construction of these literary artifacts, we will examine our readings as reflections of and reactions to social upheavals like the Industrial Revolution, challenges to the traditional role of women, scientific discoveries that sparked religious doubt, and the First World War. Additionally, because this is a writing intensive course, you will familiarize yourself with the process of writing a research paper with a literary focus, which includes finding and successfully incorporating contemporary scholarly research about your topic into your paper, crafting an original argument, utilizing textual evidence, and evaluating existing scholarship.

ENGL 3005W. Survey of American Literatures and Cultures I. (DSJ,WI,LITR; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This writing-intensive course will survey the Anglophone literature of what would become the United States from the arrival of English settlers to the Civil War. We will define "literature" broadly to not only include fiction and poetry but also the sermon, the letter, the essay, the autobiography, and other non-fictional forms. Course topics will include the Puritan theology that cast such a long shadow over the American cultural imagination; the fraught literary construction in the Revolutionary era of a national identity under the influence of such Enlightenment ideals as reason, civility, cosmopolitanism, and sympathy; the Gothic doubts about democracy that attended the literature of the early republic; the rise in the mid-nineteenth century of a radical intellectual and social movement in Transcendentalism; the antebellum ideological struggles over such political issues as slavery, industrialism, women's rights, and Native American rights; and the self-conscious cultivation of a national literary aesthetic in the Romantic prose and poetry of the period later critics would come (controversially) to call "the American Renaissance."

ENGL 3006V. Honors: Survey of American Literatures and Cultures II. (DSJ,WI,LITR; 4 cr. ; A-F only; Periodic Fall & Spring)

This course will survey some of the major literary figures, aesthetic movements, and thematic concerns of US literature from the Civil War to the present. Our investigation will identify common traits in the literature that causes it to fit within three very broad literary historical categories: realism, modernism, and postmodernism. We will explore what makes literature created by the people of the United States distinctly "American" during a period that extends from the Civil War and the outlawing of slavery to women's suffrage, workers' movements, the Great Depression, the First and Second World Wars, and the civil rights movement. In addition to reading and analyzing the literature itself in terms of

style, form, genre, and language, we will study it in historical context: the complex interplay between the political, the social, the cultural, and the literary in the United States. This approach rests upon the notion that literature is not created in a vacuum; it is influenced by and influences the world in which it is created.

ENGL 3006W. Survey of American Literatures and Cultures II. (DSJ,WI,LITR; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This course will survey some of the major literary figures, aesthetic movements, and thematic concerns of US literature from the Civil War to the present. Our investigation will identify common traits in the literature that causes it to fit within three very broad literary historical categories: realism, modernism, and postmodernism. We will explore what makes literature created by the people of the United States distinctly "American" during a period that extends from the Civil War and the outlawing of slavery to women's suffrage, workers' movements, the Great Depression, the First and Second World Wars, and the civil rights movement. In addition to reading and analyzing the literature itself in terms of style, form, genre, and language, we will study it in historical context: the complex interplay between the political, the social, the cultural, and the literary in the United States. This approach rests upon the notion that literature is not created in a vacuum; it is influenced by and influences the world in which it is created.

ENGL 3007. Shakespeare. (LITR; 3 cr. ; Student Option; Every Fall, Spring & Summer)

For over four hundred years, William Shakespeare has remained the most quoted poet and the most regularly produced playwright in the world. From Nelson Mandela to Toni Morrison, from South African playwright Welcome Msomi to Kuwaiti playwright Sulayman Al-Bassam, Shakespeare's works have continued to influence and inspire authors and audiences everywhere. This course examines representative works of Shakespeare from a variety of critical perspectives, as cultural artifacts of their day, but also as texts that have had a long and enduring vitality. This is a required course for English majors and minors, but it should also interest any student who wants to understand why and how Shakespeare continues to be one of the most important literary figures in the English language. English majors/minors must take this course A-F only grading basis.

ENGL 3007H. Honors: Shakespeare. (LITR; 3 cr. ; Student Option; Every Fall & Spring)

This course is a sampling of Shakespeare's corpus designed for English majors and minors and for other students who wish to study his works in depth. Our goal will be to view these works simultaneously as cultural artifacts of sixteenth and seventeenth-century England and as enduring classics of world literature that seem to transcend their cultural moment. To this end, we will apply various biographical, social, linguistic, generic, theatrical, political, and intellectual contexts to the plays. We will attempt to understand how these documents

from early modern England have spoken so profoundly about the enduring mysteries of human experience from the moment of their inceptive genesis to the present day. English majors/minors must take this course A-F only grading basis.

ENGL 3011. Jewish American Literature: Religion, Culture, and the Immigrant Experience. (DSJ,HIS; 3 cr. ; Student Option; Every Spring)

Immigrant? Jewish? American? What do these labels mean, why are they applied, and do they ever cease to be applicable? Can we distinguish religion from culture, and what are the implications when we try? Why is it frequently asked whether Saul Bellow was "really" a Jewish writer, but it is impossible to read Philip Roth as anything other than that? How does Grace Paley's "Jewishness" come through even when she is writing about non-Jewish characters? We will address these issues and others as we explore the literature growing out of the Jewish immigrant experience in America, as well as the literature by Jewish writers more firmly, though still sometimes anxiously, rooted in American soil. In this course we will engage in a highly contextualized and historicized study of Jewish American literature from the 19th century to today. We will discover in these texts how inherited Jewish culture and literary imaginings, developed over centuries of interaction between Jewish communities and the "outside world," get reexamined, questioned, rejected, reimagined, reintegrated, and transformed within the crucible of American experience. The discussions that ensue will also provide a framework for engaging with the creative energies and cultural productivity of more recent immigrant communities in the United States and beyond. Immigration and the experience of immigrant communities continues to be at the forefront of American consciousness, as immigrants work to create new meanings and new narratives for their lives, and as those who immigrated before them provide contested meanings for the impact of immigration on their own narratives. This course, though grounded in Jewish narratives, will therefore provide students with an expanded vocabulary and perspective for engaging in this central and very current debate within the American experience.

ENGL 3013. The City in Literature. (LITR; 3 cr. ; Student Option; Every Fall)

City life has always inspired great writing, and *The City in Literature* provides students with an opportunity to read and respond to a selection of works that are, in one way or another, about cities. The primary emphasis of the course is on texts written in English during the 19th, 20th, and 21st centuries, but some writing in translation and from other periods may also be assigned. Possible authors include but are not limited to the following: Guillaume Apollinaire, Charles Baudelaire, Kamau Brathwaite, Gwendolyn Brooks, Sterling Brown, Anna Burns, Charles Dickens, T.S. Eliot, Elena Ferrante, Allen Ginsberg, James Joyce, Juvenal, Federico Garcia Lorca, Amy Levy, Mina Loy, Claude McKay, Frank O?

Hara, Derek Walcott, Walt Whitman, Patricia Williams, Virginia Woolf, William Wordsworth, William Butler Yeats.

ENGL 3020. Studies in Narrative. (; 3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring)

Examine issues related to reading and understanding narrative in a variety of interpretive contexts. Topics may include "The 19th-century English (American, Anglophone) Novel," "Introduction to Narrative," or "Techniques of the Novel." Topics specified in the Class Schedule

ENGL 3022. Science Fiction and Fantasy. (; 3 cr. ; Student Option; Every Fall & Spring)

Science Fiction and Fantasy will introduce students to the study of classic and contemporary science fiction and fantasy literature. Using literary techniques, students will explore the alternate realities, characters, cultures, genders, races, ecologies, politics, settings, and technologies of science fiction and fantasy primarily through reading novels and stories. Questions may include: What does speculation about the future tell us about our present and past? What does the unreal reveal about our real lives? To what extent does science fiction function as both escapist fantasy and prophetic reality?

ENGL 3023. Children's Literature. (; 3 cr. ; Student Option; Every Fall & Spring)

This course provides an overview of the traditions of children's and young adult literature. The course will address the following questions among others: What is "children's literature"? What are some of its persistent themes and stylistic traits? In what ways may we say it has changed over time? What distinguishes children's literature, from, say, "grown-up" literature? Our readings will include classic and contemporary works with a focus on diversity regarding the authors, themes, and readership. In addition to becoming familiar with this body of knowledge, we will be developing critical reading skills within a "literary" context. We will also look into how, when, and where literature (specifically children's and young adult literature) and our everyday lives intersect, impact, and interact with each other.

ENGL 3024. The Graphic Novel. (; 3 cr. ; Student Option; Every Fall & Spring)

This course aims to read and study a specific kind of narrative we call "graphic novel." The term itself is often a point of contention, but the purpose of this course is not to defend the validity of the term or the medium. "Comic books" and "graphic novels" are not endangered animals. Rather, we will use this example of "sequential art" to think through the ways this genre intersects, uses, and informs various other narrative and artistic forms as well as the way the genre may be unique with its own way of producing meaning. Comics involve a hybrid strategy of image and text, so we will attempt to keep both aspects in mind throughout the semester, never forgetting that comics are neither purely "visual" nor purely "textual." Since comics are often wedded-in mainstream culture-with certain kinds

of content (e.g. superheroes), we will also investigate the characteristics of different "genres" within comics, as well as various questions about literariness.

ENGL 3025. The End of the World in Literature and History. (HIS; 3 cr. ; Student Option; Periodic Fall & Spring)

For at least two and a half millennia, prophets, politicians, and poets have crafted terrifying accounts about the end of the world. This comparatist seminar examines the way different cultures have imagined a final apocalypse with particular attention to the political and social consequences of their visions. Students will read texts that focus on pandemic, extraterrestrial attack, nuclear holocaust, prophecy, cybernetic revolt, divine judgment, resource depletion, meteoric impact, or one of the many other ways in which humans write of their demise. They will use literary analysis to explore the many historical and contemporary wastelands they will encounter. They will write short papers and give in-class presentations on different kinds of apocalypse.

ENGL 3026. Mediterranean Wanderings: Literature and History on the Borders of Three Continents. (GP; 3 cr. ; Student Option; Every Spring)

Situated between three continents and at the intersection of numerous ethnic and national cultures, the Mediterranean is like no other place on earth. A place of diverse languages, religions, economies, governments, and ways of daily life, it serves as a microcosm for the world itself imagined as an integrated global system. This course explores the history of the Mediterranean with particular emphasis on the literatures it has produced over the last three millennia. As the protagonists of these epic poems, religious texts, and novels travel from one shore to another, they experience the Mediterranean as a place of violence, cultural accommodation, hope, ethnic and linguistic bewilderment, and endless moral challenge. This course will place as much emphasis on the region's history as its cultural productions. With that in mind, reading may include David Abulafia's *The Great Sea* in addition to *The Odyssey*, *The Aeneid*, the biblical books of *Joshua* and *Acts*, Tasso's *Gerusalemme Liberata* (an epic set during the first crusade), Shakespeare's *The Merchant of Venice* and *Antony and Cleopatra*, Flaubert's *Salammbô*, Akli Tadjer's *Les ANI du Tassali*, A.b. Yehoshua's *Mr. Mani*, and Pamuk's *The White Castle*.

ENGL 3027W. The Essay. (WI; 4 cr. ; Student Option; Every Fall & Spring)

This is a course for students ready to face more challenging assignments and deepen their comfort and skill with writing. The instructor helps the student develop more sophisticated research strategies and experiment with more creative stylistic choices. Assignments might include autobiographies, critical comparisons, reviews of articles or books, cultural analyses, persuasive essays, and annotated bibliographies. Students in this course learn to 1) generate topics and develop

essays with greater independence than they exercised in freshman composition, 2) write for multiple audiences?academic and non-academic?making appropriate decisions about content, rhetoric, structure, vocabulary, style, and format, 3) write creative non-fiction and other genres incorporating complex description and analysis, 4) analyze the conventions and styles of writing in their major field, and 5) experiment with new and more sophisticated writing strategies and styles.

ENGL 3028. Paranoia and Pleasure:

Contemporary American Spy Novels. (LITR; 3 cr. ; Student Option; Periodic Fall & Spring) Spy fiction emerged in Britain and the United States during the early 20th century. Since then, it proliferated thematic sub-genres such as Tom Clancy?s techno-thrillers, Vince Flynn?s CIA-trained assassin, James Rollins?s science disaster group, David Baldacci?s eccentric Camel Club, and Daniel Silva?s globe-trotting Israeli spy Gabriel Allon. Spy Fi is concerned with threats to the state--Nazis, Russians, rogue states, terrorist masterminds, and moles here at home. In contrast to British Spy Fi, famously represented by James Bond, the MI6 agent who plied his trade in sophisticated or exotic settings, American novels tend to feature cowboy protagonists with military or sports backgrounds and a penchant for spectacular violence. In this course, we will read novels and analyze the development of sub-genres, protagonists, plots, settings, and language; the shifting roles of female characters; the paranoid ideologies that hover beneath the narratives or pop to the surface; and the target audiences and sales.

ENGL 3032. Shakespeare in London. (; 3 cr. ; Student Option; Summer Odd Year) How are different interpretations of Shakespeare?s works embodied in the theater? How are they transformed by location/context? Students attend/discuss theatrical productions.

ENGL 3040. Studies in Film. (; 3 cr. [max 9 cr.] ; Student Option; Every Fall, Spring & Summer)

Topics regarding film in variety of interpretive contexts, from range/historic development of American, English, Anglophone film.

ENGL 3045. Cinematic Seductions: Sex, Gender, Desire. (; 3 cr. [max 4 cr.] ; Student Option; Spring Odd Year)

Gender/sexuality in cinema. Sexuality/identity. Historical contexts of films. Theoretical debates regarding gender/sexuality.

ENGL 3061. Literature and Music. (LITR; 3 cr. ; Student Option; Every Spring)

In this course, we will explore the connections and parallels between music and literature, assessing both form and content and drawing upon various genres from both arts. We will examine some of the ways that musical and literary texts can change, subvert, or augment each other by applying critical and literary theories to intertextual readings. Among the subjects we may discuss are how authors use music in their work, both structurally and topically; how musicians use literature, both as lyric and as subject matter; and how members

of each group engage the artistic assumptions of the other. Students will gain a greater appreciation of the varied forms of creative expression and an increased understanding of how they influence each other through close reading and listening, discussions, reflective writing, and presentations.

ENGL 3070. Studies in Literary and Cultural Modes. (; 3 cr. [max 9 cr.] ; Student Option; Fall Odd Year)

Modes of literary expression/representation that transcend conventional demarcations of genre and historical periods. Topics may include horror, romance, mystery, comedy, and satire.

ENGL 3071. The American Food Revolution in Literature and Television. (CIV; 3 cr. ; Student Option; Every Fall)

America's relationship with food and eating has changed profoundly over the last fifty years. At the heart of this revolution was a group of charismatic personalities who through writing and television brought first European and then global sensibilities to the American table. They persuaded Americans that food and cooking were not just about nutrition but also forms of pleasure, entertainment, and art; ways of exploring other cultures; and means of declaring, discovering, or creating identity. Their work would eventually transform the American landscape, helping give rise to the organic movement, farmers markets, locavorism, and American cuisine, as well as celebrity chefs, the Food Network, and restaurant reality television. In the meantime, the environmental movement was sending its own shockwaves through American consciousness of food production and consumption. The joining together of these movements--culinary and environmental--has brought a new ethical dimension to the subject that is now at the forefront of current concerns about American food. Insofar as we eat, we necessarily make choices that have profound implications for our health, our communities, the environment, and those who work in the food industry, broadly defined. This class will trace the American food revolution with the intent of understanding how our current system came to be and thinking through the ethical implications of our daily actions. We will read classic literature from the rise of the movement, in varying degrees instructional, personal and documentary, while viewing some seminal television moments for the food culture we now know. We will give particular attention to recent work that focuses on the personal and environmental ethics of food.

ENGL 3072. Witchcraft, Possession, Magic: Concepts in the Atlantic Supernatural, 1500-1800. (LITR; 3 cr. ; Student Option; Every Spring)

Salem is what typically comes to mind when we think of witchcraft, and our class will indeed focus on the 1692 trials and their aftermath. But we will also range more broadly, exploring witchcraft in the early Atlantic world by paying special attention to the roles played by magic and possession. A fundamental aspect of this course, moreover, is its distinction as a literary one. This is not a class about how witchcraft,

possession, and magic ?change over time? but a class about their representations. From the beginning, we will be deeply attentive to the fact that each and every ?evidence? of witchcraft, possession, or magic is an act of representation in the first place. As literary historians, we will move from Europe to the Americas, looking at how invocations and accusations of witchcraft traveled between the 16th and late-18th centuries. More importantly, as literary critics we will trace and examine depictions of witchcraft and the idea of the witch across four interrelated socio-historical contexts: the Protestant Reformation in 16th-century Europe; slave medicine and obeah in the Caribbean; possession and the ?invisible world? in Puritan Massachusetts; and revivalism in 18th-century New England. By the end of this course, you will be able to: interpret literary texts and understand the literary aspects of historical documents; place literature in relation to its historical and cultural contexts; locate and evaluate relevant scholarship and cultural commentary; and formulate and communicate a focused and stylistically appropriate that supports its claims with textual evidence, especially through close and critical reading.

ENGL 3090. General Topics. (; 3 cr. [max 9 cr.] ; Student Option; Every Fall, Spring & Summer)

Topics specified in Class Schedule.

ENGL 3091. The Literature and Film of Baseball. (LITR; 3 cr. ; Student Option; Every Spring)

Baseball is the national pastime, often evoked with Mom and apple pie in a trinity of American-ness. How do Americans represent something they see as so quintessentially themselves? In this class, we will look at the variety and complexity of answers given to that question, from sunny nostalgia, to valorization of the individual, valorization of the team, depictions of the dark side of the American dream, critiques of racial relations, and an approach that strives to eliminate both the poetry and the hand-wringing with a long hard look at numbers and facts. In this journey, we will study and participate in a number of ways that literature teaches us to understand society and ourselves. We will examine the idea of American pastoral and anti-pastoral. We will use the great variety of ways to write about baseball as a platform to consider how we come to know and believe. Throughout the course, we will examine the way baseball writing treats race and gender. We will also look at excerpts of films made from some of the texts. Comparing the films to the literature allows us to discuss what representations of America seem more palatable to producers aiming for a larger audience than literature usually reaches and to highlight ways writing makes arguments that films cannot.

ENGL 3092. The Original Walking Dead: Misbehaving Dead Bodies in the 19th Century. (LITR; 3 cr. ; Student Option; Every Fall)

Examination and analysis of 19th-century British literature about dead bodies, the science of death, burial practices and anxieties, and

theories of the supernatural. This course includes fiction and poetry but also non-fiction, historical documents, and sensationalist media.

ENGL 3093. Law and Literature. (DSJ,LITR; 3 cr. ; Student Option; Every Spring)

ENGL 3093 Law & Literature examines how law and literature render diversity and social justice. The law is generally defined as a country's (or community's) system of rules that regulate people's actions and administer justice to them. Literature is generally defined as an assortment of oral and written texts regarded as having intellectual, aesthetic, and moral value. This course puts legal and literary texts into conversation to answer questions about how they render the equality of and the justice for diverse peoples.

ENGL 3101. Knights and Pilgrims in Medieval Literature. (LITR; 3 cr. ; A-F or Audit; Fall Odd Year)

Medieval writers and readers were fascinated by stories about knights and about pilgrims. In this course, we study some of the best-known and most compelling narratives and poems from the Middle Ages. Although written hundreds of years ago, these literary works speak to us of the human desire to strive for meaning and excellence, to work toward shared ideas of community, and to explore worlds beyond the sometimes narrow confines of home. Knights and pilgrims appear as central figures in a wide range of literary works. Some of the texts are humorous, like Chaucer's *Canterbury Tales* in which pilgrims, from social classes ranging from knights to tradespeople, travel together and tell stories. Some are exciting and emotional, like Malory's retelling of stories about King Arthur and his knights. Others provide us with explorations of longing for change: in these works people search for new kinds of social and spiritual life such as Margery Kempe's autobiographical account of her experiences as a pilgrim to Rome and the Holy Land. Still others, such as Langland's *Piers Plowman*, which incorporates pilgrimage and chivalric quest, critique and explode static ideas about social problems such as poverty and hunger. Some draw our attention to the dangers and turmoil involved in love and relationships, such as Marie de France's courtly, aristocratic lays: Marie's knights and ladies take up the search for love and meaning. Some, finally, invite us to imagine ourselves in mysterious otherworlds, such as Mandeville's *Travels* and Sir Orfeo, both of which focus on travel and self knowledge. These exciting and challenging works continue to speak to us about the quest to pursue ideals and to change the world and ourselves.

ENGL 3102. Chaucer. (3 cr. ; A-F or Audit; Every Fall & Spring)

Major/representative works written by Chaucer, including *The Canterbury Tales*, *Troilus and Criseyde*, and the dream visions. Historical, intellectual, and cultural background of the poems. Language, poetic theory, form.

ENGL 3114. Dreams and Dream Visions. (3 cr. ; Student Option; Fall Even Year)

Introduction to the literary genre known as the medieval English "dream vision" and to the

historical and theoretical discussion of dreams. We concentrate on four late medieval dream visions: Langland's *Piers Plowman*; Chaucer's *Book of Duchess* and *House of Fame*; and the *Gawain-Poet's Pearl*.

ENGL 3132. The King James Bible as Literature. (; 3 cr. ; Student Option; Fall Odd Year)

Literature of Jewish Bible ("Old Testament"). Narratives (Torah through Kings), prophets (including Isaiah), writings (including Psalms, Job, Ecclesiastes). God's words/deeds as reported by editors/translators.

ENGL 3134. Milton and Rebellion. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Milton's three great Restoration poems? *Paradise Lost*, *Paradise Regained*, and *Samson Agonistes*? are the focus of this course. We'll approach them by tracing Milton's growth as poet: first, by familiarizing ourselves with the religious and social ideas found in his writings down to the *Poems of 1645*; and second, by studying the political ideas Milton initially set forth in *The Tenure of Kings and Magistrates* (1649). Concurrently with our study of these earlier works, you'll be reading *Paradise Lost*, which you should complete by the end of the spring break. At that point, you'll be in a position to interpret Milton's three Restoration masterpieces in the light of his grand?and rebellious?aim of reforming England's civil and religious community, an aim Milton boldly reaffirms in 1660 in defiance of the Restoration of monarchy.

ENGL 3141. The Restoration and the Eighteenth Century: Sex, Satire, and Sentiment. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course will introduce you to some of the best literature of the Restoration and eighteenth century in England. Think of this course as a challenge: how can you, as someone who will spend most of your life in the 21st century, learn to appreciate and learn from literature written in far different times and places? A lot depends on your willingness to empathize with ways of thinking and being that are quite different from your own and your comfort with believing that other ages were just as complicated and as interesting as the one you live in. Typical authors include Dryden, Behn, Swift, Pope, Fielding, and Burney.

ENGL 3151. British Romantic Literature and Culture. (LITR; 3 cr. ; Student Option; Fall Odd Year)

In *British Romantic Literature and Culture*, students read poetry and prose written during the Romantic Period (1780-1832). Romantic authors permanently changed the way literature treats numerous subjects: nature, the imagination, revolution, war and politics, the role of the poet, the depiction of common life and language, and the representation of personal experience, to name a few. This was a period of great stylistic innovation, as authors experimented with the use of symbolism and the adaptation of classical mythology and explored medieval/gothic images and themes. Possible authors to be studied in this course include Jane Austen, Anna Letitia Barbauld,

William Blake, Lord Byron, Samuel Taylor Coleridge, Felicia Hemans, John Keats, Mary Shelley, Percy Shelley, Charlotte Smith, Mary Wollstonecraft, William Wordsworth.

ENGL 3161. Victorian Literatures and Cultures. (LITR; 3 cr. ; Student Option; Periodic Fall & Spring)

Why is the twenty-first century so obsessed with the nineteenth? From steampunk to political rhetoric, from movies to sex, writers and artists look back to the Victorian era for inspiration and challenge. One reason might be that Britain was the first country to experience the full effects of industrialized capitalism, with the opportunities and misery that it created. It also developed one of the largest empires in history, an empire whose legacy continues to shape global politics in good and bad ways. For all these reasons, understanding the Victorians is key to understanding ourselves. Women writers like Charlotte Bronte and George Eliot have always been at the center of Victorian studies, so the history and politics of gender are vital to Victorian literature. Class likewise remains inescapable in Victorian fiction with its sharp sense of a world divided into haves and have nots; depictions of the catastrophic effects of the factory system on the urban poor pervade Victorian literature and challenge readers to ponder how, and if, reading might lead to political action. Race has increasingly reshaped understandings of the literature of the period; although Britain abolished slavery in 1833-34, the period saw both a heightening of racist rhetoric and representation and the growth of a market for works by writers of color from the colonies, including Mary Seacole, J. J. Thomas, and Toru Dutt. Digital tools have made the present moment an exciting one in which to study this literature because so much information is now available: Victorian writing has become hyperaccessible for those with access to computers. For this class, this accessibility means that students have the opportunity not just to learn existing knowledge about the period but to discover new truths about it for themselves. This course aims to empower students to find their own paths to understanding and representing the Victorians as a way of revising how they see their present.

ENGL 3181. Contemporary Literary Nonfiction. (LITR; 3 cr. ; Student Option; Every Spring)

Contemporary literary nonfiction from the 1960s to the present, covering developments in narrative nonfiction, memoir, and personal essay.

ENGL 3182. Irish Literature. (3 cr. ; Student Option; Every Spring)

Against competing historical and political narratives, this study of 20th century Irish writers will show how their writing challenges assumptions about identity and nation, producing literature that pointedly does not carry a flag but instead explores the oppression, injustice, and violence that the individual being suffers as a consequence of it, and INSISTS on the right to resist, create, and misbehave. Authors will include Yeats, Joyce, Beckett, as well as others.

ENGL 3212. American Poetry from 1900. (; 3 cr. ; Student Option; Spring Even Year)
Famous and lesser-known poems from the Modernist era, the time of Frost, HD, Pound, Eliot and the Harlem Renaissance. The course attends to the intellectual and cultural background of the poets, poetic theory and form.

ENGL 3221. American Novel to 1900. (; 3 cr. ; Student Option; Fall Even Year)
Novels, from early Republic, through Hawthorne, Melville, and Stowe, to writers at end of 19th century (e.g., Howells, Twain, James, Chopin, Crane). Development of a national literature. Tension between realism and romance. Changing role of women as writers and as fictional characters.

ENGL 3222. American Novel from 1900. (3 cr. ; Student Option; Every Fall & Spring)
In this course, we will read and study novels of twentieth and twenty-first century American writers, from early 1900's realism through Modernists (e.g., Faulkner, Hemingway, Fitzgerald) to more contemporary writers (e.g., Baldwin, Ellison, Erdrich, Roth, Pynchon). We will explore each text in relation to literary, cultural, and historical developments and question the narrative and stylistic strategies specific to each work.

ENGL 3222H. Honors: American Novel from 1900. (; 3 cr. ; A-F only; Periodic Fall & Spring)
Novels from early 1900s realism through Modernists (e.g., Faulkner, Hemingway, Fitzgerald) to recent writers (e.g., Ellison, Bellow, Erdrich, Pynchon). Stylistic experiments, emergence of voices from under-represented groups. Novelists' responses to a technologically changing society.

ENGL 3231. American Drama. (3 cr. ; Student Option; Periodic Fall & Spring)
Representative dramas from 18th through 20th centuries. Topics include staging of national identities, aesthetics of modern/contemporary drama. Production concerns of mainstream, regional, community theaters.

ENGL 3301. Asian America through Arts and Culture. (AH,DSJ; 3 cr. ; Student Option; Spring Even Year)
The course focuses on the close analysis and interpretation of individual works by a range of modern and contemporary artists. Students will analyze, critique, and interpret these works in light of the historical and social contexts in which they were produced, their creation and uses of aesthetic form, and their impact on individuals and communities. Discussion, writing assignments, and oral presentations will focus on different ways of encountering and evaluating artistic work; for instance, students will write critical analyses and production reviews as well as dialogue more informally through weekly journal entries and online discussion forums. We will examine what it means to define artists and their work as being "Asian American" and explore how other categories of identity such as gender, sexuality, or class intersect with race. We will study how art works not only as individual creativity but also as communal and social practice; for instance, we look at the history of

theaters, such as East-West Players or Pan Asian Repertory Theatre, that have sustained Asian Americans as actors, playwrights, and designers.

ENGL 3303W. Writing Differences: Literature by U.S. Women of Color. (DSJ,WI,LITR; 3 cr. ; Student Option; Fall Odd Year)
Interpret/analyze poetry, fiction, and drama of U.S. women minority writers. Relationship of writer's history, ethnicity, race, class, and gender to her writings.

ENGL 3331. LGBTQ Literature: Then and Now. (DSJ,LITR; 3 cr. ; Student Option; Every Fall)
LGBTQIA life in the US has changed significantly over the past few decades. By examining a selection of poetry, prose, and film, our class will try to answer the questions: "How did we get to where we are today?" and "Where do we go next?" We will look at classic works in their historical contexts to see what was revolutionary about their publication; we will trace how they paved the way for all that followed. We will look at very new works to understand the concerns of twenty-first century LGBTQIA writers and readers. From the "lavender scare" to the Stonewall Riots to the AIDS pandemic to marriage equality to genderqueer and trans movements, we will explore how LGBTQIA authors and filmmakers have both responded to and shaped the ethos of our times.

ENGL 3332. Black Times: Afrofuturism, Afropessimism and the Future (Ends) of the World. (DSJ; 3 cr. ; Student Option; Spring Even Year)
In 1993, Mark Dery coined the term Afrofuturism to describe "[s]peculative fiction that treats African-American themes and addresses African-American concerns in the context of twentieth-century technoculture" and, more generally, African-American signification that appropriates images of technology and a prosthetically enhanced future." At the same time, Dery places this fictional treatment of Black futures in the context of a history systematically denied. Afropessimism, on the other hand, emerges at the turn of the 21st century in an interview between Saidiya Hartman and Frank B. Wilderson III as a meta theory that evinces a skepticism about the utility of the term Human to understand the positionality of blackness in an antiblack world. Blackness, for Afropessimists, becomes a technology by which the Human constitutes its Humanity as difference. This body of work generally understands the end of antiblackness as only possible with the destruction of "the world," understood to be definitionally antiblack. Starting with W.E.B. Du Bois's "The Comet," this course traces the relationships between African American literature, politics and sociality through the representation of blackness in relationship to technology. This course interrogates Dery's description of Afro Futurism as both descriptive and ideological. Put another way, this class is attentive to the way that the future is signified in the

contemporary world as well as the fact that, following Afropessimism's analysis, that world, and thus this mode of signifying blackness, may itself be antiblack. As a result, this course juxtaposes traditionally, technologically, Afrofuturist works, with those such as Parable of the Sower, The Broken Earth Trilogy, and An Unkindness of Ghosts that depict Black futures at or after the apocalypse. Students should expect to think and rethink the relationship between technology as a signifier of the future and those structures that continue antiblackness and colonialism. Additionally, students should also expect to gain a broad conceptualization of African American speculative fiction. Finally, students can expect to read texts of Black fiction that imagine futures in ways beyond the disasters of not only antiblackness, but of misogyny, heterosexism, ableism, and transphobia.

ENGL 3350. Women Writers. (; 3 cr. [max 9 cr.] ; Student Option; Spring Odd Year)
Women writers in the 19th and/or 20th centuries. Will focus either on writers from a single country or be comparative in nature. The course will be organized thematically or according to topics of contemporary and theoretical interest.

ENGL 3353. Jane Austen's Afterlives. (LITR; 3 cr. ; Student Option; Every Spring)
Why do the novels of Jane Austen, which were first published over two hundred years ago, still captivate readers all over the world? In this discussion-based course, which fulfills the Literature Core LE, we will closely examine five of Austen's major novels alongside the far more voluminous body of scholarship, sequels, screen adaptations, and fan responses that these works have inspired. Besides considering Austen's distinctive style, her contribution to the development of the novel form, and the cultural and historical context in which she wrote, we will explore a variety of ways in which the author and her work have been represented and reimagined across the globe. By focusing on a single author in depth, members of this course will not only investigate the array of cultural functions that Jane Austen has come to serve, but also hone their ability to analyze fundamental aspects of literary technique.

ENGL 3401W. Decolonial Literatures of the Americas. (DSJ,WI,LITR; 4 cr. ; Student Option; Periodic Fall & Spring)
This course begins with the assumption that "coloniality" as an idea and a practice does not end when the period of colonization ends. Instead, it continues on, through material violences that maintain and reproduce the legacies of colonization—legacies such as racial and gendered violence, exploitative labor, social death, forced migration, and uneven urbanization, among other pressing issues. This course will examine and compare what have been called the "decolonial" literatures of the Americas—literatures written in English or appearing in English translation that concern communities that have been oppressed and made invisible by colonialism. We will study a network of resistance, tactics, strategies, social movements, and ongoing creative practices, and we will critique the potential and

limitations of literature as a tool for activism and social change. The course will focus on understanding the relationships between literature, art, politics, and memory, and it will foster learning by doing as well as community outreach and relationship with local Indigenous communities. Students will visit local art galleries and other locales, create and maintain a class blog to be featured on the course website, and engage in their own creative forms of decolonial critique through weekly blog posts. Students' final projects will also explore decolonial perspectives and activism that specifically involves local practices of water activism and re-linking to Indigenous ways of knowing. This course does not have prerequisites beyond the University's entrance requirements.

ENGL 3501. Public Discourse: Coming to Terms with the Environment. (ENV,LITR; 3 cr. ; Student Option; Every Fall & Spring) This course explores significant environmental issues (such as environmental justice, toxic chemicals, climate change) through the analysis of texts from diverse literary genres. It focuses as much on issues of language and meaning as it does on the subjects these texts concern. Students examine the formal dimensions of these texts, as well as their social and historical contexts. In addition, students are introduced to the underlying scientific principles, the limitations of technologies, and the public policy aspects of each of these issues, in order to judge what constitutes an appropriate response to them. Students also learn how to identify and evaluate credible information concerning the environment.

ENGL 3502. Nature Stories: Environmental Discourse in Action. (LITR,CIV; 4 cr. ; Student Option; Every Fall) Explore contemporary texts from multiple disciplines to analyze the role of stories in interpreting nature. Emphasis on lived experience, civic motivation, and observational research that enrich effective nature writing. Optional service-learning component.

ENGL 3505. Protest Literature and Community Action. (DSJ; 4 cr. ; A-F only; Every Fall) This course combines academic analysis and experiential learning to understand, in both theory and practice, different perspectives on the power of "protest" in civic life. We will read a selection from the vast genre of progressive protest literature (pamphlets, poems, polemics, lists of demands, teaching philosophies, organizing principles, cultural histories, newsletter articles, movement chronicles, and excerpts from novels and biographies) from four key social-justice movements: the American Indian Movement, the Black Power movement, the post-Great Recession struggle for economic power, and the battle for immigrant rights. We'll also learn about this experientially as we roll up our sleeves and get involved in local community-based education initiatives and local social-justice organizations through our service-learning. Students receive initial training from CLA Career Services, The Center for Community-Engaged Learning,

the Minnesota Literacy Council, as well as orientations at community sites.

ENGL 3506. Social Movements & Community Education. (CIV; 4 cr. ; A-F only; Every Spring)

In this course, we'll examine four progressive social movements. After beginning with a foundational civil rights movement example, we will learn about the anti-racist feminism branch of the women's movement, often referred to as "third-wave feminism." We'll also study the Occupy movement that arose in response to the Great Recession (the financial crisis beginning in 2008). Then we'll take a look at two social movements that, while by no means underground, tend to fly below the radar: the prison abolition movement and the fight for public schools. While all of these social movements have different emphases, they also overlap quite a bit in their systemic analysis of society and their strategies for action. As activist, organizer, and trainer Rinku Sen observes, "the history of community organizing and social movements is replete with tactics learned in one movement being applied to another." As we study these social movements, community organizing will be of particular interest to us. How do the groups, collectives, nonprofits, and communities propelling these different social movements organize themselves, their leadership, their strategies, and their activities? How do they make decisions? What do meetings and planning processes look like? What do they do when they disagree? How do they recruit and mobilize? How do they communicate with and confront the general public, elected officials, and the more powerful elements of the ruling class? How do they talk about the work they're doing? How do they develop a vision of the world they'd like to live in while still inhabiting the present one, with all its flaws and injustices? We'll also examine the role of education in organizations working for social change. Whether through trainings, "political education," reading groups, or small group activities associated with popular education, many of the social-movement groups we'll study have developed educational strategies and curricula. Hands-On Learning through Community Education: As we study these social movements and their approaches to organizing and educating in the comfortable confines of our university classroom, we'll also learn about them experientially through our service-learning. That is, we'll work 2 hours per week at local education initiatives in K-12 schools, adult programs, and social-justice organizations in the non-profit and grassroots sectors, comprising a total of 24 hours by the end of the semester. This hands-on learning will strengthen our academic grasp of social movements, organizational dynamics, and teaching and community organizing by providing us with grounded perspectives. More broadly, we'll get a feel for what it's like to get involved as citizens, activists, teachers, and learners attempting to build cross-organizational coalitions. And we'll share what we learn with each other. Representatives from the Center for Community-Engaged Learning (the U's service-learning office) and

various community organizations will attend our second class session to tell you about their respective sites and how you can get involved. For our third class session, you will rank the top three community sites you'd like to work at. You will then be "matched" with a community organization, and your community education work will begin as soon as this matching process is complete. (We try to honor students' first and second choices, while also making sure that you also have some fellow classmates at your site.) To help prepare you, at a time convenient for you, you will also attend a training session facilitated by the Minnesota Literacy Council (MLC) or the Center for Community-Engaged Learning--details will be provided in class.

ENGL 3507W. Introduction to Chicana/o Literature. (DSJ,WI,LITR; 3 cr. ; Student Option; Every Fall & Spring) Cultural, intellectual, and sociopolitical traditions of Mexican Americans as they are represented in creative literature. Genres/forms of creative cultural expression and their significance as representations of social, cultural, and political life in the United States. Novels, short stories, creative nonfiction, drama, essay, poetry, and hybrid forms of literature.

ENGL 3592W. Introduction to Black Women Writers in the United States. (DSJ,WI,LITR; 3 cr. ; A-F only; Periodic Fall & Spring) The literature of African American women writers explored in novels, short stories, essays, poetry, autobiographies, and drama from the 18th to the late-20th century.

ENGL 3593. The African American Novel. (3 cr. ; Student Option; Every Spring) Explore African American novelistic traditions. Plot patterns, character types, settings, symbols, themes, mythologies. Creative perspectives of authors themselves. Analytical frameworks from contemporary literary scholarship.

ENGL 3597W. Introduction to African American Literature and Culture I. (DSJ,WI,LITR; 4 cr. ; Student Option; Every Fall) African American oral tradition, slave narrative, autobiography, poetry, essay, fiction, oratory, and drama, from colonial era through Harlem Renaissance.

ENGL 3598W. Introduction to African American Literature and Culture II. (DSJ,WI,LITR; 4 cr. ; Student Option; Every Spring) African American oral tradition, autobiography, poetry, essay, fiction, oratory, drama. From after Harlem Renaissance to end of 20th century.

ENGL 3601. Analysis of the English Language. (; 4 cr. ; Student Option; Every Fall, Spring & Summer) Introduction to structure of English. Phonetics, phonology, morphology, syntax, semantics. pragmatics. Language variation/usage.

ENGL 3704. Introduction to Editing and Publishing. (4 cr. ; Student Option; Every Fall & Spring)

What are the myriad activities that constitute a day in the life of a professional editor? According to Susan L. Greenberg's *A Poetics of Editing*, "In the popular imagination, the editor is a passive creature, busy telling people 'No.'? Are editors glorified gatekeepers, benevolent literary midwives, or cultural evangelists? This class focuses on the art and craft of editing and revision. We'll begin the semester by analyzing the relationship between author and editor, writer and reader. Students will learn the creative, professional, and relational aspects of editing in addition to learning how to sharpen their inner critic. We'll experiment in the classroom with giving and receiving critical feedback in an attempt to make better, more discerning and curious readers of us all. We'll also explore the surrounding professional landscape that is the Twin Cities' local literary and publishing cultures, and on occasion, meet seasoned professionals working with print and digital media across literature and the arts. Students will adventure behind-the-scenes in order to discover how a book comes into print as it is shepherded through the various stages of production from editorial through publication. We'll also spend time researching and discussing editorial fellowships, freelance, and entry level job opportunities as we explore post-graduate career options in publishing. Recommended for students studying Creative Writing, English, Journalism, and Communications. Credit will not be granted if credit has been received for ENGW 5401, ENGL 5711, ENGL 5401, or ENGL 4711

ENGL 3711. Literary Magazine Production

Lab I. (4 cr. ; A-F only; Every Fall)
First of two courses. Students produce undergraduate art/literary magazine *The Tower*. Students decide upon identity, tone, and direction of the issue. They take on magazine staff responsibilities, call for submissions, make selections, edit/design, set budget, and begin fund-raising. prereq: [instructor consent required, instr consent]

ENGL 3712. Literary Magazine Production Lab II. (4 cr. ; A-F only; Every Spring)

ENGL 3712 is the second of a two-semester course. In this hands-on, experiential lab, we solicit, acquire, edit, copyedit, design, typeset, proofread, print, publicize and distribute the upcoming edition of *The Tower*, the magazine of undergraduate art and creative writing by University of Minnesota students. This is the semester in which we bring out the finished, printed magazine, and in which we host a launch party on campus. We'll continue to apply and expand the lessons from our exploration in ENGL 3711 of the theory and history of literary magazine production in any number of ways: we'll revise our mission and theme as we draft and revise ancillary copy for the issue itself and as we refresh the marketing copy for our social media, blog, and website; we'll hone our design and typesetting skills as we lay out the issue; we'll refine our aesthetic sensibilities as we collaborate on final selections, strengthening our willingness to revise our opinions as compromise for the greater good; we'll add to our firsthand valuable

on-the-job skills of budgeting, scheduling, and vendor relations; and we will deepen our understanding of the publishing profession as it exists today, locally, and nationally. prereq: [3711, instr consent]

ENGL 3714. The Business of Publishing. (3 cr. ; Student Option; Every Fall)

The Business of Publishing course, by focusing primarily on book publishing, will give a wide variety of students--from budding writers to business majors--exposure to a major industry (valued at \$125 billion worldwide) that curates, promotes and monetizes the written word. There are approximately 12,000 publishers in the U.S., and of those an estimated 3,000 are literary presses. An estimated 600,000 books are published in the U.S. annually; Nielsen Book Scan reports 674 million unit sales in 2016. Book, magazine, and newspaper publishing are still the most stable types of publishing in our society and form the nexus between commerce and culture. Broadly understood, "publishing" means "to make words and images public." It encompasses many activities and forms--for instance, business newsletters and websites; social media (Facebook, Twitter, and Snapchat); and organizational and personal blogs. More specifically, it is a profession with specialized components--marketing, design, sales, subsidiary rights, bookselling--each with its own standards and best practices. It is also a field rife with innovation, producing multiple "start-ups" constantly. To "publish well" means not only to deliver content to a page or screen but also to deliver it to an audience. Publishing crosses disciplines, and innovates new channels and modes of production. As such, publishing well has implications for all of us in our daily personal and professional lives. At the University of Minnesota, we have the advantage of living in a metro area that is regularly ranked near or at the top of lists for most literate cities in the U.S. We have one of the largest concentrations of literary presses in the country outside of the East Coast. This course will take advantage of guest lecturers from Minnesota's nationally recognized publishing community. It encourages students to discuss the work of publishing with these professionals, and provides them with networking opportunities. As well as exploring in-depth the specific components of the publishing process, this class also broadens our sense of what "publishing" is. It is a process as much as it is a product. Why publishing? Why is a whole profession devoted to it? Why might we want to dedicate our own lives to it, or value the portion it already plays in them? Through this course we will understand firsthand how a book makes its way out into the world, and why that process is so important to culture and community.

ENGL 3741. Literacy and American Cultural Diversity. (LITR,DSJ; 4 cr. ; Student Option No Audit; Every Fall & Spring)

Literacy and American Cultural Diversity combines academic study with experiential learning in order to collectively build more engaged, more complex understandings of literacy, educational institutions, counter-

institutional literacy programs, the grassroots and nonprofit sectors, and the struggles of a multicultural civil society in a putative democracy. We will ground our inquiry in government studies, as well as sociological, historical, and educational writings. Standard literature, such as a memoir, a selection of poems, some short fiction, and a novel will further open up our twin themes of literacy and multiculturalism? as will less? official? literature, such as manifestos and the transcribed stories of immigrants, refugees, and other marginalized communities. We begin with the basic understanding of literacy as reading and writing, noting that, according to the National Survey of Adult Literacy, 46% of Americans scored in the lowest two levels of a five-tiered literacy test. What does this mean? Are such tests accurate or otherwise helpful? What about your basic literacy? As you read this syllabus, you're making use of basic abilities that you've likely been practicing most of your life through formal schooling, daily routines, recreational pursuits, and work-related duties. But there's more. On another level, you bring knowledge to your reading (some conscious, some unconscious), and the ideological field supplies you with assumptions about the role of literacy in your development, the role of a university course in your plans for your personal and professional life, and your position in a society that constantly raises the standards of literacy, basing success on your ability to keep up. Thus the very word?literacy? calls into play many beliefs we have about our class system, our cultural life, economic and political structures, and educational institutions. Accordingly, our analysis will move beyond basic?reading and writing? to wider concepts of literacy in our society, investigating issues that have much to do with our role as public citizens involved in shaping our individual and collective future. In tandem with our?classroom? work, our service-learning work in the community (see Your Practicum as Literacy Workers, below) will enable us to develop more?tangible? understandings of the ways that literacy, educational theories, practices, and the construction of knowledge and skills through educational policies provide a?map? of the shifting socioeconomic, cultural, and political terrains of the U.S., the institutional inequities that result from these arrangements, as well as the justice work needed to transform those inequities.

ENGL 3885V. Honors Capstone Seminar in English. (WI; 4 cr. ; A-F only; Every Fall & Spring)

Honors students who wish to graduate magna cum laude or cum laude write an Honors thesis, 13-17 pages in length, in ENGL or ENGW 3885V that contains substantive and original analytical insights. Students must discuss their plans with their instructor by the end of the second week of the term. Student and instructor must decide together what additional or enriched work will be required to have the capstone paper count as an honors thesis. Examples of such work include covering the topic in greater depth, using primary sources more robustly, or incorporating more

creativity, more synthesis, and/or advanced analysis. Consult with your honors adviser for more details. This course also functions as a capstone experience that fulfills many of the Student Learning Outcomes for the English major. In this rigorous and intensive seminar, students receive instruction on writing this paper from tenured and tenure-track faculty in English. Students learn how to choose a topic and formulate a research question, conduct primary and secondary research, and produce a written document that incorporates research and analysis. Faculty teach students to produce an extended, scholarly essay through discussions of method, research, and development; instruction in specific writing techniques; workshoping and revising drafts; solving problems; and creating a coherent and elegant final product. While the subjects about which students write vary depending on student interest and faculty expertise, at least 50% of the course grade is determined by students' writing performance. Most students fulfill the senior paper requirement with a traditional seminar paper, but students sometimes complete alternative projects, such as blogs, analytic projects that incorporate creative or personal elements, collaborative projects, or projects that involve the creation of a podcast, video, web site, or some other means of documenting student learning and writing skills. Prerequisites for Admission: Honors, Admission to ENGL 3885V also requires English major status and completion of a Critical Theories and Methods course (ENGL 3001W, ENGL 3002, ENGL 4003) or approved transfer course with a minimum grade of C-minus. Priority will be given to students with senior status who have completed the majority of the major requirements, as well as to students who plan to graduate in the term they are requesting to take the senior seminar.

ENGL 3885W. Capstone Seminar in English. (WI; 4 cr. ; A-F only; Every Fall & Spring)

This course is devoted to the writing of the senior paper in English. To graduate with a BA in English, students must write a 13-17 page (4,000-5,500 word) senior paper that contains substantive and original analytical insights. In this rigorous and intensive seminar, students receive instruction on writing this paper from tenured and tenure-track faculty in English. Students learn how to choose a topic and formulate a research question, conduct primary and secondary research, and produce a written document that incorporates research and analysis. Faculty teach students to produce an extended, scholarly essay through discussions of method, research, and development; instruction in specific writing techniques; workshoping and revising drafts; solving problems; and creating a coherent and elegant final product. While the subjects about which students write vary depending on student interest and faculty expertise, at least 50% of the course grade is determined by students' writing performance. Most students fulfill the senior paper requirement with a traditional seminar paper, but students sometimes complete alternative projects, such as blogs, analytic projects that incorporate creative or personal elements, collaborative

projects, or projects that involve the creation of a podcast, video, web site, or some other means of documenting student learning and writing skills. The senior seminar also functions as a capstone experience that fulfills many of the Student Learning Outcomes for the English major. Prerequisites for Admission: Admission to ENGL 3885W requires English major status and completion of a Critical Theories and Methods course (ENGL 3001W, ENGL 3002, ENGL 4003) or approved transfer course with a minimum grade of C-minus. Priority will be given to students with senior status who have completed the majority of the major requirements, as well as to students who plan to graduate in the term they are requesting to take the senior seminar.

ENGL 3896. Internship for Academic Credit. (; 1-4 cr. [max 16 cr.]; A-F only; Every Fall, Spring & Summer)

Internships at local arts organizations, businesses, or publishing firms provide experiences in communications, arts administration, marketing, and editing-as well as an understanding of what students need to do to prepare for the job market. The Department of English offers course credit in connection with internships dedicated to UMN English majors as well as internships at other sites that meet our criteria. This course will enrich student learning by providing concrete experiences to apply knowledge of oral and written communication outside the academic context. Putting English skills to work in your internship tasks will allow you to see how communication changes with contexts and audiences. You will be able to practice new voices and styles. Depending on the internship activities, you may practice communication germane to marketing, development, editing, social media, and the professional office. You will receive feedback from your site supervisors and instructors as to your understanding of these new ways of communicating. In this course, you will keep a weekly journal detailing the work you do in the internship; analyzing the significance of the work within the greater activity of the internship site; and making connections between the work and the academic learning you have done in English. You will also write a final paper on a topic agreed upon with the instructor, which should build upon the writing you've done in the journals. We'll start by having you work with your internship supervisor to create a learning agreement that outlines what you plan to learn and accomplish during your internship and how you plan to contribute and add value to the organization. You will complete various additional assignments including discussion, readings, and writing. prereq: must be a formally declared English major registered in the College of Liberal Arts and have consent of instructor.

ENGL 3993. Directed Study. (1-4 cr. [max 8 cr.]; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. Prereq-One 3xxx, [English major or minor or [BIS or IDIM or ICP] with English concentration], [jr or sr], instr consent, dept consent, college consent.

ENGL 3993W. Directed Study- Honors Thesis in English. (WI; 1-4 cr. ; A-F only; Every Fall & Spring)

ENGL 3993W is a writing intensive directed study that supports summa cum laude degree students completing their honors theses in the Department of English. Students will complete ENGL 3993, the non-WI version, in the first semester for 2 credits followed consecutively by ENGL 3993W for 2 additional credits in the second semester, when the polished product is evaluated. Summa candidates also must register for HCOL 3101H or HCOL 3102H, which counts as the classroom experience required for the completion of the Honors thesis. The thesis must be approximately 30 pages in length and may be scholarly, critical, or creative in nature. If the candidate elects to submit a topic, such as poetry, that poses a problem with this length, they must obtain permission from the English honors adviser and from all of his or her readers to adjust the length of the completed thesis. Summa candidates must apply for permission to register for ENGL 3993W one year before their expected graduation term. You will work with your faculty advisor to complete the University's directed study contract to clarify expectations and form a written agreement about expected workload, credits, and basis for grading. Prereq: Honors candidacy in English, consent of English honors advisor

ENGL 4003. History of Literary Theory. (; 3 cr. ; A-F or Audit; Fall Odd Year)

How thinkers from classical to modern times posed/answered questions about language (how words mean), audience (to whom they mean), and the literary (how literary writing differs from other forms of writing). Works by Plato, Aristotle, Augustine, Christine de Pizan, Dante, Sidney, Behn, Wordsworth, Shelley, and Woolf.

ENGL 4152. Nineteenth Century British Novel. (3 cr. ; A-F or Audit; Every Fall & Spring)

British novel during the century in which it became widely recognized as a major vehicle for cultural expression. Possible topics include the relation of novel to contemporary historical concerns: rise of British empire, developments in science, and changing roles for women; formal challenges of the novel; definition of realism.

ENGL 4232. American Drama by Writers of Color. (DSJ; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Selected works by African American, Latinx, Native American, and Asian American playwrights. How racial/ethnic differences are integral to shaping different visions of American drama. History of minority/ethnic theaters, politics of casting, mainstreaming of the minority playwright. Students in this class will have the opportunity to participate in service-learning.

ENGL 4233. Modern and Contemporary Drama. (AH,CIV; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Why did the polite Danish homes of 1879 bar discussions of Henrik Ibsen's *A Doll's*

House? How did Oscar Wilde surreptitiously signal his sexuality through a satire of Victorian seriousness in *The Importance of Being Earnest*? How do contemporary playwrights such as August Wilson or Lynn Nottage bring forgotten moments of African American history to light? This course shows how modern and contemporary theater presents original perspectives on human identities and relationships as well as encourages audiences to see the world in new ways. This course focuses on the close analysis and interpretation of plays written by dramatists from around the world from the late-nineteenth to the twenty-first century. The plays we will study are set in Europe, Great Britain, North America, Africa, and Asia, and we will examine each carefully in light of the unique historical and social contexts in which they were produced, their creation and uses of aesthetic form, and their impact on individuals and communities. Through the course, you will become familiar with such dramatic forms as the well-made play, modern satire, realism, expressionism, symbolism, epic theater, and absurdism. Each of these is interesting not only as a distinctive mode of artistic presentation, but also as it offers different perspectives on historical moments and present-day concerns about people and their communities. Theatrical works illustrate how the meanings ascribed to physical bodies are at the heart of social differences such as gender, sexuality, class, race, disability, and national identity. We will look at each play in its original cultural context as well as through the creative lens of more recent productions and assess how both historical and more recent reimagining changes the meaning of the work. We will also make use of the rich theatrical resources and cultural organizations available in communities such as the Twin Cities.

ENGL 4311. Asian American Literature and Drama. (DSJ,LITR; 3 cr. ; A-F or Audit; Fall Odd Year)

Literary/dramatic works by Asian American writers. Historical past of Asian America through perspective of writers such as Sui Sin Far and Carlos Bulosan. Contemporary artists such as Frank Chin, Maxine Hong Kingston, David Henry Hwang, and Han Ong. Political/historical background of Asian American artists, their aesthetic choices.

ENGL 4612. Old English I. (3 cr. ; Student Option; Periodic Fall)

"I am learning Anglo-Saxon and it is a vastly superior thing to what we have now" (Gerard Manley Hopkins, letter to fellow poet Robert Bridges, 1882). This course is an introduction to the rich language and literature of Anglo-Saxon England (ca. 500-1100). "Old English," or as it is sometimes known, "Anglo-Saxon," is the earliest form of the English language; therefore, the primary course goal will be to acquire the ability to read Old English texts in the original. No previous experience with Old English or any other language is necessary or expected; undergraduates and graduate students from all departments are welcome. For graduate students in English, Old English I may count for the rhetoric/language/literacy distribution area. This course also fulfills the

literary theory/linguistic requirement for the undergraduate English major. A knowledge of Old English will allow you to touch the most ancient literary sensibilities in the English tradition; these sensibilities are familiar and strange at the same time, as we sense our deep cultural connection to these texts across the centuries, yet also find that the past is a strange place indeed. The power of Old English literature has profoundly influenced authors such as Tennyson, Pound, Graves, Wilbur, Hopkins, Gunn, Auden, Seamus Heaney, C.S. Lewis, and of course, J.R.R. Tolkien.

ENGL 4613. Old English II. (3 cr. ; Student Option; Periodic Spring)

The second semester of Old English is devoted to a full translation and study of the great Anglo-Saxon epic "Beowulf." J.R.R. Tolkien wrote of the poem that "its maker was telling of things already old and weighted with regret, and he expended his art in making keen that touch upon the heart which sorrows have that are both poignant and remote." "Beowulf" is an exciting tale of strife and heroism; but it is also a subtle meditation upon the character of humanity as it struggles to understand the hazards of a harsh world, the inscrutability of fate, and the nature of history itself. "Beowulf" is not only important for a detailed understanding of Anglo-Saxon culture, but it is also a significant and moving poetic achievement in the context of world literature. We will read and translate the poem in the original Old English; thus ENGL 4612 (or a similar course resulting in a basic reading knowledge of Old English) is a prerequisite. "Beowulf" has been the object of intensive scholarly study; we will delve into the debates over the poem's date, genesis, manuscript and historical context and critical interpretation. Spending an entire semester studying one complex work can be an invaluable experience. Please contact the instructor for any questions concerning the prerequisite.

ENGL 4722. Alphabet to Internet: History of Writing Technologies. (3 cr. ; Student Option; Every Fall)

Equivocal relation of memory and writing. Literacy, power, control. Secrecy and publicity. Alphabetization and other ways of ordering world. Material bases of writing. Typographical design/expression. Theories of technological determinism.

ENGL 5001. Ph.D. Colloquium: Introduction to Literary Theory and Literary Studies in the Modern University. (3 cr. ; Student Option; Every Fall)

Where and what is literary study vis-a-vis the history of the discipline, of the humanities, and of the university--all in the context of a graduate education. Literary theory focusing on key theoretical works that address the discipline, the humanities, and the university. Prerequisite: English grad student

ENGL 5020. Studies in Narrative. (3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring)

Examine issues related to reading and understanding narrative in a variety of interpretive contexts. Topics may include

"The 19th-century English (American, Anglophone) Novel," "Introduction to Narrative," or "Techniques of the Novel." Topics specified in the Class Schedule.

ENGL 5040. Theories of Film. (3 cr. [max 9 cr.] ; Student Option; Periodic Fall)

Advanced topics regarding film in a variety of interpretive contexts, from the range and historic development of American, English, and Anglophone film (e.g., "Fascism and Film," "Queer Cinemas"). Topics and viewing times announced in Class Schedule. prereq: Grad student or instr consent

ENGL 5090. Readings in Special Subjects. (1-4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

General background preparation for advanced study. Diverse selection of literatures written in English, usually bridging national cultures and time periods. Readings specified in Class Schedule.

ENGL 5110. Medieval Literatures and Cultures: Intro to Medieval Studies. (3 cr. [max 9 cr.] ; Student Option; Every Spring)

Major and representative works of the Middle Ages. Topics specified in the Class Schedule.

ENGL 5121. Readings in Early Modern Literature and Culture. (3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Topical readings in early modern poetry, prose, fiction, and drama. Attention to relevant scholarship or criticism. Preparation for work in other courses or seminars. prereq: Grad student or instr consent

ENGL 5140. Readings in 18th Century Literature and Culture. (3 cr. ; Student Option; Every Spring)

Literature written in English, 1660-1798. Topics may include British literature of Reformation and 18th century, 18-century American literature, a genre (e.g., 18th-century novel). prereq: Grad student or instr consent

ENGL 5150. Readings in 19th-Century Literature and Culture. (3 cr. [max 9 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Topics may include British Romantic or Victorian literatures, American literature, important writers from a particular literary school, a genre (e.g., the novel). Readings.

ENGL 5170. Readings in 20th-Century Literature and Culture. (3 cr. [max 9 cr.] ; Student Option; Periodic Fall)

British, Irish, or American literatures, or topics involving literatures of two nations. Focuses either on a few important writers from a particular literary school or on a genre (e.g., drama). Topics specified in Class Schedule.

ENGL 5300. Readings in American Minority Literature. (3 cr. [max 9 cr.] ; Student Option; Every Fall)

Contextual readings of 19th-/20th-century American minority writers. Topics specified in Class Schedule.

ENGL 5501. Origins of Cultural Studies. (3 cr. ; Student Option; Periodic Fall & Spring)

Intellectual map of the creation of cultural studies as a unique approach to studying

social meanings. Key figures and concepts, including nineteenth- and early twentieth century precursors.

ENGL 5510. Readings in Criticism and Theory. (; 3 cr. [max 9 cr.] ; Student Option; Spring Odd Year)

Major works of classical criticism in the English critical tradition from Renaissance to 1920. Leading theories of criticism from 1920 to present. Theories of fiction, narratology. Feminist criticisms. Marxist criticisms. Psychoanalytic criticisms. Theories of postmodernism.

ENGL 5593. The African-American Novel. (3 cr. ; Student Option; Every Spring)

Explore African American novelistic traditions. Plot patterns, character types, settings, symbols, themes, mythologies. Creative perspectives of authors themselves. Analytical frameworks from contemporary literary scholarship.

ENGL 5701. Great River Review. (4 cr. ; Student Option; Every Spring)

Students will be assigned roles, both editorial and managerial, to assist in production of The Great River Review journal. They will explore and present on the history of the small magazine in American literature and meet with Twin Cities publishing professionals.

ENGL 5790. Topics in Rhetoric, Composition, and Language. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring) Topics specified in Class Schedule. prereq: Grad student or instr consent

ENGL 5800. Practicum in the Teaching of English. (; 1-3 cr. ; Student Option; Every Fall) Discussion of and practice in recitation, lecture, small-groups, tutoring, individual conferences, and evaluation of writing/reading. Emphasizes theory informing effective course design/teaching for different disciplinary goals. Topics vary. See Class Schedule. prereq: Grad student or instr consent

ENGL 5805. Writing for Publication. (; 3 cr. ; Student Option; Fall Even Year)

Conference presentations, book reviews, revision of seminar papers for journal publication, and preparation of a scholarly monograph. Style, goals, and politics of journal and university press editors/readers. Electronic publication. Professional concerns. prereq: Grad student or instr consent

ENGL 5992. Directed Readings, Study, or Research. (1-3 cr. [max 45 cr.] ; Student Option; Every Fall, Spring & Summer) TBD Prereq-Grad student or instr consent.

English: Creative Writing (ENGW)

ENGW 1101V. Honors Introduction to Creative Writing. (LITR,WI; 4 cr. ; A-F only; Every Fall)

In this course, we will explore the fundamentals of creative writing. We will start by looking at the building blocks of good imaginative writing: image, voice, character, setting, story, and revision. We will then move on to a more in-depth examination of three forms: literary nonfiction, fiction, and poetry. Students

will learn how to read as writers, obtain an understanding and appreciation for imaginative writing, and gain a sense of themselves as creative writers. We will be trying many exercises and assignments, from brainstorming experiments to final drafts, so come ready to write. Since this is an Honors course, it is designed to be challenging and to immerse students in the literary landscape. The literary citizenship requirement will take students beyond the normal classroom environment and into the community to attend and respond to readings. We will also supplement the textbook with classroom visits and additional readings by the most exciting and innovative poets, fiction writers, and creative nonfiction writers working today. Students will also contribute to the course readings by presenting a poem of their choosing to the class, explaining its techniques and importance. This will tie in with larger discussions of what works gain popular and academic attention and how this happens, including investigations of the role of anthologies and social media.

ENGW 1101W. Introduction to Creative Writing. (LITR,WI; 4 cr. ; Student Option No Audit; Every Fall & Spring)

In this course, we will explore the fundamentals of creative writing. We will start by looking at the building blocks of good imaginative writing: image, voice, character, setting, story, and revision. We will then move on to a more in-depth examination of three forms: literary nonfiction, fiction, and poetry. Students will learn how to read as writers, obtain an understanding and appreciation for imaginative writing, and gain a sense of themselves as creative writers. We will be trying many exercises and assignments, from brainstorming experiments to final drafts, so come ready to write. prereq: Students may not audit this course

ENGW 1102. Introduction to Fiction Writing. (; 3 cr. ; Student Option No Audit; Every Fall & Spring)

Beginning instruction in art of fiction: characterization, plot, dialogue, and style. Writing exercises to generate ideas. Students read/discuss published fiction and their own writing.

ENGW 1103. Introduction to Poetry Writing. (; 3 cr. ; Student Option No Audit; Every Fall, Spring & Summer)

Beginning instruction in art of poetry. Discussion of student poems and contemporary poetry. Ideas for generating material. Writing exercises in/out of class.

ENGW 1104. Introduction to Literary Nonfiction Writing. (; 3 cr. ; Student Option No Audit; Every Fall & Spring)

Art of literary nonfiction. Discussion of student work and contemporary creative nonfiction. Ideas for generating material. Writing exercises. prereq: Students not allowed to audit this course

ENGW 3102. Intermediate Fiction Writing. (3 cr. ; Student Option No Audit; Every Fall & Spring)

Exercises, experiments, assigned readings, discussion of student work. prereq: [EngW

1101 OR 1102 OR 1103 OR 1104], students cannot audit course

ENGW 3104. Intermediate Poetry Writing. (3 cr. ; Student Option No Audit; Every Fall & Spring)

Exercises, experiments, assigned readings, discussion of student work. prereq: [1101 or 1102 or 1103 or 1104], students cannot audit course

ENGW 3106. Intermediate Literary Nonfiction Writing. (3 cr. ; Student Option No Audit; Every Fall & Spring)

Exercises, experiments, assigned readings, discussion of student work. prereq: [1101 or 1102 or 1103 or 1104], students cannot audit course

ENGW 3110. Topics in Creative Writing. (; 3 cr. [max 9 cr.] ; Student Option No Audit; Every Fall, Spring & Summer)

Topics specified in Class Schedule. prereq: 1101 or 1102 or 1103 or 1104 or dept consent

ENGW 3801W. Eat, Write, Learn: Creative Writing in Spain. (AH,WI; 3 cr. ; Student Option No Audit; Periodic Spring & Summer)

This undergraduate creative writing class which satisfies both the LE and the Writing-Intensive requirements focuses on the experience and the literary evocation of travel, with students based first in the capital, Madrid, and then in Toledo, a medieval city in the center of Spain. In Madrid, students will write about the Spanish tradition of eating twelve grapes at the stroke of midnight on New Year's eve; they will compare the characteristics of two different plazas; they will write poetry about art in the Prado Museum. In Toledo, they will wander through tangled streets, shops, cathedrals, fortresses, synagogues and museums, taking notes for poems, stories, and essays as they go. Madrid is a vibrant, modern European center; Toledo, a beautifully preserved city on a hill, has been declared, in its entirety, a national monument. For centuries an historic, scholarly and artistic center, Toledo was long famed for its religious tolerance, with Christian, Jewish, and Muslim populations coexisting within its walls. In both locations, we will have guided tours of Spanish monuments and museums, and students will reflect on the experience of travel via many different types and styles of writing assignments: the daily post-card, the food review, the creative travel guide, the work of ekphrasis, the annotated map, the daily journal, etc. Why do we travel and what do we gain from visiting cultures and environments that may be unfamiliar? Writing and revising will be emphasized as creative ways of reflecting on the phenomenon of departure and return.

ENGW 3885V. Honors Capstone Seminar in Creative Writing. (WI; 4 cr. ; A-F only; Every Fall & Spring)

Honors students who wish to graduate magna cum laude or cum laude write an Honors thesis, 13-17 pages in length, in ENGL or ENGW 3885V that contains substantive and original analytical insights. Students must discuss their plans with their instructor by the end of the second week of the term. Student and instructor must decide together what additional or enriched work will be required to

have the capstone paper count as an honors thesis. Examples of such work include covering the topic in greater depth, using primary sources more robustly, or incorporating more creativity, more synthesis, and/or advanced analysis. Consult with your honors adviser for more details. This course also functions as a capstone experience for the English major and the Creative Writing minor. To graduate with a BA in English, students with an interest in creative writing may choose to produce a substantial manuscript of poetry, literary fiction, or literary nonfiction rather than an extended, scholarly essay. In this advanced creative writing workshop, students receive instruction on writing this manuscript from tenured and tenure-track faculty in English. Class sessions typically include in-class writing exercises, which are then expanded into more finished works of poetry or prose reviewed by the faculty and discussed in workshops by the students themselves. Writing exercises and assignments lead, at the end of the semester, to a finished, thoroughly revised manuscript. Faculty teach students to produce a significant body of poetry, fiction, or creative nonfiction through discussions of method, craft, and development; instruction in specific writing techniques; workshopping and revising drafts; solving problems; and creating a coherent and elegant final product. While the subjects about which students write vary depending on student interest and faculty expertise, at least 50 percent of the course grade is determined by students' writing performance. Prerequisites for Admission: (1) Honors candidacy in English, (2) English major status and completion of a Critical Theories and Methods course (ENGL 3001W, ENGL 3002, ENGL 4003) or approved transfer course with a minimum grade of C-minus, (3) completion of at least six credits of creative writing courses, including one intermediate (ENGW 3xxx-level) or advanced creative writing workshop, preferably in the genre of the ENGW 3885V workshop to which you are applying; and (4) submission of a creative writing sample. Admission is by permission of the instructor. Priority will be given to students with senior status who have completed the majority of the major requirements, as well as to students who plan to graduate in the term they are requesting to take the senior seminar.

ENGW 3885W. Capstone Seminar in Creative Writing. (WI; 4 cr. ; A-F only; Every Fall & Spring)

This course is devoted to the writing of the senior paper in creative writing. To graduate with a BA in English, students with an interest in creative writing may choose to produce a substantial manuscript of poetry, literary fiction, or literary nonfiction rather than an extended, scholarly essay. In this advanced creative writing workshop, students receive instruction on writing this manuscript from tenured and tenure-track faculty in English. Class sessions typically include in-class writing exercises, which are then expanded into more finished works of poetry or prose reviewed by the faculty and discussed in workshops by the students themselves. Writing exercises and assignments lead, at the end of the semester,

to a finished, thoroughly revised manuscript of at least 2,500 words. Faculty teach students to produce a significant body of poetry, fiction, or creative nonfiction through discussions of method, craft, and development; instruction in specific writing techniques; workshopping and revising drafts; solving problems; and creating a coherent and elegant final product. While the subjects about which students write vary depending on student interest and faculty expertise, at least 50 percent of the course grade is determined by students' writing performance. The seminar also functions as a capstone experience that fulfills many of the Student Learning Outcomes for the English major and the capstone course for those who are pursuing a Minor in Creative Writing. Prerequisites for Admission: (1) English major status and completion of a Critical Theories and Methods course (ENGL 3001W, ENGL 3002, ENGL 4003) or approved transfer course with a minimum grade of C-minus; (2) completion of at least six credits of creative writing courses, including one intermediate (ENGW 3xxx-level) or advanced creative writing workshop, preferably in the genre of the ENGW 3885W workshop to which you are applying; and (3) submission of a creative writing sample. Admission is by permission of the instructor. Priority will be given to students with senior status who have completed the majority of the major requirements, as well as to students who plan to graduate in the term they are requesting to take the capstone seminar.

ENGW 3993. Directed Study - Honors Thesis in Creative Writing. (2-4 cr. ; A-F only; Every Fall & Spring)

ENGW 3993 is a directed study that supports summa cum laude degree students beginning their honors theses in the Department of English, with a focus on creative writing. Students will complete ENGW 3993, the non-WI version, in the first semester for 2 credits followed consecutively by ENGW 3993W for 2 additional credits in the second semester, when the polished product is evaluated. Summa candidates also must register for HCOL 3101H or HCOL 3102H, which counts as the classroom experience required for the completion of the Honors thesis. The thesis must be approximately 30 pages in length and may be scholarly, critical, or creative in nature. If the candidate elects to submit a topic, such as poetry, that poses a problem with this length, they must obtain permission from the English honors adviser and from all of his or her readers to adjust the length of the completed thesis. Summa candidates must apply for permission to register for ENGW 3993 one year before their expected graduation term. They will work with their faculty advisor to complete the University's directed study contract to clarify expectations and form a written agreement about expected workload, credits, and basis for grading. Prereq: Honors candidacy in English, consent of English honors advisor

ENGW 3993W. Directed Study- Honors Thesis in Creative Writing. (WI; 1-4 cr. ; A-F only; Every Fall & Spring)

ENGW 3993W is a directed study that supports summa cum laude degree students completing their honors theses in the Department of English, with a focus on creative writing. Students will complete ENGW 3993, the non-WI version, in the first semester for 2 credits followed consecutively by ENGW 3993W for 2 additional credits in the second semester, when the polished product is evaluated. Summa candidates also must register for HCOL 3101H or HCOL 3102H, which counts as the classroom experience required for the completion of the Honors thesis. The thesis must be approximately 30 pages in length and may be scholarly, critical, or creative in nature. If the candidate elects to submit a topic, such as poetry, that poses a problem with this length, they must obtain permission from the English honors adviser and from all of his or her readers to adjust the length of the completed thesis. Summa candidates must apply for permission to register for ENGW 3993W one year before their expected graduation term. You will work with your faculty advisor to complete the University's directed study contract to clarify expectations and form a written agreement about expected workload, credits, and basis for grading. Prereq: Honors candidacy in English, consent of English honors advisor

ENGW 4205. Screenwriting. (; 3 cr. ; Student Option No Audit; Every Fall & Spring)

An introductory workshop to screenwriting basics, including formatting, style, and structure. In-class and take-home exercises will assist the students in learning techniques for developing engaging characters, writing concise description and vivid dialogue, and outlining a usable plot. prereq: ENGL 3001W or 3001V or EngW 3102 or 3104 or 3106 or 3110, or jr or sr in SCMC major or minor

ENGW 5102. Graduate Fiction Writing. (4 cr. [max 12 cr.] ; Student Option No Audit; Every Fall)

Advanced workshop for graduate students with considerable experience in writing fiction.

ENGW 5104. Graduate Poetry Writing. (4 cr. [max 8 cr.] ; Student Option No Audit; Every Fall)

Advanced workshop for graduate students with considerable experience in writing poetry. Students will explore new poetic possibilities while studying contemporary poetry and poetics.

ENGW 5106. Graduate Literary Nonfiction Writing. (4 cr. [max 12 cr.] ; Student Option No Audit; Every Fall)

Advanced workshop for graduate students with considerable experience in writing literary nonfiction.

ENGW 5130. Topics in Graduate Creative Writing. (; 4 cr. [max 16 cr.] ; Student Option; Periodic Fall & Spring)

Workshop. Might include work in more than one genre. prereq: instr consent

ENGW 5310. Reading as Writers. (; 4 cr. [max 12 cr.] ; Student Option No Audit; Periodic Fall & Spring)

Special topics in reading fiction, literary nonfiction, poetry. Topics specified in Class Schedule.

ENGW 5606W. Literary Aspects of Journalism. (WI; 3 cr. ; Student Option; Every Spring)

Journalism isn't fiction. Yet the relationship between what is true and what is artfully constructed toward a "larger truth" -- beyond the facts -- has a complex and intriguing history. This writing-intensive course explores that relationship through close readings of some of the best writers of long-form nonfiction, starting with the birth of the novel from journalistic roots in the 18th century and ending with postmodern forms that challenge the notion of what we can ever know. Discover the literary devices used by Stephen Crane's reported street scenes or Nellie Bly's first-hand investigations into conditions for the mentally ill in the 19th century, and, later, Truman Capote's nonfiction novel about a Kansas farm family's murder. Readings include works by pivotal 20th-century writers such as John Hersey, Joseph Mitchell, Lillian Ross, Michael Herr, Norman Mailer, Gay Talese, Joan Didion, Tom Wolfe, and Hunter S. Thompson, and will trace how their pioneering methods influenced contemporary journalism as well as the documentary films of Errol Morris and contemporary nonfiction writers expanding into new forms.

ENGW 5701. Great River Review. (4 cr. ; Student Option; Every Spring)
Students will be assigned roles, both editorial and managerial, to assist in production of The Great River Review journal. They will explore and present on the history of the small magazine in American literature and meet with Twin Cities publishing professionals.

ENGW 5993. Directed Study in Writing. (1-4 cr. [max 18 cr.]; Student Option; Every Fall & Spring)
Projects in writing poetry, fiction, drama, and nonfiction, or study of ways to improve writing. Prereq-instr consent, dept consent, college consent.

Entomology (ENT)

ENT 1001. How Insects Shape Society: Pollinators, Pests, and Policy. (CIV; 3 cr. ; A-F only; Every Fall)

Do you eat genetically modified foods, or do you avoid them? Vaccinate, or do not vaccinate? Did you know these are in part insect related questions? Insects make up more than half of the living organisms on this planet, and they have had a profound impact in shaping human society and culture. Even so, insects are swatted, stomped, squished, and otherwise misunderstood. In this course students will explore the complex, and often uncomfortable, relationships between insects and humans and explore the ethical dilemmas posed by our close relationships with the insect world. Ultimately this course examines the interactions between insects and humans, focusing on contemporary topics that explore how insects dictate human actions,

policies, and behaviors. Topics include: human perception of insects; basic concepts in insect biology and behavior; environmental and cultural importance of insects; the role of insect pests in determining human food choice; insect vectors and disease transmission; perception and awareness about humanity's role in nature.

ENT 1004. The Insects. (; 3 cr. ; A-F only; Every Fall & Spring)

Insects represent one of the most abundant and diverse life forms on Earth, and their environmental importance is displayed across both terrestrial and aquatic ecosystems. Beyond environmental importance, insects shape human society through their impact on our health, the pollination of our food crops, and damage to our commodities and homes. Insect Biology is an introductory entomology course on the biology and ecology of insects, their classification, and their interactions with the environment and human society. This course will provide background on insect diversity and physiology, while providing insight into how scientists examine the roles of insects in medicine, agriculture, advances in genetics, and ecology. These topics will provide fundamental biological knowledge needed to make informed decisions about insect-related topics in a global society.

ENT 1005. Insect Biology with Lab. (BIOL; 4 cr. ; A-F only; Every Fall & Spring)

Insects represent one of the most abundant and diverse life forms on Earth, and their environmental importance is displayed across both terrestrial and aquatic ecosystems. Beyond environmental importance, insects shape human society through their impact on our health, the pollination of our food crops, and damage to our commodities and homes. Insect Biology is an introductory entomology course on the biology and ecology of insects, their classification, and their interactions with the environment and human society. This course will provide background on insect diversity and physiology while providing insight into how scientists examine the roles of insects in medicine, agriculture, advances in genetics, and ecology. These topics will provide fundamental biological knowledge needed to make informed decisions about insect-related topics in a global society.

ENT 1021. An Introduction to Forensic Entomology. (3 cr. ; A-F only; Every Spring)

What can maggots and beetles collected at a crime scene tell investigators about the body? Often, insect evidence collected at the scene of a crime can help experts make a variety of conclusions, such as time of death and whether or not the body has been moved from the original crime scene. In this seminar, students will explore how insect evidence can be used in various ways in the field of forensic science. This class will discuss the scientific approaches and techniques involved in forensic entomological analysis. Topics will include, but are not limited to, the different insects found in decomposing bodies, how insect development time can be affected by factors like the weather or body placement, and how insect evidence

can be useful to both crime scene investigators and medical examiners.

ENT 1906. Magnificent, Miniature Minds: From Dancing Honeybees to Cyborgs. (; 3 cr. ; A-F only; Periodic Fall)

Did you know that honeybees can be trained to recognize human faces or that desert ants can count their steps while walking? Have you ever thought about how an octopus knows how to match its body coloration to its marine environment and a monarch butterfly can find its over-wintering site located thousands of miles away? These are just a few examples of the extraordinary abilities that invertebrate animals display, reflecting the mighty power of their miniature brains and nervous systems. In this course, we will discuss the fascinating behaviors of animals with miniature brains and how their numerally-limited nervous systems enable them to do what they do. We will also explore how a deeper understanding of small-brain networks can inform us about how our own brains work, and how such knowledge can be used to engineer adaptive robots, cyborgs and smart machines. This course is designed to be integrative including disciplines intersecting with animal behavior, entomology, evolution, ecology, neuroscience, psychology and bioengineering. A major goal of this course is to widen one's view of the importance of invertebrate animals in the field of neuroscience and gain an appreciation of the translational impact that this knowledge can have and will continue to have on our society and daily lives. Students will also be introduced to basic concepts in neurobiology and learn how small neural networks operate.

ENT 1909. Got Bees? Declines and Conservation of Honey bees and Native bees. (ENV; 3 cr. ; A-F only; Periodic Fall)

Humans are largely aware that bees are declining globally, due in large part to human land use, agricultural practices, and the changing climate. The loss of insect pollinators, including native and honeybees, presents a grand challenge that will have cascading effects throughout ecological systems and human food crop systems. Preservation of pollination services is not only an environmental issue, it is also an important challenge facing our society and world. How we, as a society, choose to address this problem will reflect on how we value the environment and the services it provides. This course is designed to reflect on the shared sense of responsibility for building a community that will address this issue. Intended audience: Undergraduates who may or may not be majoring within the sciences. Students interested in how humans interact with the environment, and how the choices we make as a society impact environmental processes. No prerequisite courses required.

ENT 2884. The Six-legged Conquerors: How insects have shaped human history. (HIS; 3 cr. ; A-F or Audit; Every Fall)

Insects have had an immense yet underappreciated impact on the course of human history and civilization. Through their effects as carriers of disease, insects have

decided the outcomes of numerous battles and wars, often causing many more deaths than weapons did. On the other hand, beneficial insects have made important contributions to the development of many industries, in particular related to textiles and agriculture, and they also serve as important sources of food in many cultures. Because of their varied and important roles in human life and well-being, insects feature prominently in sacred texts and have thus influenced spiritual and religious thought through the ages. And from Greek times until the present, insects have contributed greatly to the development of scientific thought. Many of the great naturalists throughout history ? from Aristotle to Darwin to EO Wilson ? have had an inordinate fascination with insects. In the second half of the 20th century and beyond, insects sparked the environmental movement, serve as models for innovating technologies such as robots, and continue to shape our lives in fascinating, challenging and novel ways. In this class we will discuss the major ways in which the fates of humans and insects have been intertwined over the course of human history. Throughout the class we focus on ways that historical inquiry can be used to elucidate entomological questions and, conversely, how entomological knowledge can be brought to bear to solve historical mysteries.

ENT 2920. Introductory Lectures in Entomology. (; 1-4 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer) Introductory lectures or labs in special fields of entomological research. Given by visiting scholar or regular staff member.

ENT 3021. Insect Biodiversity and Evolution. (; 4 cr. ; A-F only; Every Fall) Insects are the most diverse group of organisms on Earth with almost 1 million described species. Millions more remain to be described, especially in tropical regions of the world. Insects come in a remarkable array of sizes, colors, and shapes. Taxonomists use this morphological complexity as the primary means of identifying insects, but also for inferring evolutionary relationships. In this course, we will learn how to identify insects, explore methods of collection and curation of insects, discuss their evolutionary relationships, see how insects fit in the natural world, and discuss exciting new efforts to inventory, describe, and conserve the remarkable diversity of insects.

ENT 3211. Insect Pest Management. (3 cr. ; A-F only; Every Spring) Management of Insect Pests is designed for upper division undergraduates in any major or minor. The course will emphasize principles of insect pest management and draw from examples related to agricultural, horticultural and landscape and urban systems. Conventional (nonorganic) and organic approaches, the use of social media and modern technology, and economic, environmental and social consequences of diverse tactics (chemical, cultural, biological, genetic, etc.) will be covered by the Instructor and, on occasion, by guest lecturers. Student

debates on pesticide-pollinator and genetic engineering issues will provide real-world context and insights on complexities of insect pest prevention and management.

ENT 3275. Insect-transmitted diseases of humans. (3 cr. ; Student Option; Every Spring) What?s so attractive about human blood? How have human interactions with insects evolved? Insects and ticks transmit viral, bacterial, protozoan and filarial diseases to humans, particularly in tropical countries. Zika, most recently, and also dengue and other mosquito-borne viruses pose an emerging challenge in the southern US as climate change increases the range of important vector species. Lyme disease and other tick-borne diseases are increasing in the US, and pose challenges in diagnosis and treatment. This course covers contemporary topics in "Medical Entomology" that will provide an overview of arthropod-borne disease and its impacts on global health from the perspective of insect vectors and microbial pathogens. Students will explore historical, contemporary and epidemiologic stories demonstrating exposure and control strategies via lecture, student discussions, laboratory demonstrations, and critical review of current best practices in medical entomology. This course is designed for upper division undergraduate and graduate students in any major or minor.

ENT 3294. Directed Research in Entomology. (1-4 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research course will be required to use the University-wide online directed research contract process in order to enroll. prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

ENT 3341. Biological control of insect pests and weeds. (; 3 cr. [max 4 cr.]; A-F or Audit; Every Fall & Spring) Biological control is the suppression of pests and weeds using living organisms. It involves fascinating interactions between organisms such as plants and herbivores, and insects and the predators and parasitoids that attack them. These interactions can provide spectacular protection from invasive species but risks to the environment are possible as well so biological control interventions must be undertaken with great care. We will explore these interactions and interventions in depth in this class.

ENT 3910. Introduction to Research in Entomology. (1-6 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer) This course will provide the framework for offering field, lab, or library-based entomological research under the supervision of faculty or graduate-faculty staff in the Department of Entomology. It is anticipated that this course will provide hands-on experiences, and that the research focus will generally be

aligned with the research specialization of the instructor.

ENT 3927. Data Management for Biologists. (2 cr. ; A-F only; Periodic Fall & Spring) This course is focused on providing hands-on experience in organizing, managing, curating, and accessing data. Students will encounter the data life cycle from generation to preservation. Students will be expected to complete assignments using their own data or other available datasets. It is a topic-driven weekly seminar (12 sessions at ~2h each), combining small amounts of lecture with problem solving and hands-on exercises. The course is taught for the requisite number of hours for a 2-credit, semester long course. For each week we will have short lectures followed by hands-on activities. The longer course sessions (~120 minutes per week in class vs. 100 minutes) also allow the course to end two weeks early so students can begin or prepare for their field seasons if necessary.

ENT 4021. Honey Bees and Insect Societies. (; 3 cr. ; Student Option; Fall Odd Year) Natural history, identification, and behavior of honey bees and other social insects. Evolution of social behavior, pheromones and communication, organization and division of labor, social parasitism. Lab with honey bee management and maintenance of other social bees for pollination. prereq: Biol 1009 or instr consent

ENT 4096. Professional Experience Program: Internship. (; 1-3 cr. ; S-N or Audit; Every Fall, Spring & Summer) Professional experience in entomology firms or government agencies through supervised practical experience; evaluative reports and consultations with faculty advisers and employers. prereq: COAFES jr or sr, complete internship contract available in COAFES Career Services before enrolling, UC only, instr consent

ENT 4251. Forest and Shade Tree Entomology. (; 3 cr. ; Student Option; Every Fall) Biology, ecology, population management of forest/shade tree insects. Emphasizes predisposing factors/integrated management. Lecture/lab.

ENT 5001. Entomology Orientation. (; 1 cr. [max 2 cr.]; S-N only; Every Fall) Class will comprise short lectures and visits to laboratories for first-hand exposure to entomological research at the University of Minnesota. Lectures will represent different research areas related to basic and applied entomology. Students will acquire an understanding of the diversity and significance of different areas of entomological research at the University of Minnesota. Students will also learn about techniques used by entomologists for answering questions related to insects and their associations with humans and the environment.

ENT 5011. Insect Structure and Function. (4 cr. ; A-F or Audit; Every Spring) Comparative study of insect structures/functions from evolutionary perspective.

Introduction to physiology of digestion, respiration, other organ systems.

ENT 5021. Insect Biodiversity and Evolution. (4 cr. ; Student Option; Every Fall)

Insects are the most diverse group of organisms on Earth with almost 1 million described species. Millions more remain to be described, especially in tropical regions of the world. Insects come in a remarkable array of sizes, colors, and shapes. Taxonomists use this morphological complexity as the primary means of identifying insects, but also for inferring evolutionary relationships. In this course, we will learn how to identify insects, explore methods of collection and curation of insects, discuss their evolutionary relationships, see how insects fit in the natural world, and discuss exciting new efforts to inventory, describe, and conserve the remarkable diversity of insects.

ENT 5041. Insect Ecology. (3 cr. ; Student Option; Fall Even Year)

Synthetic analysis of the causes of insect diversity and of fluctuations in insect abundance. Focus on abiotic, biotic, and evolutionary mechanisms influencing insect populations and communities. prereq: Biol 5041 or EBB 5122 or instr consent

ENT 5051. Scientific Illustration of Insects.

(; 3 cr. ; Student Option; Spring Even Year)
Techniques for preparing and observing insects for subsequent illustration. Traditional illustration techniques using the drawing tube and ocular grid on the microscope, including pencil sketching and pen and ink line drawing. Other ?traditional? rendering methods will include line and ink, stippling, cross-hatching, color illustration. Major emphasis will be in computer-assisted techniques of scientific illustration using Adobe Illustrator and Adobe Photoshop, including instruction on preparing full body, true-to-life, color illustrations of insects on the computer.

ENT 5061. Insect Molecular Science. (; 2

cr. ; Student Option; Periodic Fall & Spring)
Molecular genetic techniques and their applications. Emphasizes insect species other than *Drosophila*. Application of genetic techniques to physiological processes. prereq: [5011, basic genetics course] or instr consent

ENT 5121. Applied Experimental Design. (;

4 cr. ; Student Option; Periodic Fall)
Principles of sampling methodologies, experimental design, and statistical analyses. Methods/procedures in generating scientific hypotheses. Organizing, initiating, conducting, and analyzing scientific experiments using experimental designs and statistical procedures. Offered with AGRO 5121. prereq: Stat 5021 or equiv or instr consent

ENT 5126. Spatial and Temporal Analysis of Ecological Data. (3 cr. [max 6 cr.] ; A-F or Audit; Spring Even Year)

This course covers linear models (regression and ANOVA) and extensions to temporal data and spatial point processes, lattice/areal data, and geostatistics. The course bridges sufficient theory to understand why contending with spatiotemporal dependence is important with

enough application to make students confident in their own data analyses.

ENT 5211. Insect Pest Management. (3 cr. ; Student Option; Every Spring)

Insect Pest Management is designed for graduate students in any major or minor. The course will emphasize principles of insect pest management and draw from examples related to agricultural, horticultural and landscape, and urban systems. Conventional (nonorganic) and organic approaches, the use of social media and modern technology, and economic, environmental, and social consequences of diverse tactics (chemical, cultural, biological, genetic, etc.) will be covered by the instructor and, on occasion, by guest lecturers. Student debates on pesticide-pollinator and genetic engineering issues will provide real-world context and insights on complexities of insect pest prevention and management.

ENT 5275. Insect-transmitted diseases of humans. (3 cr. ; Student Option; Every Spring)

What's so attractive about human blood? How have human interactions with insects evolved? Insects and ticks transmit viral, bacterial, protozoan and filarial diseases to humans, particularly in tropical countries. Zika, most recently, and also dengue and other mosquito-borne viruses pose an emerging challenge in the southern US as climate change increases the range of important vector species. Lyme disease and other tick-borne diseases are increasing in the US, and pose challenges in diagnosis and treatment. This course covers contemporary topics in "Medical Entomology" that will provide an overview of arthropod-borne disease and its impacts on global health from the perspective of insect vectors and microbial pathogens. Students will explore historical, contemporary and epidemiologic stories demonstrating exposure and control strategies via lecture, student discussions, laboratory demonstrations, and critical review of current best practices in medical entomology. This course is designed for upper division undergraduate and graduate students in any major or minor.

ENT 5341. Biological Control of Insects and Weeds. (; 3 cr. ; Student Option; Every Spring)

Biological control is the suppression of pests and weeds using living organisms. It involves fascinating interactions between organisms such as plants and herbivores, and insects and the predators and parasitoids that attack them. These interactions can provide spectacular protection from invasive species but risks to the environment are possible as well so biological control interventions must be undertaken with great care. We will explore these interactions and interventions in depth in this class. The class is online.

ENT 5481. Invertebrate Neurobiology. (; 2

cr. [max 3 cr.] ; Student Option; Every Spring)
The study of invertebrate animals, such as honey bees, sea slugs, and fruit flies, have been instrumental in informing us humans about how our own brains operate. In addition, the ability of some invertebrate animals to sense certain stimuli beyond what humans can detect, has enabled scientists to build

smart machines and robots with extraordinary capabilities. Since 80% of the world's species are insects, understanding the basics of how their nervous systems function will enable societies to better manage their health (e.g., helping insect pollinators) or combat their destruction (e.g., preventing locust plagues). Invertebrate Neurobiology is a course that will explore the underlying neural mechanisms that enable animals to solve or respond to particular problems encountered in their natural environments. Many of the invertebrate animals presented will not only exhibit interesting behaviors, but will reveal important and often conserved principles of neuroscience applicable to a host of animals, including us humans. This course is designed to be integrative ? including disciplines intersecting with animal behavior, entomology, evolution, ecology, neuroscience, psychology, and bioengineering. A major goal of this course is to widen one's view of the importance of invertebrate animals in the field of neuroscience and gain an appreciation of the translational impact that this knowledge can have and will continue to have on our society and daily lives. Students will also be introduced to important concepts in neurobiology and learn how small neural networks operate.

ENT 5900. Basic Entomology. (; 1-6 cr. [max

12 cr.] ; Student Option; Every Fall & Spring)
For graduate students who need to make up certain deficiencies in their biological science background. prereq: instr consent

ENT 5910. Special Problems in Entomology.

(; 1-6 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
Individual field, lab, or library studies in various aspects of entomology. prereq: instr consent

ENT 5920. Special Lectures in Entomology.

(; 1-4 cr. [max 12 cr.] ; S-N only; Every Fall & Spring)
Lectures or labs in special fields of entomological research. Given by visiting scholar or regular staff member.

ENT 5927. Data Management for Biologists.

(; 2 cr. ; A-F only; Periodic Fall & Spring)
This course is focused on providing hands-on experience in organizing, managing, curating, and accessing data. It is conceived as a topic-driven weekly seminar (12 sessions at ~2h each), combining small amounts of lecture with problem solving and hands-on exercises. The course is taught for the requisite number of hours (1400) for a 2-credit course. The longer course sessions allow for short lectures followed by hands-on activities. Students will encounter the data life cycle from generation to preservation. Students will be expected to complete assignments using their own data or other available datasets.

Environment Sci, Policy, Mgmt (ESPM)

ESPM 1001. Freshmen Orientation to Environmental Sciences, Policy, and Management. (; 1 cr. ; A-F or Audit; Every Fall)

Academic planning, ESPM careers, liberal education requirements, internships. Building relationships with other students/faculty, student life, information technology, critical computer skills. New freshmen.

ESPM 1002. Transfer Orientation Seminar. (; 1 cr. ; A-F or Audit; Every Fall & Spring)

This required course provides orientation and guidance in planning for students transferring into the environmental sciences, policy and management (ESPM) major. We will use course activities to enhance your success and sense of community at the University and within the ESPM major while we explore the major, maximizing your time at the University, and preparing you for an environmentally-focused career.

ESPM 1011. Issues in the Environment. (ENV; 3 cr. ; Student Option; Every Fall & Spring)

Introductory survey of environmental issues that explores the connections between environmental sciences, policy, and management. You will explore interrelationships between the environment and human society, as well as the underlying social, ethical, political and economic factors that affect those relationships. You will also examine the roles for science, technology, policy, and environmental justice in meeting environmental challenges. Asynchronous online lectures with weekly discussions in small groups.

ESPM 1012H. Environmental Science and Society. (ENV; 3 cr. ; A-F only; Every Spring)

Selection of current environmental issues affecting our daily lives. Evaluate the scientific and social approaches necessary to resolve environmental issues. Students explore how everything we do affects the environment in different ways.

ESPM 1202. People, Land, and Water: Systems Under Stress. (HIS; 3 cr. ; A-F only; Every Spring)

Policies/community engagement around water sustainability. Students engage directly with local case on Mississippi River.

ESPM 1425. Introduction to Weather and Climate. (ENV,PHYS; 4 cr. ; Student Option; Every Fall & Spring)

pre-calculus introduction to the nature of the atmosphere and its behavior. Topics covered include atmospheric composition, structure, stability, and motion; precipitation processes, air masses, fronts, cyclones, and anticyclones; general weather patterns; meteorological instruments and observation; weather map analysis; and weather forecasting.

ESPM 2021. Environmental Sciences: Integrated Problem Solving. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Environmental issues facing the world today are increasingly complex. Challenges such as global climate change, air and water quality impairments, land use change for forest and agricultural production, and species conservation require an ability to conceptualize problems broadly so that solutions are crafted

in a manner that addresses a multitude of perspectives and considerations. This course will use an interdisciplinary case-study approach to expose students to the most important environmental problems facing society today as well as innovative solutions. The case studies include investigations of ecosystem services, invasive species and pollution remediation, with world experts on these topics leading the discussions. Throughout, a focus on interdisciplinary analysis, including linkages to environmental grand challenges will be emphasized. An interactive approach will be utilized as well, in which students work in groups and engage in class discussions as ways to internalize and conceptualize information. prereq: 1011, ESPM major

ESPM 2886. Pollinator Conservation: From Biodiversity to Food Production. (ENV; 3 cr. ; A-F only; Every Spring)

Flowers are strikingly beautiful as their main purpose is to attract an animal that will transfer pollen and produce seeds. In fact, nearly 300,000 species of plants rely on these animal pollinators. Pollinators include a diverse suite of organisms including insects, mammals, birds, and even lizards. One of the most important groups of pollinators, the bees, contain over 20,000 species. Through a mix of readings, active learning activities and lectures, this course will allow students to learn about the biology, conservation, and importance of pollinators. The first portion of the class will focus on the fascinating biology of pollination and pollinators, including mutualisms, trickery and other complex species interactions. Students will explore the evolutionary biology of plant-pollinator interactions and how the millions of years of interactions between plants and pollinators have led to diverse array of colors, smells and floral forms we see today. The second section of the course will explore actions of pollinators in terms of honey production, crop pollination, economics and cultural appreciation. Students will explore how pollinators contribute to human society and how the actions of humans impact pollinator populations. Both sections will be viewed through a lens of pollinator conservation and environmental policy. Here students will be expected to ability to locate and evaluate scientific information and think critically how science does and does not affect environmental policy.

ESPM 3000. Seminar on Current Issues for ESPM. (; 1 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Environmental issues students will have to address in their future careers. Small group discussion, in-depth/focused intellectual debate. Topics depend on faculty selection or student interest. prereq: Jr

ESPM 3011W. Ethics in Natural Resources. (WI,CIV; 3 cr. ; Student Option; Every Fall & Spring)

Normative/professional ethics, and leadership considerations, applicable to managing natural resources and the environment. Readings, discussion.

ESPM 3012. Statistical Methods for Environmental Scientists and Managers.

(MATH; 4 cr. ; A-F or Audit; Every Spring) Introduction to statistical principles, foundations, and methods for examining data and drawing conclusions. Confidence intervals, hypothesis testing, analysis of variance, and regression modeling of relationships in environmental and natural resource science and management problems. prereq: Two yrs of high school math

ESPM 3014. Tribal and Indigenous Natural Resource Management. (3 cr. ; Student Option; Every Fall)

This course is designed to develop and refine your understanding of tribal and Indigenous natural resource management, tribal and Indigenous perspectives, and responsibilities natural resource managers have for tribal and Indigenous communities. This course includes one eight-hour weekend field session.

ESPM 3015. Invasive Plants and Animals: Ecology and Management. (3 cr. ; Student Option; Fall Odd Year)

Overview of invasive plants/animals in North America and around the world. A range of taxa are covered along with their impact and approaches to control. Readings, discussions, and lectures from experts on topics such as invasion theory and real world management.

ESPM 3031. Applied Global Positioning Systems for Geographic Information Systems. (; 3 cr. ; A-F or Audit; Every Spring)

GPS principles, operations, techniques to improve accuracy. Datum, projections, and coordinate systems. Differential correction, accuracy assessments discussed/applied in lab exercises. Code/carrier phase GPS used in exercises. GPS handheld units, PDA based ArcPad/GPS equipment. Transferring field data to/from desktop systems, integrating GPS data with GIS. prereq: Intro GIS course

ESPM 3051. Lands and Humans in World Cultures: the Past and the Present. (GP; 3 cr. ; A-F only; Every Spring)

This course focuses on globally diverse farming and land use practices and associated sustainability issues. By examining diverse land uses issues in different countries in the world, this course seeks to provide global perspective on the US and global land use practices and its sustainability. This course seeks to build interdisciplinary perspectives to better understand the mechanisms and changes in diverse human-nature interactions via land. Class materials will be sourced from multiple disciplines including soil science, ecology, geology, geography, anthropology, and history.

ESPM 3108. Ecology of Managed Systems. (ENV; 3 cr. ; Student Option; Every Fall)

Ecology of ecosystems that are primarily composed of managed plant communities, such as managed forests, field-crop agroecosystems, rangelands and nature reserves, parks, and urban open-spaces. Concepts of ecology and ecosystem management. prereq: BIOL 1001 or BIOL 1009 or HORT 1001 or instr consent

ESPM 3111. Hydrology and Water Quality Field Methods. (3 cr. ; A-F or Audit; Every Spring)

Integrates water quality, surface/groundwater hydrology. Case studies, hands-on field data collection, calculations of hydrological/water quality parameters. Meteorological data, snow hydrology, stream gauging, well monitoring, automatic water samplers. Designing water quality sampling program. Geomorphology, interception, infiltration.

ESPM 3131. Environmental Physics. (; 3 cr. ; A-F or Audit; Every Spring)

Concepts and principles of classic and modern physics applied to environmental problems arising from interaction between humans and the natural environment. Forms of pollution (e.g., land, water, air). Transport mechanisms. Anthropogenic greenhouse gas emissions. Global climate change. Social issues related to environmental problems. prereq: Phys 1101

ESPM 3202W. Environmental Conflict Management, Leadership, and Planning. (WI; 3 cr. ; A-F or Audit; Every Spring)

Negotiation of natural resource management issues. Use of collaborative planning. Case study approach to conflict management, strategic planning, and building leadership qualities. Emphasizes analytical concepts, techniques, and skills.

ESPM 3211. Survey, Measurement, and Modeling for Environmental Analysis. (3 cr. ; Student Option; Every Spring)

Survey, measurement, and modeling concepts/methods for study of natural resources/environmental issues. Emphasizes survey design for data collection, estimation, and analysis for issues encompassing land, water, air, vegetation, wildlife, and human/social variables. prereq: ESPM 3012, FW 4001, STAT 3011, or equivalent

ESPM 3221. Soil Conservation and Land-Use Management. (; 3 cr. ; Student Option; Every Spring)

This course is designed to provide a local and global historical perspective of soil erosion (causes and consequences); develop a scientific understanding of soil erosion processes; and relates various soil conservation and land-use management strategies to real-world situations. Basics of soil erosion processes and prediction methods will be the fundamental building blocks of this course. From this understanding, we will discuss policies and socioeconomic aspects of soil erosion. Lastly, we will focus on effective land-use management using natural resource assessment tools. Case studies and real-world and current events examples will be used throughout the course to relate course material to experiences. prereq: SOIL 2125 or instr consent

ESPM 3241W. Natural Resource and Environmental Policy. (CIV,WI,SOCS; 3 cr. ; Student Option; Every Spring)

Political processes in management of the environment. How disagreements are addressed by different stakeholders, private-sector interests, government agencies,

institutions, communities, and nonprofit organizations.

ESPM 3245. Sustainable Land Use Planning and Policy. (ENV; 3 cr. ; A-F or Audit; Every Fall)

Policies affecting land use planning at local, state, and federal levels. Ecosystem and landscape scale planning. Collaborative and community-based approaches to planning for ecological, social, and economic sustainability. Class project applies interdisciplinary perspectives on planning and policy, including information gathering techniques, conservation planning tools, and evaluation of planning options.

ESPM 3251. Natural Resources in Sustainable International Development. (GP; 3 cr. ; A-F or Audit; Every Fall)

International perspectives on resource use and sustainable development. Integration of natural resource issues with social, economic, and policy considerations. Agriculture, forestry, agroforestry, non-timber forest products, water resources, certification, development issues. Global case studies. Impact of consumption in developed countries on sustainable development in lesser developed countries.

ESPM 3261. Economics and Natural Resources Management. (ENV,SOCS; 4 cr. ; A-F or Audit; Every Spring)

Microeconomic principles and their application to natural resource management problems. Economic and policy tools to address market failures. Discussion of regulatory and market-based instruments. Discounting and compounding concepts. Methods for conducting financial and economic analyses of natural resource management projects. Decision criteria when conducting benefit/cost analysis of natural resource projects. Methods for valuing non-market natural resource goods and services. Economics of managing renewable natural resources such as forests and fisheries. Land economics. Payments for environmental services. Planning and management problems. Case studies. prereq: MATH 1031 or equivalent.

ESPM 3271. Environmental Policy, Law, and Human Behavior. (CIV,SOCS; 3 cr. ; A-F or Audit; Every Fall)

What is necessary to achieve sustainable societies. What influences societal deliberation/decisions about environmental issues. How our behaviors affect natural systems. Key theoretical concepts of environmental social psychology and political science. How people respond to policies, using theoretical concepts from social psychology about attitudes, values, and social norms; applying these ideas to specific environmental problems and ethical debates.

ESPM 3425. Atmospheric Pollution: From Smog to Climate Change. (3 cr. ; A-F only; Periodic Fall)

Processes governing chemical makeup of Earth's atmosphere. Implications for air pollution, climate, human welfare. Evolution of atmosphere. Atmospheric structure/transport. Biogeochemical cycles of carbon, nitrogen, oxygen, mercury. Greenhouse effect. Aerosols.

Stratospheric ozone loss. prereq: [CHEM 1061, PHYS 1101W, MATH 1142 or 1271] or equiv or instr consent

ESPM 3480. Topics in Natural Resources. (; 1-4 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)

Lectures by visiting scholar or regular staff member. Topics specified in Class Schedule.

ESPM 3575. Wetlands. (; 3 cr. ; Student Option; Every Spring)

Freshwater wetland classification, wetland biota, current/historic status of wetlands, value of wetlands. National, regional, Minnesota wetlands conservation strategies, ecological principles used in wetland management.

ESPM 3601. Sustainable Housing--Community, Environment, and Technology. (TS; 3 cr. ; A-F or Audit; Every Fall & Spring)

How sustainable housing practices build community. How community growth has impacted the environment and how natural events impact our communities. Science and technology required to build high performance houses.

ESPM 3602. Regulations and Corporate Environmental Management. (; 3 cr. ; A-F only; Every Spring)

Concepts/issues relating to industrial ecology and industry as they are influenced by current standards/regulations at local, state, and national levels. prereq: APEC 1101 or ECON 1101 or 3261W

ESPM 3603. Environmental Life Cycle Analysis. (; 3 cr. ; A-F only; Every Fall)

Concepts/issues relating to inventory, subsequent analysis of production systems. Production system from holistic point of view, using term commonly used in industrial ecology: "metabolic system."

ESPM 3604. Environmental Management Systems and Strategy. (; 3 cr. ; A-F only; Every Fall)

Environmental problems such as climate change, ozone depletion, and loss of biodiversity.

ESPM 3605. Recycling: Extending Raw Materials. (TS; 3 cr. ; A-F only; Every Spring)

Basic principles of recycling and its role in raw materials utilization, energy, and the environment. Recycling processes for commonly recycled materials, products, and their properties and environmental implications of recycling.

ESPM 3607. Natural Resources Consumption and Sustainability. (GP; 3 cr. ; A-F only; Every Spring)

Current world trends for industrial raw materials; environmental/other tradeoffs related to options for satisfying demand/needs; global and systemic thinking; provides a framework for beginning a process of thinking critically about complex environmental problems/potential solutions in a diverse global economy.

ESPM 3612W. Soil and Environmental Biology. (WI; 4 cr. ; Student Option; Every Fall)

Properties of microorganisms that impact soil fertility, structure, and quality. Nutrient

requirements of microbes and plants and mineral transformations in biogeochemical cycling. Symbiotic plant/microbe associations and their role in sustainable agricultural production. Biodegradation of pollutants and bioremediation approaches. prereq: Biol 1009 or equiv, Chem 1021 or equiv; SOIL 2125 recommended

ESPM 3777. Climate Change- Physics, Myths, Mysteries, and Uncertainties. (; 3 cr. ; A-F only; Every Spring)
Climate variations are the norm; not the exception. The geological and archaeological records are rich with evidence of a climate system that is dynamic and non-steady state. Yet we face the challenges of understanding the complexities of this system in order to manage our natural resources and to prepare wisely for the future. This class examines the basic theory and Physics behind the atmospheric greenhouse effect and radiative forcings in the climate system. The Myths, Mysteries, and Uncertainties about the climate record and feedback processes operating in the Earth-Atmosphere system will be examined. Simple models will be used to demonstrate the atmospheric greenhouse effect. Sophisticated numerical weather models, such as the Regional Weather and Forecast Chemistry (WRF-CHEM) model, will be used to demonstrate climate predictions and biophysical feedback processes. We will also study some of the classic Warming Papers that provide the physical scientific basis for the anthropogenic greenhouse effect. Finally, we will explore the uncertainties related to climate predictions and how scientists use fingerprint techniques to diagnose natural versus anthropogenic climate signals. There is no prerequisite required for this course, but first year calculus and one other first year science course is recommended.

ESPM 3921. Science and Critical Thinking for Understanding Our World. (CIV; 3 cr. ; A-F only; Every Fall)
Today more than ever we must deal with multiple sources of conflicting information on topics that affect our lives in big ways. We use this information to make important decisions, from major policy decisions to personal lifestyle choices. Understanding complex, high-stakes societal issues such as the global COVID-19 pandemic requires that we rapidly process and synthesize new science that is changing fast, and that we do so in an environment of partisan bias and media spin that make it extremely difficult for citizens to stay informed and make good decisions. The debate surrounding the response to COVID-19, climate change, water policy, and other planetary and human health issues, invoke moral or ethical principles in addition to scientific arguments. As a result, problem solving and decision making requires simultaneously evaluating complex scientific and ethical arguments. Several aspects of human psychology mean that we do not reliably make logical choices when presented with complex information. Furthermore, data and science are frequently used to mislead, from the naive misuse of statistics to deliberate misinformation

campaigns. As a result, weighing evidence and rational decision-making for complex issues requires skepticism, critical thinking, and lots of practice. In this course, students will develop critical thinking tools and cultivate scientific skepticism for evaluating claims encountered in peer-reviewed scientific papers, popular press articles, or on social media. Examples and case studies will draw heavily on current events surrounding the COVID-19 pandemic and associated societal and environmental responses, but will also include other environmental, health, and public policy issues to demonstrate the range of ways in which data and science can be used or misused to support a position. To create the necessary habits of mind for skepticism and critical thinking, this course will cover background material from ethics, neurology, behavioral economics, statistics, and logic. We will employ a number of active learning strategies, and class meetings will frequently consist of students actively engaged in processing and understanding course content. Upon leaving this course students will be able to confidently evaluate the veracity of information as they encounter it in multiple contexts throughout their lives. Students will understand how views of the role of ethics in scientific inquiry have evolved, and the roles of science, uncertainty, and ethics in determining public opinion and policy decisions on environmental topics. Students will learn to identify and recognize misinformation in its various forms and to articulate why a particular piece of information is misleading. We will explore the various ways that our intuition and memory make interpreting data and statistics challenging, and develop tools and habits of mind to overcome these challenges.

ESPM 3993. Directed Study. (; 1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: Department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements

ESPM 3994. Directed Research. (; 1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: Department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

ESPM 4021W. Problem Solving: Environmental Review. (WI; 4 cr. ; Student Option; Every Spring)
Roles of governmental agencies, consultants, and private citizens in EIS process. Students read EIS/EAW, analyze their content/scope, and prepare an EAW and EIS according to Minnesota EQB guidelines. prereq: ESPM 2021 and jr or sr

ESPM 4041W. Problem Solving for Environmental Change. (WI; 4 cr. ; A-F or Audit; Every Fall)
Capstone course. Students working with a team on a real world project related to selected track, gather/analyze data relevant to client's objectives, and make recommendations for future use. Students produce a final written report and formal presentation, and present findings to client group.

ESPM 4061W. Water Quality and Natural Resources. (ENV,WI; 3 cr. ; Student Option; Every Fall)
Water quality decision making. International focus. Ecology of aquatic ecosystems, how they are valuable to society and changed by landscape management. Case studies, impaired waters, TMDL process, student engagement in simulating water quality decision making.

ESPM 4096. Professional Experience Program: Internship. (; 1 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)
Students create oral/written report based on paid or volunteered work or field experience. prereq: CFANS undergrad, instr consent, completed internship contract

ESPM 4216. Contaminant Hydrology. (3 cr. ; A-F or Audit; Every Fall)
Principles of contaminant transport in percolate solution and in overland flow. Hydrologic cycle, percolation/runoff processes, contaminant transport, leachate sampling methods, remediation technologies, scale effects on runoff water quality, tillage technologies, control of sediment/chemical losses. Discussions mostly descriptive, but involve some computations.

ESPM 4242. Methods for Environmental and Natural Resource Policy Analysis. (; 3 cr. ; A-F only; Fall Even Year)
Methods, formal/informal, for analyzing environmental/natural resource policies. How to critically evaluate policies, using economic/non-economic decision-making criteria. Application of policy analysis to environmental/natural resource problems. Recognizing politically-charged environment in which decisions over use, management, and protection of resources often occur. Prereqs: ESPM 3241W or ESPM 3271 and ESPM 3261, undergrads with jr or sr standing.

ESPM 4256. Natural Resource Law and the Management of Public Lands and Waters. (; 3 cr. ; A-F or Audit; Every Fall)
This course is intended to provide non-law students with an understanding of the role of the judiciary in the management of public lands and public waters. The course will examine Constitutional provisions affecting the

management of public resources, the concept of property rights, major principles of water law, the role of the legal system in environmental review, the scope of legal authority granted to administrative agencies, and limitations of private property rights to protect public lands and public waters. The class will introduce students to the concepts of legal reasoning including case synthesis and analysis. The class will be taught using a combination of lecture, guest lectures, written exercises, and class participation. This course will be taught online. Prereqs: 3241W, juniors, seniors and graduate students or instructor permission

ESPM 4295W. GIS in Environmental Science and Management. (WI; 4 cr. ; A-F or Audit; Every Fall)

Application of geographic information science and technologies (GIS) in complex environmental problems. Students gain experience in spatial data collection, database development, and spatial analysis, including GNSS and field attribute collection, image interpretation, and existing data fusion, raster/vector data integration and analysis, information extraction from LiDAR data, DEM conditioning and hydrologic analysis, neighborhood analysis, bulk processing and automation, and scripting. Problems vary depending on topics, often with extra-University partners. prereq: FNRM 3131 or Geog 3561 or instr consent

ESPM 4601. Environmental Pollution. (; 3 cr. ; Student Option; Every Spring)

This course uses the principles of chemistry, microbiology, physics, and toxicology to understand the fate and behavior of environmental contaminants and the pollution of soils, surface waters, groundwater, and sediments. The course is structured around a semester-long risk assessment project that provides a framework for integrating concepts of pollution, contaminant movement, contaminant degradation, human health risk, ecological risk, risk mitigation, environmental remediation processes, and interactions among them. The history of federal regulations concerning environmental contamination is presented in the context of the major episodes of environmental pollution that motivated legislative action. prereq: SOIL 2125, CHEM 1061 and 1062 or equiv, or permission

ESPM 4607. Industrial Biotechnology and the Environment. (; 3 cr. ; A-F only; Every Spring)

Biotechnology pertaining to biobased products development, their environmental impact. prereq: BIOL 1009, CHEM 1021

ESPM 4811. Environmental Interpretation. (; 3 cr. ; A-F or Audit; Every Spring)

This course is designed to be an introduction to the broad field of Environmental Interpretation, Communication Theory, Visitor Information Services (VIS), and Nonformal Education experience's found in parks, nature centers, camps, zoos, museums, arboretums, and free-choice learning environments. Students will understand the definitions, role and scope of interpretation, differences between audiences and/or users of interpretive services, and

distinguish between interpretive techniques based on their advantages/disadvantages. Students can also qualify for the National Association for Interpretation's (NAI) Certified Interpretive Guide (CIG) program.

ESPM 5014. Tribal and Indigenous Natural Resource Management. (3 cr. ; Student Option; Every Fall)

This course is designed to develop and refine your understanding of tribal and Indigenous natural resource management, tribal and Indigenous perspectives, and responsibilities natural resource managers have for tribal and Indigenous communities. This course includes one eight-hour weekend field session.

ESPM 5015. Invasive Plants and Animals: Ecology and Management. (3 cr. ; Student Option; Fall Odd Year)

Overview of invasive plants/animals in North America and around the world. A range of taxa are covered along with their impact and approaches to control. Readings, discussions, and lectures from experts on topics such as invasion theory and real-world management.

ESPM 5031. Applied Global Positioning Systems for Geographic Information Systems. (; 3 cr. ; A-F or Audit; Every Spring)

GPS principles, operations, techniques to improve accuracy. Datum, projections, and coordinate systems. Differential correction, accuracy assessments discussed/applied in lab exercises. Code/carrier phase GPS used in exercises. GPS handheld units, PDA based ArcPad/GPS equipment. Transferring field data to/from desktop systems, integrating GPS data with GIS. prereq: Grad student or instr consent

ESPM 5061. Water Quality and Natural Resources. (; 3 cr. ; Student Option; Every Fall & Spring)

Recent literature in field. Complements 4061. Ecology of aquatic ecosystems, how they are valuable to society and changed by landscape management. Case studies, impaired waters, TMDL process, student engagement in simulating water quality decision making.

ESPM 5071. Ecological Restoration. (; 4 cr. ; Student Option; Every Fall)

Each ecosystem restoration is the product of a myriad of decisions made in response to existing site conditions (biotic and abiotic), anticipated effects from the surrounding landscape, predictions about future events, logistical realities, and, of course, desired conditions. During this course, you will learn about the ecological and social factors that affect ecosystem recovery and how people intervene to reverse ecosystem degradation. The course includes examples from ecosystems around the world, with emphasis on those found in the Midwestern US. Field trips. PREREQUISITES: This course presumes previous courses in basic ecology and plant science.

ESPM 5108. Ecology of Managed Systems. (; 4 cr. ; A-F or Audit; Every Fall)

Analysis of functioning of ecosystems primarily structured by managed plant communities. Managed forests, field-crop agroecosystems, rangelands, aquatic systems. Structure-function relations. Roles of biodiversity in

productivity, resource-use efficiency, nutrient cycling, resilience. Emerging principles for design of sustainable managed ecosystems, provision of ecological services. prereq: Sr or grad student

ESPM 5111. Hydrology and Water Quality Field Methods. (3 cr. ; A-F or Audit; Every Spring)

Integrates water quality, surface/groundwater hydrology. Case studies, hands-on field data collection, calculations of hydrological/water quality parameters. Meteorological data, snow hydrology, stream gauging, well monitoring, automatic water samplers. Designing water quality sampling program. Geomorphology, interception, infiltration. prereq: Grad student or instr consent

ESPM 5202. Environmental Conflict Management, Leadership, and Planning. (; 3 cr. ; A-F or Audit; Every Spring)

Negotiation of natural resource management issues. Use of collaborative planning. Case study approach to conflict management, strategic planning, and building leadership qualities. Emphasizes analytical concepts, techniques, and skills.

ESPM 5211. Survey, Measurement, and Modeling for Environmental Analysis. (; 3 cr. ; Student Option; Every Spring)

Survey, measurement, and modeling concepts/methods for study of natural resources/environmental issues. Emphasizes survey design for data collection, estimation, and analysis for issues encompassing land, water, air, vegetation, wildlife, and human/social variables.

ESPM 5241. Natural Resource and Environmental Policy. (; 3 cr. ; Student Option; Every Spring)

Political processes at play in management of environment and how disagreements are addressed by different stakeholders, private-sector interests, government agencies and institutions, communities, and nonprofit organizations. prereq: Grad student or instr consent

ESPM 5242. Methods for Environmental and Natural Resource Policy Analysis. (; 3 cr. ; A-F only; Fall Even Year)

Methods, formal and informal, for analyzing environmental and natural resource policies. How to critically evaluate policies, using economic and non-economic decision-making criteria. Application of policy analysis principles/concepts to environmental/natural resource problems. Recognizing politically-charged environment in which decisions over use, management, and protection of these resources often occur. prereq: grad student

ESPM 5245. Sustainable Land Use Planning and Policy. (; 3 cr. ; A-F or Audit; Every Fall)

Planning theories, concepts, and constructs. Policies, processes, and tools for sustainable land use planning. Scientific/technical literature related to land use planning. Skills needed to participate in sustainable land use planning.

ESPM 5251. Natural Resources in Sustainable International Development. (; 3 cr. ; A-F or Audit; Every Fall)

International perspectives on resource use in developing countries. Integration of natural resource issues with social, economic, and policy considerations. Agriculture, forestry, agroforestry, non-timber forest products, water resources, certification, development issues. Latin American case studies. prereq: Grad student or instr consent

ESPM 5256. Natural Resource Law and the Management of Public Lands and Waters. (; 3 cr. ; A-F or Audit; Every Fall)

This course is intended to provide non-law students with an understanding of the role of the judiciary in the management of public lands and public waters. The course will examine Constitutional provisions affecting the management of public resources, the concept of property rights, major principles of water law, the role of the legal system in environmental review, the scope of legal authority granted to administrative agencies, and limitations of private property rights to protect public lands and public waters. The class will introduce students to the concepts of legal reasoning including case synthesis and analysis. The class will be taught using a combination of lecture, guest lectures, written exercises and class participation. prereq: grad student

ESPM 5261. Economics and Natural Resources Management. (4 cr. ; A-F or Audit; Every Spring)

Microeconomic principles and their application to natural resource management problems. Economic and policy tools to address market failures. Discussion of regulatory and market-based instruments. Discounting and compounding concepts. Methods for conducting financial and economic analyses of natural resource management projects. Decision criteria when conducting benefit/cost analysis of natural resource projects. Methods for valuing non-market natural resource goods and services. Economics of managing renewable natural resources such as forests and fisheries. Land economics. Payments for environmental services. Planning and management problems. Case studies.

ESPM 5295. GIS in Environmental Science and Management. (4 cr. ; A-F or Audit; Every Fall)

Application of geographic information science and technologies (GIS) in complex environmental problems. Students gain experience in spatial data collection, database development, and spatial analysis, including GNSS and field attribute collection, image interpretation, and existing data fusion, raster/vector data integration and analysis, information extraction from LiDAR data, DEM conditioning and hydrologic analysis, neighborhood analysis, bulk processing and automation, and scripting. Problems vary depending on topics, often with extra-University partners. *Please note that students should have completed a semester-long, introductory lab/lecture GIS course at the graduate or undergraduate level before enrolling in this course, e.g., FNRM 5131. We do not require any given course because students come from varied universities and backgrounds. That said, we assume a knowledge commensurate with a

comprehensive introductory course. Students seeking a first course are directed to FNRM 5131. If you have questions regarding your capabilities, please contact the instructor prior to enrolling.

ESPM 5402. Biometeorology. (; 3 cr. ; Student Option; Fall Even Year)

This course examines the interactions between the atmosphere and the Earth's surface.

We will discuss the principles of the surface energy and radiation balance, air motion in the atmospheric boundary layer, land surface parameterization for climate models, boundary layer budgets, and field research methods. The course aims to achieve exemplary learning through hands-on activities and examining recent field studies conducted in natural and managed ecosystems. prereq: MATH 1271, PHYS 1201, STAT 3011, [instr consent]

ESPM 5480. Topics in Natural Resources. (; 1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Lectures by visiting scholar or regular staff member. Topics specified in class schedule.

ESPM 5555. Wetland Soils. (; 3 cr. ; A-F or Audit; Every Fall)

Morphology, chemistry, hydrology, formation of mineral/organic soils in wet environments. Soil morphological indicators of wet conditions, field techniques of identifying hydric soils for wetland delineations. Peatlands. Wetland benefits, preservation, regulation, mitigation. Field trips, lab, field hydric soil delineation project. prereq: SOIL 1125 or 2125 or equiv or instr consent; concurrent registration is required (or allowed) in SOIL 4511 recommended

ESPM 5575. Wetlands. (; 3 cr. ; Student Option; Every Spring)

Freshwater wetland classification, wetland biota, current/historic status of wetlands, value of wetlands. National, regional, Minnesota wetlands conservation strategies. Ecological principles used in wetland management. prereq: 3575, [sr or grad student or instr consent]

ESPM 5602. Regulations and Corporate Environmental Management. (; 3 cr. ; A-F only; Every Spring)

Concepts, major issues relating to industrial ecology and industry as they are influenced by current standards/regulations at local, state, and national levels. prereq: APEC 1101 or ECON 1101

ESPM 5603. Environmental Life Cycle Analysis. (; 3 cr. ; A-F only; Every Fall)

Concepts, major issues relating to inventory and subsequent analysis of production systems. Production system from holistic point of view, using term commonly used in industrial ecology: "the metabolic system." prereq: [Math 1142 or [Math 1271, Math 1282]], [Econ 1101 or ApEc 1101]

ESPM 5604. Environmental Management Systems and Strategy. (; 3 cr. ; A-F only; Every Fall)

Environmental problems such as climate change, ozone depletion, and loss of biodiversity.

ESPM 5605. Recycling: Extending Raw Materials Supplies. (; 3 cr. ; A-F only; Every Spring)

Principles of recycling. Role of recycling in raw materials utilization, energy, and the environment. Recycling processes for number of commonly recycled materials/products. Properties, environmental implications of recycling.

ESPM 5607. Industrial Biotechnology and the Environment. (; 3 cr. ; A-F only; Every Spring)

Biotechnology pertaining to biobased products development and their environmental impact. prereq: BIOL 1009, CHEM 1021

ESPM 5811. Environmental Interpretation. (; 3 cr. ; A-F or Audit; Every Spring)

This course is designed to be an introduction to the broad field of Environmental Interpretation, Communication Theory, Visitor Information Services (VIS), and Nonformal Education experience's found in parks, nature centers, camps, zoos, museums, arboretums, and free-choice learning environments. Students will understand the definitions, role and scope of interpretation, differences between audiences and/or users of interpretive services, and distinguish between interpretive techniques based on their advantages/disadvantages. Students can also qualify for the National Association for Interpretation's (NAI) Certified Interpretive Guide (CIG) program.

Experimental and Clinical Phar (ECP)

ECP 5220. Regulatory Issues in Drug Research. (2 cr. ; Student Option; Every Fall)

Regulatory issues encountered in conducting drug research trials. Performing different aspects of clinical trials. Lectures, readings, small group discussions, homework assignments. prereq: ECP grad student or Pharm.D. professional student or instr consent

ECP 5290. Clinical Clerkship. (1-8 cr. [max 16 cr.] ; Student Option; Every Fall)

Supervised study of pharmaceutical services at University of Minnesota Medical Center, Fairview or affiliated institutions. prereq: Grad experimental and clinical pharmacology

ECP 5620. Drug Metabolism and Disposition. (3 cr. ; A-F or Audit; Spring Odd Year)

Oxidative/conjugative enzymes systems involved in human drug metabolism/disposition. Various in vitro models used to evaluate drug metabolism or chemical entity, pros/cons of each. Factors involved in conducting in vivo studies. Components used to predict in vivo drug disposition from in vivo studies. prereq: Grad student or instr consent

ECP 5982. Inter-Institutional Journal Club in Translational Research. (1 cr. [max 2 cr.] ; Student Option; Every Fall)

This course is structured as an inter-institutional journal club between universities of Minnesota, Pittsburgh, and Kentucky that is focused on translational research in clinical pharmacology. Articles will be

discussed on topics such as precision medicine, pharmacokinetics, pharmacometrics, pharmacogenomics, and clinical biomarkers.

ECP 5983. Scientific Communications in Experimental and Clinical Pharmacology. (1 cr. ; Student Option; Spring Odd Year) Introduction of professional development concepts in written and oral scientific communication through lectures, literature readings, and class participation.

ECP 5984. Scientific Communications in Experimental and Clinical Pharmacology II. (1 cr. ; Student Option; Spring Even Year) Dissemination of advanced professional development concepts in written and oral scientific communication through lectures, literature readings, and class participation.

ECP 5993. Directed Study in Experimental and Clinical Pharmacology. (; 1-4 cr. [max 8 cr.] ; Student Option; Every Fall & Spring) Student working with faculty member designs a directed study course, including a complete syllabus, appropriate time commitment, and workload for number of credits.

ECP 5994. Directed Research in Experimental and Clinical Pharmacology. (; 1-4 cr. ; Student Option; Every Fall & Spring) Student works with faculty adviser to design a scientific research project.

Family Med & Community Health (FMCH)

FMCH 5345. Curriculum Design and Teaching Strategies for Medical Education I. (; 3 cr. ; A-F or Audit; Every Spring) Identifying/developing course goals. Developing course, teacher, learner evaluations. Students must also take 5346, which follows immediately after 5345. prereq: concurrent enrollment in 5346, instr consent

FMCH 5346. Curriculum Design and Teaching Strategies for Medical Education II. (; 1 cr. ; A-F or Audit; Summer Even Year) Taken with 5345. Practicum of lecture, demonstration, small-group discussion, clinical teaching, and computer-assisted instruction. Academic ethics, policies, copyright issues, tenure, academic freedom, problem-based learning. prereq: concurrent registration is required (or allowed) in 5345, instr consent

FMCH 5564. Family Practice Seminar. (; 1 cr. [max 9 cr.] ; O-N or Audit; Every Fall & Spring) Knowledge, skills, and attitudes in biomedical and behavioral sciences that form foundation for academic discipline of family medicine; medical decision making, common problems and procedures, family theory and assessment, clinical pharmacy, human sexuality. prereq: MD or DO degree

FMCH 5651. Principles of Geriatrics II. (; 1 cr. [max 5 cr.] ; P-N or Audit; Periodic Fall) Second in two-course sequence. Survey of major topics in geriatric medicine. Epidemiology, etiology, diagnosis, and treatment of major geriatric syndromes and illnesses. prereq: Medical School or dental school or GNP school graduate

FMCH 5950. Clinical Issues in Human Sexuality. (; 2 cr. ; O-N or Audit; Every Fall & Spring)

Assessment and treatment techniques pertaining to common sexual problems. prereq: Enrollment in health sci grad programs in CSPP, Psy, PubH, SW or FSoS or instr consent

FMCH 5955. Directed Study. (; 1-10 cr. ; O-N or Audit; Every Fall, Spring & Summer) Studies on special topics as arranged between student and faculty. prereq: instr consent; qualified students may arrange for work on a tutorial basis

Family Social Science (FSOS)

FSOS 1101. Intimate Relationships. (SOCS; 4 cr. ; Student Option; Every Fall & Spring) Couple dynamics. Overview of how to develop, maintain, and terminate an intimate relationship. Communication, conflict resolution, power, roles. Programs for marriage preparation, marriage enrichment, and marital therapy.

FSOS 1101H. Intimate Relationships Honors. (SOCS; 4 cr. ; A-F only; Every Fall & Spring) Couple dynamics. Overview of how to develop, maintain, and terminate an intimate relationship. Communication, conflict resolution, power, roles. Programs for marriage preparation, marriage enrichment, and marital therapy.

FSOS 1201. Human Development in Families: Lifespan. (DSJ,SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer) Human development in a family context. Life-course and human development theories. Individual/family development, mate selection, birth, life cycle. Physical, cognitive, language, social, and personality development. Historical, social, and cultural factors. How theory/research are applied to everyday lives.

FSOS 1211. An Interdisciplinary Look at the Family in Multicultural America. (SOCS,DSJ; 4 cr. ; A-F or Audit; Every Fall & Spring)

This course is designed as an introduction to multicultural families using an ecological lens. The institution of the family is recognized globally as a basic unit of a society that produces, develops, socializes, and launches the next generation of its citizenry. This course will focus on families in contemporary America, a society that has grown increasingly diverse, and faces many complex challenges in today's global environment. Using a human ecological lens allows us to examine families in their nested and interdependent environments--how individuals shape and are shaped by families, their human built environments, their socio-cultural environments, and their natural-physical environments. This is a service learning class.

FSOS 1301. Cash or Credit: You Need to Know. (; 1 cr. ; A-F only; Every Fall, Spring & Summer)

Factual information about basic money management skills. Topics covered can be applied to everyday life. Online, interactive learning based class.

FSOS 1461. Presentations at Work: Families, Communities, Nonprofits, and Schools. (CIV; 3 cr. ; A-F or Audit; Every Spring)

This course prepares students to present information and adjust their messages based on audience need in a variety of future work contexts. Students interested in majoring in Family Social Science, Education, Youth Studies, and Kinesiology will take this course in order to develop the disciplinary practices used in counseling, community-based organizations, education, and health sciences to convey important, and often sensitive, material to specific audiences.

FSOS 2101. Preparation for Working With Families. (; 3 cr. ; A-F or Audit; Every Fall & Spring) Systematic preparation for upper division education, research/field internships, and career possibilities in Family Social Science.

FSOS 2103. Family Policy. (3 cr. ; Student Option; Every Fall)

Connections between policies that governments enact, and families and their well-being. Conceptual frameworks for influences underlying policy choices. Evaluating consequences of such choices for diverse families.

FSOS 2105. Methods in Family Research. (3 cr. ; Student Option; Every Fall & Spring) Scientific method. Major questions/objectives of family research. Data collection/analysis/reporting. Social context of family research. prereq: STAT 3011 or PSTL 1004 or STAT 1001 or ESPY 3264 or ESPY 1261 or SOC 3811 or SOC 2550 or PSY 3801 or instr consent

FSOS 2106. Family Resource Management. (3 cr. ; Student Option; Every Spring) Analysis of how individuals/families use interpersonal, economic, natural, and community resources to make decisions, solve problems, and achieve central life purposes.

FSOS 2107. Preparation for Family and Community Engagement. (3 cr. ; Student Option; Every Fall & Spring) This course will focus on preparing students to work with families in a community context. Central themes of the course include strategies for family and community engagement, understanding how families interact with community organizations and institutions, how to mobilize family and community assets, and collaborating with families to create systems change and build positive community resources. The course will pose questions for students about the roles of family professionals in supporting families in community contexts. The course will utilize readings about best practices in family and community engagement, both from the family studies literature and from cutting edge community-based organizations. Students will participate in a community

project with a community organization that focuses on supporting families. This will enable them to attend community meetings, shadow family/community liaisons, and better understand the interface between families, community organizations, and institutions. Class assignments will allow students to engage in reflective practice and pull learning from their community-based experiences. They will learn concrete skills like meeting facilitation through a workshop format.

FSOS 2191. Independent Study in Family Social Science. (; 1-4 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer) Independent reading or writing or research under faculty supervision. prereq: Soph, instr consent

FSOS 3101. Personal and Family Finances. (; 3 cr. ; Student Option No Audit; Every Fall & Spring)

Analysis of personal/family financial management principles. Financial planning of savings, investments, credit, mortgages, and taxation. Life, disability, health, and property insurance. Public/private pensions. Estate planning.

FSOS 3102. Family Systems and Diversity. (DSJ,SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Family systems/theories applied to dynamics/processes relevant to family life. Diversity issues related to gender, ethnicity, sexual orientation, and disability. Divorce, single parenthood, remarriage. Family strengths/problems. prereq: At least soph or instr consent

FSOS 3105. Technology in Parenting and Family Relationships. (TS; 3 cr. ; Student Option; Every Fall & Spring)

The role of information and communications technologies in contemporary family life is explored through examination of theory, and research on technology use and family and family member outcomes. Applications of technology in family practice and issues regarding professional preparation will identify avenues for support and development.

FSOS 3191. Independent Study in Family Social Science. (; 1-5 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer) Independent reading or writing or research under faculty supervision. prereq: Jr, instr consent

FSOS 3222W. Our Addicted World: Going Beyond the Individual in Looking at the Addiction. (WI; 3 cr. ; A-F only; Every Spring)

This course will explore addiction and how we, as members of a family and community can better understand the complexity of the systems that simultaneously create environments that foster addiction and assist individuals in their quest to heal from addiction. We will explore our personal beliefs and experiences with addiction, often challenging the dominant discourses that inform who gets blamed and who gets helped when dealing with addiction. We will do this by reading, discussing and writing about three different types of addiction that are currently being discussed by families, communities

and policymakers: opiate addiction, screen addiction and gambling.

FSOS 3426. Alcohol and Drugs: Families and Culture. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Psychology/sociology of drug use/abuse. Life-span, epidemiological, familial, cultural data regarding use. Fundamentals of licit/illicit drug use behavior. Variables of gender, ethnicity, social class, sexuality, sexual orientation, disability.

FSOS 3429. Counseling Skills Practicum I. (3 cr. ; Student Option; Every Fall & Spring)

Basic counseling skills. Counselor needs/motivations, non-verbal communication, basic/advanced empathy, identifying strengths, maintaining focus, challenging discrepancies, use of self. Emphasizes building from client strengths, learning through role-playing.

FSOS 3431. Counseling Skills Practicum II. (; 3 cr. ; Student Option; Every Spring)

Advanced therapeutic methods. Processes of change. Identifying, reinforcing, challenging core beliefs. Reframing. Paradox. Trance, guided imagery. Cognitive-behavioral, solution-focused, narrative therapies. Emphasizes non-pathologizing models of therapy.

FSOS 4101. Sexuality and Gender in Families and Close Relationships. (; 3 cr. ; Student Option; Every Fall & Spring)

Human ecology/development as frameworks for examining sexuality in close relationships. Diversity of sexual beliefs, attitudes, behaviors within differing social contexts. Using scientific knowledge to promote sexual health among individuals, couples, families through various life stages. prereq: At least jr or instr consent

FSOS 4104. Family Psychology. (3 cr. ; Student Option; Every Fall & Spring)

Processes in families of origin, families of choice, and other close relationships, within diverse social contexts. Evaluating current research on family dynamics within/across generations.

FSOS 4107. Traumatic Stress and Resilience in Vulnerable Families Across the Lifespan. (3 cr. ; Student Option; Periodic Fall & Spring)

This course will focus on stress contexts that place families at risk across the life span such as poverty, war/civil conflict, disability, social disparities/discrimination, and family dissolution. An examination of family strengths, cultural diversity, and approaches for working with families across the life course in community based settings including classrooms, programs, and agencies will be emphasized. This course focuses on vulnerable families and those affected by historical and traumatic stress. It covers family members of all ages who face particular challenges, such as intergenerational exposure to traumatic events, persistent and structural inequality, and health disparities. This course is designed to increase awareness of the conditions that place families and children at risk, the theories and frameworks available to understand these risks, and both individual and family resiliency to these conditions. The

course will primarily focus on a) individual, family, community, and developmental contexts of risk and resiliency, and b) family-level preventive and intervention frameworks and approaches to support individuals and families.

FSOS 4108. Understanding and Working with Immigrants and Refugee Families. (DSJ,SOCS; 3 cr. ; Student Option; Every Fall & Spring)

This course focuses on the impact of ? immigration? (i.e., refugee vs. various types of immigration statuses) on family relationships, specifically how culture of origin and acculturation processes influence individuals and families over time; explores issues faced by various immigrant family systems, including a consideration of generational status, gender identities, social classes, and ethnic/racial group identities; develops intercultural interaction skills that prepare students to effectively engage with diverse immigrant families in multiple contexts; and builds practical skills that enhance students? abilities to work in and collaborate with community- and faith-based organizations to strengthen cultural resources while overcoming barriers to increase service utilization.

FSOS 4109W. Family Theories. (WI; 3 cr. ; Student Option; Every Fall & Spring)

This course will include a review of current family theories, use of writing self-assessments, and application of theory to phenomena affecting families today.

FSOS 4111. Introduction to Family Therapy. (3 cr. ; Student Option; Every Fall & Spring)

This course is designed as an introduction to the field of Family Therapy. Students who successfully complete the course should be well versed in the basics of both the foundational and contemporary theories of the discipline. Further, students will be exposed to a number of clinical vignettes and case scenarios that demonstrate the application of the theories in pre-recorded family therapy sessions. Through class assignments and discussions, students will be able to make a more informed decision as to whether or not family therapy is a field that holds potential for them in their own professional pursuits. Other mental health disciplines attend to family variables but having a background in family systems theory and family therapy theories will provide a solid knowledge base for someone embarking on a career in family clinical work. Systems theory guides the majority of what will be discussed in class.

FSOS 4150. Special Topics in Family Social Science. (; 1-4 cr. [max 8 cr.]; Student Option; Periodic Fall, Spring & Summer)

Review of research/scholarly thought. Topics specified in Class Schedule.

FSOS 4153. Family Financial Counseling. (; 3 cr. ; A-F only; Fall Odd Year)

Family financial issues are studied with an emphasis on the role of the financial counselor. This course emphasizes the development of professional skills for assisting individuals and families to cope with financial concerns in their day-to-day lives. This course includes an optional service-learning component where

students will work throughout the semester with local non-profit organizations focused on financial literacy, financial counseling, financial curriculum development, and/or researching financial resources. This course will require students to produce video recordings. At minimum students will need recording equipment that captures both video and audio. The resulting file will need to be uploaded to the internet. Laptops with webcams and smart phones with video capabilities should be sufficient for this purpose. Equipment and training are available from the Library's SMART Learning Commons.

FSOS 4155. Parent-Child Relationships. (; 3 cr. ; A-F or Audit; Every Spring)

History, theories, research, and contemporary practices of parent-child relationships in diverse families/cultures across the life span. Preparation for professionals in education, social work, and other human service occupations.

FSOS 4158. Thailand: Global Change, Communities and Families. (GP; 3 cr. ; A-F only; Periodic Spring)

This interdisciplinary course uses social justice and human ecological lenses to examine global change that is occurring at the intersections among Thailand's natural environment, communities, families, and culture. Topics include globalization, human trafficking, education, religion, environmental issues, and cultural integration/identity formation, particularly among indigenous populations in northern Thailand. Students interact with key community leaders, village leaders, elders, and students who serve as teachers; this leads to critical understanding of Thai culture and the contemporary issues faced by Thailand's families and communities. Through journaling, digital stories, blogging, and discussions, students will synthesize, integrate, apply, and communicate what they've learned.

FSOS 4191. Independent Study in Family Social Science. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Independent reading or writing or research under faculty supervision. prereq: Sr, instr consent

FSOS 4193. Directed Capstone Project. (; 1-4 cr. [max 8 cr.] ; A-F only; Every Fall & Spring)

Individualizes experience by connecting aspects of major program with special academic interests.

FSOS 4294. Research Internship. (1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Research project with faculty. May include planning, proposal writing, literature review, data collection/coding/cleaning/analysis, and reporting. prereq: [FSOS major, at least jr] or instr consent

FSOS 4296. Field Study: Working With Families. (; 1-12 cr. [max 24 cr.] ; S-N or Audit; Every Fall & Spring)

Directed paraprofessional work experience related to student's area of study. prereq: 2101 or instr consent

FSOS 5014. Quantitative Family Research Methods I. (; 3 cr. ; Student Option; Every Spring)

Family research methods, issues associated with multiple levels of analysis. Conducting family-focused data analyses using basic/intermediate methods (through ANOVA and multiple regression), including power analysis. Ethical issues involved in family research such as IRB/HIPAA regulations. prereq: Grad student or instr consent

FSOS 5015. Family Research Laboratory. (; 1 cr. ; S-N or Audit; Every Spring)

Application of basic family research methods into experiential learning using statistical software. Analyses that correspond with problem situations in 5014 and that involve secondary data analyses. Using statistical software for basic family research. Preparation to work with quantitative family data sets. prereq: Grad student or instr consent

FSOS 5111. Introduction to Family Therapy. (3 cr. ; A-F only; Periodic Fall & Spring)

This course is designed as an introduction to the field of marriage/couple and family therapy. Students who successfully complete the course should be well versed in the basics of both the foundational and contemporary theories of the discipline. Further, students will be exposed to a number of clinical vignettes and case scenarios that demonstrate the application of the theories in pre-recorded family therapy sessions. Through class assignments and discussions, students will be able to make a more informed decision as to whether or not family therapy is a field that holds potential for them in their own professional pursuits. Other mental health disciplines attend to family variables but having a background in family systems theory and family therapy theories will provide a solid knowledge base for someone embarking on a career in relationship-oriented clinical work. Family systems theory guides the majority of what will be discussed in class.

FSOS 5150. Special Topics in Family Social Science. (; 1-4 cr. [max 12 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Review of research and scholarly thought. Topics specified in Class Schedule. prereq: instr consent

FSOS 5193. Directed Study in Family Social Science. (; 1-6 cr. ; Student Option; Every Fall, Spring & Summer)

tbd prereq: FSOS or grad student in related field

FSOS 5426. Alcohol and Drugs: Families and Culture. (3 cr. ; Student Option; Periodic Fall, Spring & Summer)

Overview of psychology/sociology of drug use/abuse. Life-span, epidemiological, familial, cultural data regarding use. Fundamentals of licit/illicit drug use behavior. Gender, ethnicity, social class, sexuality, sexual orientation, disability.

FSOS 5429. Counseling Skills Practicum I. (3 cr. ; Student Option; Periodic Fall, Spring & Summer)

Basic counseling skills. Counselor needs/motivations, non-verbal communication, basic/

advanced empathy, identifying strengths, maintaining focus, challenging discrepancies, use of self. Emphasizes building from client strengths, learning through role-playing.

FSOS 5701. Prevention Science: Principles and Practices. (3 cr. ; A-F or Audit; Spring Even Year)

Theoretical, empirical, and practical foundations for strategic interventions to prevent behavioral problems and promote healthy development. Multidisciplinary roots of prevention science. Trends/directions and best practices.

FSOS 5702. Prevention Science Research Methodology. (3 cr. ; A-F or Audit; Fall Even Year)

This course is intended to provide students with broad exposure to topics in research methodology within the field of prevention science. Prevention science as a discipline focuses on the etiology and prevention of social, physical, and mental health problems and the translation of that information to promote health and well-being. This course will emphasize research methodology as it pertains to preventive interventions in youth and family contexts. The course is intended to serve as a survey of a wide range of topics within these areas, with research design, measurement issues, and analytic methods representing the major foci. Topics will be covered with attention to the community contexts within which prevention research often occurs as well as the ethical and human subjects issues that may arise. Students who successfully complete the course are expected to be able to interpret and critically evaluate prevention research methodology as well as identify appropriate methodical strategies to address research questions within prevention science.

FSOS 5703. New Topics in Prevention: Implementation and Dissemination. (3 cr. ; A-F or Audit; Spring Odd Year)

This is an interdisciplinary course focused on the new science of implementation and dissemination of evidence-based/empirically-supported family-focused psychosocial prevention programs. Course content will include an overview of conceptual and theoretical foundations of implementation research, key research questions, methods for evaluating implementation and dissemination efforts, and case examples from the empirical literature. The course will take an ecological perspective to the implementation of family-based prevention programs, addressing questions such as how widespread efforts to install programs in communities can ensure that programs create change in children and families.

FSOS 5937. Parent-Child Interaction. (; 3 cr. ; A-F only; Every Fall & Spring)

In Parent-Child Interaction, we will examine the dynamic, reciprocal nature of parent-child interactions across the lifespan through multidisciplinary and diverse research, theories and practices. Emphasis will be given to the bidirectional impact of parent-child interactions on the parent-child relationship and on parents' and children's development within complex

family, community, cultural and other socio-ecological contexts. Students will continue to reflect and grow in their understanding of the professional role and competencies of a parent educator and learning activities will focus on practical application to both personal lives and professional work with families.

FSOS 5942. Diverse Family Experiences. (; 3 cr. ; A-F only; Every Fall & Spring)

This course is a research-based in-depth look at family experiences from many diverse points of view. Students will examine diverse experiences of families and their relevance to parent education and to the professional development of parent educators. Research and theoretical knowledge are woven together with observation and personal reflection to create a strength-based approach to both families and professional development.

FSOS 5944. Curricular Design in Parent Education. (; 3 cr. ; A-F only; Every Fall)

Students will develop the skills to adapt and design curricular resources and teaching strategies for effective parent education with diverse families across multiple contexts. Students will develop competence in conducting needs assessment, identifying content, discerning teaching methods, and designing lesson plans. As they develop their own philosophy of practice, students will study the history and evolution of parent education in Minnesota and across the U.S. prereq: FSoS 5937 & FSoS 5942 or instr consent

FSOS 5945. Teaching and Learning in Parent Education. (; 3 cr. ; A-F only; Every Fall)

Students will examine adult, adolescent, and parent learning and development from the perspective of their relevance for parent education. Students will select, use, and reflect on group and individual parent education teaching strategies and facilitation processes designed to meet the needs of diverse populations of adult learners. Critical reflection, ethical practices, and other parent educator competencies related to teaching methods and processes will be addressed. Personal professional development will be facilitated through challenging assumptions and examining the knowledge and competencies required for parent educators. prereq: FSoS 5937 & FSoS 5942 or instr consent

FSOS 5946. Assessment and Evaluation in Parent Education. (; 3 cr. ; A-F only; Every Spring)

Students will be introduced to theory, terminology, issues, and approaches in assessment and evaluation. Students will apply this new material to the tasks of monitoring program performance, assessing program quality, and measuring parent learning and development. prereq: 5944 or instr consent

FSOS 5949. Student Teaching in Parent Education. (; 3 cr. ; A-F only; Every Spring)

Students will participate in mentored and supervised parent education practice designed to meet individual student needs and interests in parent education. The student teaching assignment is supplemented with

online discussions and chats intended to provide students an opportunity to engage in discussion, reflection, and cooperative learning with regard to the practice of parent education. prereq: Application for student teaching; FSoS 5937, 5942, 5944 and 5945 or instr consent

Finance (FINA)

FINA 3001. Finance Fundamentals. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

How competition for capital in Capital Markets establishes metrics and measures used to understand financial performance of the firm. The course introduces the finance view of the firm and the application of value creation principles to firm decision making. Course presents the centrality of cash flows, the theoretical foundations for Time Value of Money, decision tools for investment of capital, basic valuation of stocks and bonds, and the theoretical foundations for the impact of risk on the required return on investor capital. prereq: ACCT 2050 or ACCT 2051, SCO 2550 or BA 2551 or equivalent statistics course

FINA 3001H. Honors: Finance Fundamentals. (; 3 cr. ; A-F only; Every Fall)

Financial management principles. Money/capital markets, risk/return/valuation triad, capital budgeting. Capital structure, financial leverage. Cost of capital, financial performance measures, dividend policy, working capital management, international financial management/derivatives. prereq: Acct 2050 or Acct 2051, SCO 2550 or BA 2551 or equivalent statistics course

FINA 4121. Financial Markets and Interest Rates. (2 cr. ; A-F or Audit; Every Fall & Spring)

This course provides a framework to understand how financial markets operate and how they establish the cost of capital demanded by investors through market interest rates. Course presents valuation models for bonds, the impact of the Federal Reserve on the level and term structure of interest rates, measures of interest rate risk, financing markets for securities and how these define the pricing of futures and forward contracts. prereq: 3001 or 3001H, CSOM major or Math/Actuarial Science major or Management minor.

FINA 4122. Banks, Banking Services, and FinTech. (; 2 cr. ; A-F or Audit; Every Spring)

This course examines the traditional economic functions of commercial banks, especially lending, savings and liquidity provision, and payment services. For each function, we will address key business risks, policy concerns, and the impact of competition both from traditional nonbank financial institutions and from fintechs? seeking to leverage new information technology. preq Fina 3001

FINA 4221. Principles of Corporate Finance. (2 cr. ; A-F only; Every Fall & Spring)

This course evaluates how the financing choices the firm makes influence the creation of firm value and allocation of firm risks among investors. Course presents the debt vs. equity trade-off, tax effects of financing, dividend

vs. share repurchases, and the impact on managerial incentives and agency problems. prereq: 3001 or 3001H, CSOM major or Math/Actuarial Science major or Management Minor

FINA 4234. Mergers and Acquisitions In Action ? Process and Valuation. (2 cr. ; A-F only; Every Fall)

This Action Based Course will explore in an experiential way the methodology corporate managers employ and invest capital to achieve growth and a return to its shareholders through mergers and acquisitions. Starting with the strategic rationale and ending with the challenges of integration, this course will focus on the process used for identifying M&A targets and the methods used in practice to value these transactions. The objectives of the course will be to leverage skills mastered in the core curriculum: finance, marketing, accounting, and operations ? and other related courses that will help you in this class. Prerequisite: Fina 4422

FINA 4242W. Corporate Investment Decisions. (WI; 4 cr. ; A-F or Audit; Every Fall & Spring)

his case based course provides the student with an opportunity to apply the concepts from previous finance coursework to a variety of decisions a firm would face when allocating capital to investment decisions. The focus is weighted toward combining the theory with the practice of valuation of investment opportunities through the use of group cases to give the student a sense of the strengths and weaknesses of such analysis. The course presents firm performance measurement metrics, APV & WACC based valuation, working capital management, making capital budgeting decisions, financial distress and capital structure, real options and mergers& acquisitions. prereq: 4121, 4321, 4422, 4522, and CSOM major

FINA 4321. Portfolio Management and Performance Evaluation. (2 cr. ; A-F or Audit; Every Fall & Spring)

This course uses statistics to demonstrate how the construction of portfolios of individual securities impacts the risk return trade-off for investors through diversification. Course presents models of pricing investor risk, impact of asset allocation on returns, active versus indexed portfolio management, and approaches to measure value added performance of investment portfolios. prereq: 3001 or 3001H, CSOM major or math/actuarial science major or Management minor

FINA 4325. Behavioral Finance. (2 cr. ; A-F only; Every Spring)

This course introduces students to how the application of psychology and realistic settings to guide and develop the alternative theories of financial market complements the traditional theoretical finance paradigm. The student will use the insights of behavioral finance to shed light on trading patterns, behavior of asset prices, corporate finance and various other financial topics. prereq: 4321 or 4321H

FINA 4329. Security Analysis Capstone. (2 cr. ; A-F only; Every Fall & Spring)

Valuation of equity securities. Principles. Relationship between various valuation approaches. Tools to test self-designed security selection rules. prereq: 4121 or 4121H, 4321 or 4321H, 4422, 4522, ACCT 5100 or ACCT 5101

FINA 4422. Financial Modeling. (; 2 cr. ; A-F only; Every Fall & Spring)

This applied course builds on principles from the prerequisite courses and provides students with significant practice building financial models to identify the free cash flow from and required investment in projects or firms for discounted cash flow and sensitivity analysis. Course presents net operating working capital requirements, Valuation with Free Cash Flow based methods, and the construction of three statement pro-forma cash flow projections. Prereq: FINA 4221, ACCT 5101, CSOM major

FINA 4522. Options & Derivatives I. (2 cr. ; A-F only; Every Fall & Spring)

This course provides a comprehensive introduction to derivative contracts and their pay-offs and basic pricing and how they are used to manage risk or speculate in financial markets. Course presents forward and futures contracts, option contracts and swap contracts. prereq: 3001 or 3001H or ApEc 3501, 4121 or 4121H, 4321 or 4321H (can be concurrent), CSOM major

FINA 4529. Derivatives II Capstone. (2 cr. ; A-F only; Every Spring)

Quantitatively advanced material such as Black-Scholes model for valuing option sensitivities (the Greeks). Value-at-risk methods. Valuation/uses of credit derivatives such as default swaps/collateralized debt obligations. prereq: 4522 or 4523

FINA 4621. The Global Economy (Macro). (; 2 cr. ; A-F only; Every Fall & Spring)

This course provides the student with a foundation for understanding the macroeconomics of the global economy with a focus on international financial issues. The course presents macroeconomic models, international capital flows, and currency and exchange rate systems. prereq: 3001 or 3001H, CSOM major or Math major/Act Sci, or Management minor.

FINA 4622. International Finance. (2 cr. ; A-F only; Every Fall & Spring)

This course provides the student with an understanding of the nature and purposes of financial management in the international context for multinational enterprises and skills in international investment, financing techniques and exchange rate risks. The student will examine barriers to international capital flows and some of the tools used to overcome these barriers. The course presents cost of capital in emerging economies and currency risk management. prereq: CSOM major, FINA 3001 or 3001H, 4121 or 4121H, 4221

FINA 4920. Finance Topics. (; 2-4 cr. [max 10 cr.] ; A-F or Audit; Periodic Fall & Spring)

Discussion and analysis of current topics and developments in Finance.

FINA 5125. Cryptocurrency, Blockchain, and Their Business Applications. (2 cr. ; A-F only; Every Spring)

This course discusses cryptocurrencies (including Bitcoin, Ethereum, and others), blockchain, also referred to as distributed ledger technology (DLT), and their applications in various business sectors. The course first explains the history of cryptocurrency and the fundamentals of blockchain including cryptography and consensus mechanism. Although technical, this part is essential to establish a foundation to understand cryptocurrencies and blockchain. The rest of the course is on the applications of blockchain. We will discuss enterprise blockchain, smart contracts, and token offerings, e.g., initial coin offerings (ICOs) and securities token offering (STOs). We will have industry experts to give guest lectures on the realworld blockchain applications and interact with students. Finally, we will cover the valuation models for cryptoassets, the practical details of how to use cryptocurrency, and various investments related to blockchain. The goal of the course is to provide students with a basic set of skills to understand cryptocurrencies and blockchain and how businesses can use them.

FINA 5422. Financial Econometrics and Computational Methods I. (2 cr. ; A-F only; Every Fall)

This course provides an introduction to the methods used in empirical finance. A review of statistics is followed by intensive instruction on matrix algebra that culminates in a fundamental understanding of linear regression, the basic empirical tool. Asset pricing theories are discussed and developed and then methods are derived to test them. The course will emphasize estimation and inference using computer-based applications.

FINA 5423. Financial Econometrics and Computational Methods II. (2 cr. ; A-F only; Every Fall)

This course builds on Financial Econometrics I and provides instruction on the econometrics used in empirical finance. Topics will include time series analysis, parametric models of volatility, evaluation of asset pricing theories, and models for risk management. The course will emphasize estimation and inference using computer-based applications.

FINA 5529. Derivatives II. (; 2 cr. ; A-F only; Every Spring)

This course begins with a discussion of advanced derivative hedging techniques and proceeds to the economics and mechanics of advanced derivative securities, including interest rate derivatives, swaps, Asian options, and barrier options. The second phase of the course investigates mathematical techniques for stochastic and dynamic modeling of asset prices and derivative security values. Students must use these statistical modeling techniques and advanced programming software (Matlab, Python, R, etc) in a group project to price path dependent securities such as American style options.

FINA 5920. Finance Topic. (; 2-4 cr. [max 8 cr.] ; A-F only; Periodic Fall & Spring)

Discussion and analysis of current topics and developments in Finance.

Financial Mathematics (FM)

FM 5001. Preparation for Financial Mathematics I. (; 3 cr. ; Student Option; Every Fall)

Mathematics needed for MFM program. prereq: Grad MFM major or MFM program director approval

FM 5002. Preparation for Financial Mathematics II. (; 3 cr. ; Student Option; Every Spring)

Mathematics needed for MFM program. prereq: 5001, program director approval

FM 5011. Mathematical Background for Finance I. (; 4 cr. ; Student Option; Every Fall)

Mathematics needed for MFM program. Focuses on finance. prereq: [5001, 5002] with grade of at least B or [MFM program director approval, grad MFM major]

FM 5012. Mathematical Background for Finance II. (; 4 cr. ; Student Option; Every Spring)

Mathematics needed for MFM program. Focuses on finance. prereq: 5011, grad MFM major, program director approval

FM 5021. Mathematical Theory Applied to Finance I. (; 4 cr. ; Student Option; Every Fall)

Bridge between theory and application. prereq: [5011 or concurrent registration is required (or allowed) in 5011], grad MFM major, program director approval

FM 5022. Mathematical Theory Applied to Finance II. (; 4 cr. ; Student Option; Every Spring)

Bridge between theory and application. prereq: 5021, [5012 or concurrent registration is required (or allowed) in 5012], grad MFM major, program director approval

FM 5031. A Practitioner's Course in Finance I. (; 4 cr. ; Student Option; Every Fall)

Practical course taught by industry professionals. Focuses on hands-on real-world problem solving. prereq: [5021 or concurrent registration is required (or allowed) in 5021], grad MFM major, program director approval

FM 5032. A Practitioner's Course in Finance II. (; 4 cr. ; Student Option; Every Spring)

Taught by industry professionals. Focuses on hands-on real-world problem solving. prereq: 5031, [5022 or concurrent registration is required (or allowed) in 5022], grad MFM major, program director approval

FM 5091. Computation, Algorithms, and Coding in Finance I. (4 cr. ; Student Option; Every Fall)

Implements popular finance models and numerical techniques using mainstream computational tools/languages. prereq: Grad MFM major, program director approval

FM 5092. Computation, Algorithms, and Coding in Finance II. (4 cr. ; Student Option; Every Spring)

Implements popular finance models and numerical techniques using mainstream

computational tools/languages. prereq: 5091, grad MFM major, program director approval

FM 5101. Current Events in Finance. (1 cr. [max 3 cr.]; S-N only; Every Fall)

This seminar course focuses on gathering current information and analyzing the effect of local and global happenings on the behavior of the financial markets. Students will use concepts from other courses to interpret weekly market events and present to the class.

FM 5111. Introduction to Financial Markets. (; 3 cr. ; Student Option; Every Fall)

This course is a survey of important elements of financial markets and setting the context to the program. Topics include Complete vs incomplete markets, financial institutions, traded instruments, elements of accounting, arbitrage, Fundamental Theorem of Asset Pricing, Credit, Investment and Risk Management.

FM 5121. Mathematics for Finance. (3 cr. ; Student Option; Every Fall)

This course establishes the mathematical foundation needed for modeling in finance, with focus on probability and statistics, stochastic processes, linear algebra, and more.

FM 5151. Financial Modeling I: Python. (; 3 cr. ; Student Option; Every Fall)

This course establishes the basic principles of Financial Modeling. Topics include different kinds of models (e.g. descriptive vs explanatory, statistical vs structural, etc.), foundational models used in finance (binomial, lognormal, Gaussian, etc.) and their applications (stocks, interest rates, commodities, etc.). Python will be used extensively to illustrate the models, therefore this course also serves as an introduction to the use of Python in finance.

FM 5202. Ethics in Finance. (1 cr. ; S-N only; Every Spring)

This Seminar is formatted as a case study, focusing on financial law, regulation and ethics. Students will analyze various financial decision and discuss cases that exhibit ethical challenges, such as conflict of interests. Discussion will be conducted in small groups and summarized as a presentation to the whole group.

FM 5212. Continuous Time Finance. (3 cr. ; Student Option; Every Spring)

A course on Stochastic Calculus - based modeling in finance, focusing on the Black-Scholes model and its extensions.

FM 5222. Statistical Methods in Finance. (3 cr. ; Student Option; Every Spring)

A course on Statistical methods used in the analysis of financial markets data. It will cover topics such as, Bayesian Statistics, Linear and Non-Linear Regression, Markov Chain Monte Carlo, Copulas and Time-series Analysis, and their applications to financial data.

FM 5252. Financial Modeling II: Numerical Methods and Simulations. (; 3 cr. ; Student Option; Every Spring)

This course focuses on Monte Carlo simulations and elements of scientific computing as tools in modeling. These

methods will be used as a key technique to develop and assess models, and considerable time will be spent on the interpretation of model outputs.

FM 5323. Data Science and Machine Learning in Finance. (3 cr. ; Student Option; Every Fall)

This course introduces the basic principles underlying Data Science and Machine Learning, focusing on their applications in finance. Topics include: understanding data, EDA, various types of Machine Learning problems (e.g. classification, regression, recommendation, etc.), various algorithmic approaches (GLMs, Trees, Neural Networks, etc.), model selection, limitations of ML models, and issues in their implementations.

FM 5343. Quantitative Risk Management. (3 cr. ; Student Option; Every Fall)

Topics include: Taxonomies of Risk, Measures of Risk, Risk Modeling and Risk Mitigation strategies. Additionally, the role and purpose of Risk Management will be discussed.

FM 5353. Software Development in Finance. (3 cr. ; Student Option; Every Fall)

This class introduces the toolset of a compiled language and principles of object-oriented programming. Databases are introduced and data models related to finance applications are explored. Projects are sourced from applied finance problems and are implemented with a focus on performance and common practices in professional software development.

FM 5411. Fixed Income Market. (2 cr. ; Student Option; Periodic Fall)

This elective on fixed income markets expands on the basic concepts in the core curriculum and provides students a deeper understanding of this market through a hands-on approach.

FM 5422. Quantitative Hedge Fund Strategies. (2 cr. ; Student Option; Periodic Spring)

A practical course exposing students to a variety of trading strategies used in Hedge Funds.

FM 5443. Credit Risk Models. (2 cr. ; Student Option; Periodic Spring)

This course focuses on basic kinds of credit models (structural, intensity, etc.), and their applications. Both individual credit and portfolio level approaches will be considered.

FM 5462. Market Microstructure. (2 cr. ; Student Option; Periodic Spring)

This course focuses on the stylized facts in market microstructure and its application in algorithmic trading. In order to deal with the vast amount of real time streaming data in algorithmic trading, students will learn how to use KDB+ (a time series database) and its language q (a vectorized functional language).

FM 5990. Topics in Financial Mathematics. (; 1-2 cr. [max 6 cr.]; Student Option; Periodic Fall & Spring)

The course will focus on a special topic in quantitative finance that supplements the regular curriculum of the Master of Financial Mathematics program. The course features experts, often finance industry practitioners,

who share their experience and knowledge. prereq: enrolled in the Master of Financial Mathematics program or instr consent

FM 5993. Directed Study in Financial Mathematics. (1-2 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)

A course in which a student is conducting a directed study or a research project under the direction of a faculty member / program instructor. Can be repeated.

FM 5996. Internship. (1 cr. [max 8 cr.]; S-N only; Every Fall, Spring & Summer)
Financial Mathematics curriculum related Internship. Can be repeated.

Finnish (FIN)

FIN 1001. Beginning Finnish I. (; 5 cr. ; Student Option; Every Fall)

Emphasis on working toward novice-intermediate low proficiency in all four language modalities (listening, reading, speaking, writing). Topics include every day subjects (shopping, directions, family, food, housing, etc.).

FIN 1002. Beginning Finnish II. (; 5 cr. ; Student Option; Every Spring)

Continues the presentation of all four language modalities (listening, reading, speaking, writing) with a proficiency emphasis. Topics include free-time activities, careers, and the Finnish culture. prereq: 1001

FIN 1003. Intermediate Finnish I. (; 5 cr. ; Student Option; Every Fall)

Emphasis on intermediate proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is combined with authentic readings and essay assignments. prereq: 1002

FIN 1004. Intermediate Finnish II. (; 5 cr. ; Student Option; Every Spring)

Emphasis on developing intermediate mid-high proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is supported by work with authentic readings and essay assignments. prereq: 1003

FIN 3011. Advanced Finnish. (; 3 cr. ; Student Option; Every Fall)

Designed to help students achieve advanced proficiency in Finnish. Discussion of fiction, film, journalistic, and professional prose is complemented by grammar, vocabulary building exercises, and review of oral/written modes of communication. prereq: 1004 or 4004

FIN 3012. Advanced Finnish. (; 3 cr. ; Student Option; Every Spring)

Discussion of novels, short stories, plays, articles. Structural, stylistic, vocabulary-building exercises. prereq: 3011 or 4011

FIN 4001. Beginning Finnish for Graduate Research I. (; 5 cr. ; Student Option; Every Fall)

Emphasis on working toward novice-intermediate low proficiency in all four language modalities (listening, reading, speaking, writing). Topics include every day subjects (shopping, directions, family, food, housing, etc.). Meets concurrently with 1001.

FIN 4002. Beginning Finnish for Graduate Research II. (; 5 cr. ; Student Option; Every Spring)

Continues the presentation of all four language modalities (listening, reading, speaking, writing) with a proficiency emphasis. Topics include free-time activities, careers, and the Finnish culture. Meets concurrently with 1002.

FIN 4003. Intermediate Finnish for Graduate Research I. (; 5 cr. ; Student Option; Every Fall)

Emphasis on intermediate proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is combined with authentic readings and essay assignments. Meets concurrently with 1003.

FIN 4004. Intermediate Finnish for Graduate Research II. (; 5 cr. ; Student Option; Every Spring)

Emphasis on developing intermediate mid-high proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is supported by work with authentic readings and essay assignments. Meets with 1004.

FIN 4011. Advanced Finnish for Graduate Research. (; 3 cr. ; Student Option; Every Fall)

Designed to help students achieve advanced proficiency in Finnish. Discussion of fiction, film, journalistic, and professional prose is complemented by grammar, vocabulary building exercises, and review of oral/written modes of communication. Meets with 3011.

FIN 4012. Advanced Finnish for Graduate Research. (; 3 cr. ; Student Option; Every Spring)

Discussion of novels, short stories, plays, articles. Structural, stylistic, vocabulary-building exercises. Meets with 3012.

Fisheries and Wildlife (FW)

FW 1001. Orientation in Fisheries, Wildlife, and Conservation Biology. (; 1 cr. ; A-F or Audit; Every Fall)

Survey of technical requirements and education needed for careers in fisheries, wildlife, and conservation biology. Introduction to fields of work, problems, career opportunities. Prerequisite: FWCB major or instructor permission.

FW 2001W. Introduction to Fisheries, Wildlife, and Conservation Biology.

(ENV,WI; 3 cr. ; Student Option; Every Fall) Fish, wildlife, and other forms of biodiversity. Single species, populations, ecosystem, and landscape approaches. Experiential/interactive course. Decision-case studies. prereq: BIOL 1001 or BIOL 1009

FW 2003. Introduction to Marine Biology. (3 cr. ; Student Option; Every Spring)

Nature of oceans, their role sustaining life on planet. Diversity/ecology of organisms that live in coastal, deep, open seas. Effects of humans on marine life. Resilience of marine life, its importance to human society. Cultures of oceanic peoples. Selected topics. prereq: BIOL 1001 or BIOL 1009 or BIOL 2002 or ESCI 1006 or ESCI 1106 or instr consent

FW 3104. Skills for Field Techniques in Habitat Assessment, Research, and Conservation. (; 2 cr. ; A-F only; Every Fall, Spring & Summer)

In this field-preparation and application class, students develop skills required for the field session (FW 3106 + FW 3108) and future professional positions in fisheries, wildlife, and conservation biology. Students complete a series of online activities that prepare them to use analytical tools (e.g., tools for statistical analysis, GIS/GPS, spatial methodology, advanced lab- and field-based skills). Students build knowledge about Minnesota species including identification and natural history information of plants, amphibians and reptiles, birds, fish, and mammals. Students demonstrate readiness for fieldwork by conducting an independent, field-focused project. prereq: [soph, jr, sr], FW major

FW 3106. Vegetation Sampling for Habitat Assessments. (; 1 cr. ; A-F or Audit; Every Summer)

Common vegetation sampling methods used for habitat assessments. Identify approximately 75 vascular plant species typical of Minnesota terrestrial and aquatic ecosystems using taxonomic keys and readily observable traits. Importance of plants for providing food, cover, and nesting habitat. prereq: [soph, jr, sr], FW major, must be taken concurrently with FW 3108

FW 3108. Field Methods in Research and Conservation of Vertebrate Populations. (3 cr. ; A-F or Audit; Every Fall & Spring)

The goal of this course is to help students develop skills and confidence in planning and implementing effective field research. The topics we will cover include species identification, basic statistical analysis, aquatic ecological assessments, and wildlife research. 1. Students in the course will gain experience in planning and conducting field-based research projects and will be introduced to a variety of techniques used in assessing and/or monitoring terrestrial and aquatic wildlife populations. 2. Students will learn to (1) identify common terrestrial and aquatic vertebrate species in Minnesota, (2) design, plan, and conduct field-based research, (3) collect, analyze, and interpret field data including telemetry, bird point counts, amphibian surveys, and trap-grid and remote-camera data, (4) put data findings into a context of management implications and decisions, and (5) communicate findings in written formats 3. Multiple full-day field trips or a 5-day field session is required for this course. prereq: [soph, jr, sr], FW major, must be taken concurrently with FW 3106

FW 3293. Directed Study Fisheries. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed

study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

FW 3294. Directed Research Fisheries. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research course will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

FW 3393. Directed Study Wildlife. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

FW 3394. Directed Research Wildlife. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research course will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

FW 3480. Topics in Fisheries, Wildlife & Conservation Biology. (; 1-4 cr. [max 16 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Lectures by visiting scholar or regular staff member. Topics specified in Class Schedule.

FW 3493. Directed Study Conservation Biology. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-

wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

FW 3494. Directed Research Conservation Biology. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research course will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

FW 3925. Human Dimensions of Fisheries and Wildlife Management. (3 cr. ; A-F only; Every Spring)

Human dimensions of fish and wildlife concerns. Theory and methods from social sciences to address challenges and issues of managing fish and wildlife resources. Integrating social science information into fish and wildlife decision-making. Guest lecturers.

FW 4001. Biometry. (; 4 cr. ; A-F or Audit; Every Fall)

This course covers the basic foundations of statistical methods. In contrast to traditional methods of teaching statistics based on analytical formulas and hand-calculations, we will initially emphasize simulation-based methods (randomization tests, bootstrapping) for analyzing data. Students will learn how to implement common statistical methods (e.g., one and two sample tests, interval estimation techniques, linear regression) in the R programming language, and gain experience analyzing real data from a variety of fields, with particular emphasis on biological examples and applications.

FW 4101. Herpetology. (; 4 cr. ; Student Option; Spring Odd Year)

Reptiles/amphibians, their systematics, behavior, ecology, physiology, development, and morphology. Diversity of reptiles/amphibians. Focuses on Minnesota fauna. Lab. prereq: BIOL 1001 or BIOL 2012

FW 4102. Principles of Conservation Biology. (ENV; 3 cr. ; Student Option; Every Spring)

Introduction to themes/concepts of diverse, dynamic, and interdisciplinary field. Biological/social underpinnings of conservation problems/solutions. prereq: introductory biology course

FW 4103. Principles of Wildlife Management. (; 3 cr. ; Student Option; Every Fall)

This course covers the ecological basis for management of wildlife, including biological and sociological factors that influence management. Goals include: understanding the ecological mechanisms influencing the distribution and abundance of wildlife, learning the ecological and historical foundations of

wildlife management and the ecological and social ramifications of management actions, thinking critically and logically about current wildlife issues, honing writing skills, and developing technical skills in key areas. prereq: Intro biology course, [jr or sr]

FW 4107. Principles of Fisheries Science and Management. (3 cr. ; A-F only; Spring Even Year)

Principles of Fisheries Management is an engaging and dynamic exploration to the principles and practices of fisheries management. The course is designed as a major requirement for Fisheries subplan majors in Fisheries, Wildlife, and Conservation Biology. It is also appropriate as an elective course for other majors and minors in FWCB, ESPM, or related biological disciplines. We cover the basics of fisheries science (habitats, ecology, and population dynamics) and management (e.g., goals, tools, implementation, and assessment) with an emphasis on human intervention and regulation. We first cover management approaches and planning, the development of an information base, and the identification of problems. We then provide a brief overview of applied limnology, fish ecology, and population dynamics, followed by approaches to manage fishery populations and habitats in freshwater and marine systems along with methods to assess management outcomes. Throughout, we demonstrate applications to specific fisheries and habitats. This is primarily a lecture-based course that also integrates field trips, group discussions, and activities. We use exams to measure comprehension, and case studies and assignments to encourage practical application. Prerequisite: Intro biology course, [jr or sr]

FW 4136. Ichthyology. (; 4 cr. ; Student Option; Every Fall)

Fish biology, adaptations to different environments and modes of living, and environmental relationships. Lab emphasizes anatomy and identification of Minnesota fishes. prereq: Biol 1001 or Biol 2012

FW 4301. Conservation Genetics. (3 cr. ; A-F or Audit; Spring Even Year)

This course introduces students to fundamental principles of population genetics and molecular phylogenetics and explores their applications to problems in the conservation, management, and restoration of biodiversity.

FW 4401. Fish Physiology and Behavior. (; 3 cr. ; Student Option; Every Fall)

Fish mechanisms/behavior. Links between fish biology, fisheries ecology, management, aquaculture. Homeostasis, neurobiology, bioenergetics, reproduction, movement. prereq: 4136, BIOL 2012, CHEM 1021(may be taken concurrently)

FW 4603. Preparing Research Proposals for Wildlife Biologists. (1 cr. ; A-F only; Every Fall)

This course will give students experience developing research proposals and presentations. The course material will focus primarily on how to identify research questions, develop a budget, construct a written proposal,

and present the proposal verbally. Students will work in small groups throughout the semester to develop their proposal and will gain skills in peer review and reference management. Prerequisites: EEB 3407 OR 3408 OR 3807, FW 4102 OR 4103, or permission from instructor, concurrent with FW 5603W.

FW 4629. Wildlife Care and Handling Externship. (3 cr. ; A-F only; Every Spring)

This externship class is the capstone experience of the wildlife care and handling minor curriculum. The class synthesizes the practical skills and experience you have developed in earlier classes in the minor. The capstone is a guided, supervised, hands-on, on-site experience in a wildlife handling setting, complemented by pre-, during- and post-experience reflection and analysis.

FW 5003. Human Dimensions of Biological Conservation. (; 3 cr. ; Student Option; Every Fall)

Survey of social, psychological, economic, policy aspects of managing/conserving wildlife, fisheries, and related resources. prereq: [Biol 1001 or Biol 1009], Biol 3407

FW 5051. Analysis of Populations. (; 4 cr. ; Student Option; Every Spring)

Regulation, growth, general dynamics of populations. Data needed to describe populations, population growth, population models, regulatory mechanisms. prereq: [4001 or STAT 3011 or ESPM 3012], [EEB 3407 or EEB 3408W or EEB 3807], Senior or grad student

FW 5121. Conservation Planning and Structured Decision-making. (3 cr. ; A-F only; Every Spring)

We are impacting our planet and the species and ecosystems on it at an unprecedented rate. This creates key policy challenges to conserve species, ecosystems, and the benefits they provide to people. But, how do we decide what is the best way to tackle these challenges? How do we do this in a world with limited resources (time, money) for conservation and multiple stakeholders with different objectives? How can we make systematic decisions to get the biggest bang for our conservation buck? To address these questions, this course will cover key topics and concepts in conservation planning and provide exposure and hands-on experience with techniques for conservation plans and decisions. We will cover topics ranging from protected areas, restoration, ecosystem services, and climate change to structured decision-making, adaptive management, and return on investment. The course has a lecture and in-class computer lab component. This course will present structured approaches to problem-solving and decision-making from a conservation perspective, and students will leave with tools for structuring and solving complex environmental problems. Therefore, this is a foundational course in conservation planning but will also provide students will a tool-box to formulate and solve complex problems in environmental management more broadly and in life. Prerequisites: Senior or graduate standing, or permission of instructor.

Recommended: One course in ecology, environmental science or permission of instructor.

FW 5136. Ichthyology. (; 4 cr. ; Student Option; Every Fall)

Fish biology, adaptations to different environments and modes of living, and evolutionary relationships. Laboratory emphasizes anatomy and identification of Minnesota fishes.

FW 5293. Directed Study Fisheries. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

FW 5294. Directed Research Fisheries. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research course will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

FW 5392. Special Lectures: Wildlife. (; 1-5 cr. [max 15 cr.] ; Student Option; Every Fall & Spring)

Lectures given by visiting scholar or staff member.

FW 5393. Directed Study Wildlife. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out an independent project under the direction of a faculty member. Directed study courses may be taken for variable credit and special permission is needed for enrollment.

FW 5394. Directed Research Wildlife. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Directed Research: An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

FW 5401. Fish Physiology and Behavior. (; 3 cr. ; Student Option; Every Fall)

Fish mechanisms/behavior. Links between fish biology, fisheries ecology, management, aquaculture. Homeostasis, neurobiology, bioenergetics, reproduction, movement.

FW 5459. Stream and River Ecology. (3 cr. ; Student Option; Fall Even Year)

Structure/dynamics of running waters from ecosystem perspective. Historical perspective, basic hydrology/fluvial geomorphology, terrestrial-aquatic interactions, detrital dynamics, metabolism, drift, trophic relations, biotic/abiotic interactions, ecosystem experiments and natural alterations, stability/succession, ecosystem dynamics in a watershed. prereq: Limnology course or instr consent

FW 5493. Directed Study Conservation Biology. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

FW 5494. Directed Research Conservation Biology. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research course will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

FW 5603W. Habitats and Regulation of Wildlife. (WI; 3 cr. ; A-F or Audit; Every Fall)

Environmental interactions of wildlife at population/community levels. Environmental threats from human activities. Habitat management practices. Objectives, policies, regulations in population management. prereq: [FW 4102 or FW 4103], [EEB 3407 or EEB 3408 or EEB 3807]

FW 5625. Wildlife Handling and Immobilization for Research and Management. (; 2 cr. ; S-N or Audit; Every Spring)

Practical techniques to maximize human/animal safety and encourage effective operations. Preparation procedures, legal responsibilities, capture drugs/delivery systems, safety measures, ethical issues, basic veterinary procedures for handling wildlife. Field course. Uses live animals. prereq:

General biology, [grad student or vet med student or FW sr]

Food Science and Nutrition (FSCN)

FSCN 1001. Orientation to the Majors: Food Science and Nutrition. (1 cr. ; S-N only; Every Fall)

Advising, student opportunities, networking, what kinds of jobs will be available after graduating.

FSCN 1011. Science of Food and Cooking. (PHYS; 4 cr. ; Student Option; Every Fall & Spring)

Souffles, custards, sauces, coffee brewing, candy making used to examine physics/chemistry of heat transfer, foams, gels, emulsions, extractions, crystallization.

FSCN 1012. Sports Nutrition. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Physiological function and metabolic fate of all six classes of nutrients ingested by active individuals to improve athletic performance. Impact on physiology of ergogenic aids and various dietary supplements. Overview of these components in fulfilling energy/recovery needs for continual/progressive athletic performance. Web-based course.

FSCN 1013. Dietary Supplements: scientific, regulatory, and cultural aspects. (CIV; 3 cr. ; Student Option; Every Spring)

Dietary supplements are commonplace in modern life, especially in the United States, furthermore the dietary supplement industry is a multi billion dollar industry with relatively little government oversight and regulation. Many factors have spurred the use of dietary supplements such as changes in dietary patterns, growing focus on preventative healthcare, marketing & social media (e.g., celebrity and athletic endorsements & consumer anecdotes), and increased accessibility through e-commerce, but there has been little philosophical work on the ethical issues surrounding these. This course is designed to encourage students to critically examine and reflect on these factors as well as dietary supplement use across cultures and the appropriation of traditional medicines and knowledge for commercial gains. Students will also evaluate information on dietary supplements for performance, strength, weight loss, and the treatment of diseases or delay of disease onset and assess the ethical decision making related to the marketing and use of supplements for these purposes.

FSCN 1102. Food: Safety, Risks, and Technology. (CIV; 3 cr. ; Student Option No Audit; Every Fall & Spring)

Introduction to inherent risks/safety of food supply. Use of public policy and food technology to reduce risks. Microbiological, chemical, and environmental hazards, government/industry controls.

FSCN 1112. Principles of Nutrition. (TS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course explores fundamental concepts of nutrition, nutrient functions, human nutritional requirements, and food sources. We will

learn about evaluating nutrition information and food safety, and investigate the role of nutrition in chronic disease, public policy, and the environment. Nutrition is both a science and social science. This class involves social aspects, but mainly concerns the biochemistry and physiology of how food is processed in the body. The chapters on carbohydrates, lipids, proteins, and metabolism especially built on biology and physiology. Course topics include: 1. essential nutrients (macro-and-micro-nutrients) needed from the diet; 2. major functions of nutrients and physiological changes with deficiency or excess; 3. digestion, absorption, and metabolism of nutrients; 4. weight management; 5. scientific method and nutrition; 6. life cycle issues; 7. food safety issues 8. nutrition for sports Prerequisites: High school biology and chemistry

FSCN 1906. Farm to Someone Else's Table: Making food accessible for all students. (; 3 cr. ; Student Option; Every Fall)

Overview This course explores a potential theory of gradually changing the food system to better include meaningful and relevant practical, healthy, affordable, desirable (PHAD) foods that will enhance the nutrition of the general population and ultimately enhance public health. We will foster essential leadership qualities, skills, and knowledge to work toward collective solutions around adaptive challenges. We will create a valid, reliable, and sustainable process for the development of practical, healthier, affordable, and desirable foods.

FSCN 2001. A Food Systems Approach to Cooking for Health and the Environment. (3 cr. ; Student Option; Every Fall)

This is a fun, hands-on cooking class. It is also an Experiential Learning (EL) course which meets the EL requirement for all CFANS students. This lecture /lab format course will give students the confidence to cook healthful whole foods as they learn about the food system. Subject matter will be taught from an interdisciplinary perspective. Concepts covered include fundamental concepts of nutrition, food sources, food safety, the food system; skills/resources for food choices based on nutritional, environmental, local and global societal implications. We will examine the ethical and civic themes that guide food choices. We will discuss and write about how environmental, cultural, social, and health issues impact personal food choices. prereq: [soph, jr, sr] or instructor consent

FSCN 2002. Healthy Foods, Healthy Lives - Cooking on a Student's Budget. (1 cr. ; Student Option; Every Fall & Spring)

Skills/tools necessary to be comfortable/confident home cooks, knowledgeable about preparation of nutritional/safely prepared foods. Food safety, basic nutrition, technique instruction, budgeting, time management, menu design, measuring, cooking methods, preservation.

FSCN 2021. Introductory Microbiology. (; 4 cr. ; A-F only; Every Fall & Spring)

How microbes impact our world in deadly/life-saving ways. Roles of bacteria, fungi, and

viruses as agents of human diseases; in food spoilage/food borne diseases; and in food preservation/health promotion. Preventing plant diseases, food/drug production, cleaning up oil spills. Genetic engineering.

FSCN 2512. Food Customs and Culture. (GP; 3 cr. ; A-F or Audit; Every Fall & Spring)

Account of traditional and contemporary food customs and culture. Practice of food choice, preparation, and preservation in the context of worldview, perspectives on diet and health, and belief systems of communities and societies around the world. Major emphasis on US cultures including Native American, Hispanic American, European American, African American, and Asian American. Development of cultural self-understanding and intercultural awareness via food and food habits-related experiences and reflections.

FSCN 3102. Introduction to Food Science. (; 3 cr. ; Student Option; Every Fall)

Introduction to chemical/physical properties of foods. Evaluating interaction/reaction of foods due to formulation, processing, preparation. prereq: CHEM 1022 or [CHEM 1062 and CHEM 1066]

FSCN 3612. Life Cycle Nutrition. (3 cr. ; Student Option; Every Fall & Spring)

FSCN 3612 focuses on nutritional requirements and common issues during different stages of the life cycle, including pregnancy, lactation, childhood, adulthood, and aging. There are no required courses for this class; however, it is best to take a basic nutrition class beforehand, such as FSCN 1112 Principles of Nutrition or an equivalent.

FSCN 3614. Nutrition Education and Counseling. (; 3 cr. ; Student Option; Every Fall)

Effective communication and counseling skills are essential for all food and nutrition professionals, whether working in clinical, community, or food service settings. This course will teach necessary concepts and skills for entry-level dietitians, such as educational theory, basic counseling techniques, and health disparities and health literacy. You will develop skills and explore these concepts through application: by practicing in small group breakout sessions and by completing written assignments. You will also reflect on the nature of dietetics as a helping profession and your role in supporting clients who want to make lifestyle changes. There are no required prerequisites courses for FSCN 3614. However, it is recommended that students take an introductory nutrition course, such as FSCN 1112 (Principles of Nutrition) or equivalent in order to be prepared.

FSCN 3731. Food Service Operations Management Laboratory. (; 2 cr. ; A-F or Audit; Every Fall)

Experience in managing a food service operation. On- and off-campus commercial and institutional restaurants used as labs. Required field trips. prereq: [3102 or concurrent registration is required (or allowed) in 3102], [3732 or concurrent registration is required (or allowed) in 3732]

FSCN 3732. Food Service Operations Management. (; 3 cr. ; A-F or Audit; Every Fall)

Planning, preparing, delivering, serving, managing foods served away from home.

FSCN 3993. Directed Study. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

FSCN 3994. Directed Research. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

FSCN 4096. Professional Experience Program: Internship. (1-4 cr. [max 24 cr.] ; A-F only; Every Fall, Spring & Summer)

Apply knowledge from Food Science BS or Nutrition BS program to real-life problems in professional internship. Performance evaluated for credit. prereq: To register, students must fill out FScN Internship Agreement form, available at <http://fscn.cfans.umn.edu>. Contact fscnug@umn.edu with questions.

FSCN 4112. Food Chemistry and Functional Foods. (; 3 cr. ; Student Option; Every Fall)

Most-important food constituents, their occurrence, structures, functional properties, and health benefits. Proteins, lipids, carbohydrates, water. Vitamins, minerals, enzymes, phytochemicals, food additives, contaminants. prereq: 3102, BIOC 3021

FSCN 4113. Ingredient Functionality and Applications in Food. (2 cr. ; Student Option; Every Spring)

The course covers the practical use of various ingredients in different food matrices, with a focus on ingredient functionality, interactions, and substitutions. The emphasis will be on demonstrating the use of different ingredients to achieve a desired product quality, while addressing trends such diet restrictions, healthy foods, clean label, fair trade, sustainable sourcing, cost-optimization, among others. Other emphases will include ingredient handling, processing and stability. The course will be organized based on different

food systems such as confectionery, baked products, fried foods, dairy and imitation dairy, etc.

FSCN 4121. Food Microbiology. (; 3 cr. ; Student Option No Audit; Every Spring)
Microorganisms involved in food-borne disease, food fermentations, and food spoilage. Methods for their control/detection. Food microbiology. Foodborne pathogens. Microbial food spoilage. Control of microorganisms in food. prereq: BIOC 3021, [2021 or VBS 2032 or MICB 3301]

FSCN 4122. Food Fermentations and Biotechnology. (; 2 cr. ; Student Option; Every Fall)

Major food fermentations important for food industry. Microbiological components. Impact of biotechnology on food production. Genetic tools. Improvement of microbes used in food production by biotechnological approaches. prereq: [MICB 3301, BIOL 4003] or instr consent

FSCN 4123. Molecular Biology for Applied Scientists. (1 cr. ; A-F only; Every Fall)

Basics of molecular biology. Origins of molecular biology from discovery to ad of gene cloning/sequencing technologies. PCR, DNA fingerprinting, metagenomics. Synthetic biology for biotechnological production of novel peptides/ proteins. prereq: [BioC 3021 and MicB 3301] or FScN 2021 or instr consent

FSCN 4131. Food Quality. (; 3 cr. ; Student Option; Every Fall)

This course is designed to give students an overview of the management systems, statistical procedures, and regulatory requirements involved with producing quality food and ingredients. The course material includes risk assessment and management, good manufacturing practices, hazard analysis critical control point (HACCP), statistical methods for process control, total quality management, and food and drug laws. The course is intended primarily for upper division undergraduates majoring in food science. prereq: jr

FSCN 4291. Independent Study. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)
Individual lab or library research in an area related to food science or nutrition. prereq: Undergrads, instr consent

FSCN 4311. Chemical Reactions in Food Systems. (; 2 cr. ; Student Option; Every Spring)

Chemical structure of major food constituents, carbohydrates, lipid, and proteins. Reaction/ interaction pathways. Function within complex food matrix under various storage/processing conditions. prereq: 4112, 4312W

FSCN 4312W. Food Analysis. (WI; 4 cr. ; Student Option; Every Fall)

The course covers major analytical tools needed for any investigation in food science and technology, whether by the food industry, governmental agencies, or universities. Specifically, the course covers: application of quantitative and qualitative physical, chemical, and instrumental methods used for

analysis and examination of food constituents, ingredients, and products; sensory evaluation techniques; and evaluation of methods and interpretation of results. The course covers methods used for: compositional analysis of foods; chemical characterization of foods and food constituents; and spectroscopic, chromatographic, and spectrometric analysis used for the detection, identification, and quantification of food macro- and micro-components. In this course the students will learn to identify the appropriate methods of analysis based on the investigation purpose, either nutrition labeling, quality control, product development, or scientific research. prereq: FSCN 4112

FSCN 432. Food Processing Operations. (; 3 cr. ; A-F or Audit; Every Spring)

Engineering principles applied to commonly used food processing operations. Blanching, pasteurization, sterilization, frying, baking, milling, extrusion. Meat processing, water treatment, waste management. Prerequisite: BBE 4744

FSCN 4334. Food Processing Fundamentals I. (3 cr. [max 6 cr.]; A-F only; Every Fall)

Food processing fundamentals (add heat, remove heat, remove water, add barriers and add preservatives). Overview of mass and energy balances for food process design, fundamentals of fluid flow, heat transfer as applied to food process unit operations such as pumping, heat exchangers, thermal processing, dehydration, refrigeration, freezing, and extrusion.

FSCN 4335. Food Processing Fundamentals II. (3 cr. ; A-F only; Every Spring)

Food processing fundamentals (add heat, remove heat, remove water, add barriers, and add preservatives). Overview energy requirement in food processing, food process plant design, mass transfer fundamentals, mass transfer operations including size reduction, agglomeration, membrane filtration, and packaging. Energy in food processing and pilot plant design. Wastewater treatment.

FSCN 4349. Food Science Capstone. (2 cr. ; A-F only; Every Fall & Spring)

Planning of process or product development project. Defining goals, preparing/following time line, reviewing literature, coordinating with experts, procuring supplies, writing progress reports. Determining ingredient specifications, lab/pilot plant production. Chemical, microbiological, sensory testing. Oral/written presentations. prereq: 4112, 4121, 4131, 4312, 4332, BBE 4744, Food Science Major, senior

FSCN 4481. Sensory Evaluation of Food Quality. (1 cr. ; A-F only; Every Spring)

Fundamentals of sensory perception. Test designs and methods used in studying sensory qualities of foods and consumer responses to foods. prereq: 3102, Stat 3011

FSCN 4482. Sensory Evaluation of Food Quality. (2 cr. [max 4 cr.]; A-F only; Every Spring)

Fundamentals of sensory perception. Test designs and methods used in studying the

sensory qualities of foods and consumer responses to foods. This course includes six, 1-hour tasting sessions, six, 1-hour data analysis sessions and weekly 50-minute classroom activities.

FSCN 4612W. Advanced Human Nutrition.

(WI; 4 cr. ; Student Option; Every Fall & Spring)
Advanced study of digestion/absorption of nutrients. Research techniques in nutrition, including human/epidemiological studies. Health promotion, disease prevention theories. Non-Enforced Prerequisites: FSCN 1112, CHEM 1062 and CHEM 1066 Enforced Prerequisites (students cannot register without the following): BioC 3021 or PHSL 3051 or ANSC 3301 or BIOL 3211 or Instructor Consent

FSCN 4613. Experimental Nutrition. (; 2 cr. ; Student Option; Every Spring)

This is a laboratory course focused on biochemical methods for determining nutritional status. This course uses biological samples from the students themselves as the source material. In this course, students will develop a better understanding of the usefulness and limitations of the biochemical methods, as well as the principles behind the procedures and instruments used. Students will also expand their nutrition knowledge, improve their lab skills, develop their scientific writing abilities, and exercise their problem solving skills. Prerequisites: BIOC 3021, STAT 3011, Nutrition Major, or Instructor Consent

FSCN 4614W. Community Nutrition.

(DSJ,WI,SOCS; 3 cr. ; A-F only; Every Spring)
Nutrition risks associated with different age, sex, ethnic, and socioeconomic groups. Community needs assessment. Program planning and evaluation. Programs developed to address the needs and interests of people at different stages of the life cycle, ethnic or cultural backgrounds, and literacy levels.

FSCN 4621. Nutrition and Metabolism. (4 cr. ; Student Option; Every Fall)

Carbohydrate, lipid, protein metabolism. Uses systems/holistic approach to emphasize how metabolic pathways interrelate. Prerequisite courses: FSCN 4612, BIOC 3021, ANSC 3301

FSCN 4622. Nutritional Toxicology, the basic science of diet-related toxicants. (; 3 cr. ; A-F only; Every Spring)

Concepts of toxicology. Molecular mechanism behind dietary chemical-induced toxicities. Impact/risk of dietary chemicals for human health. prereq: BIOC 3021; designed for students majoring in [nutrition or food science or toxicology]

FSCN 4664. Senior Capstone: Becoming a Registered Dietitian. (1 cr. ; S-N or Audit; Every Fall)

Preparation for advancement in career as registered dietitian, including completion of dietetic internship application. Current issues in dietetics. prereq: [4665 or concurrent registration is required (or allowed) in 4665], Nutrition/dietetics subplan of nutrition major or instr consent

FSCN 4665. Medical Nutrition Therapy I. (; 3 cr. ; A-F or Audit; Every Fall)

Nutrition care process, with a focus on nutrition assessment and support, and on pathophysiology, management, and nutrition care of disease and injury, e.g. gastrointestinal (GI), pancreatic, hepatic, and pulmonary disorders; surgery/trauma/burns; and cancer. prereq: FSCN 4612, PHSL 3051, BIOC 3021

FSCN 4666. Medical Nutrition Therapy II. (3 cr. ; A-F or Audit; Every Spring)

Nutrition care process, with a focus on pathophysiology, management, and nutrition care of diabetes mellitus, cardiovascular disorders, renal disorders, and obesity.

FSCN 4667. Dietetics Capstone and Interprofessional Education. (1 cr. ; S-N only; Every Fall)

Preparation for advancement in career as registered dietitian, including completion of dietetic internship application. Current issues in profession of dietetics; interprofessional education. prereq: Senior Nutrition Major with DPD subplan, [FScN 4665 or concurrent registration is required (or allowed) in 4665]

FSCN 4732. Food and Nutrition Management. (; 3 cr. ; A-F or Audit; Every Spring)

Financial and human resource management applied to a variety of business and institutional settings. Field trips may be required. prereq: 3732

FSCN 5122. Food Fermentations and Biotechnology. (2 cr. ; Student Option; Every Fall)

Major food fermentations important for today's food industry, with particular focus on microbiological components. Fermentations cover all major commodity food groups of dairy, cereal, meat, vegetables, fruits. prereq: MICB 3301, BIOL 4003

FSCN 5123. Molecular Biology for Applied Scientists. (1 cr. ; A-F only; Every Fall)

Half semester course. Two hours per week for 8 weeks. Basics of molecular biology/ how it has been used for biotechnological applications. Origins of molecular biology from discovery of DNA as inheritance material within cells to advent of gene cloning/sequencing technologies. prereq: MicB 3301 or FScN 2021 or instr consent

FSCN 5131. Food Quality for Graduate Credit. (3 cr. ; Student Option; Every Fall)

Management systems, statistical procedures, regulatory requirements involved with producing quality food/ingredients. Risk assessment/management, good manufacturing practices, hazard analysis critical control point (HACCP), statistical methods for process control, total quality management, food/drug laws. Prereq: Food Science Grad Student Student may select grading basis if instructor approves. A-F registration is required for class to count toward degree.

FSCN 5312. Food Analysis. (4 cr. ; A-F or Audit; Every Fall)

Analytical tools needed for investigation in Food Science/Technology, whether by food industry, governmental agencies, or universities. Application of quantitative/ qualitative physical, chemical/instrumental

methods used for analysis/examination of food constituents. Sensory evaluation techniques, evaluation of methods/interpretation of results. prereq: 4112, STAT 3011

FSCN 5334. Food Processing Fundamentals I. (3 cr. ; Student Option; Every Fall)

Food processing fundamentals (add heat, remove heat, remove water, add barriers and add preservatives) Overview of mass and energy balances for food process design, fundamentals of fluid flow, heat transfer as applied to food process unit operations such as pumping, heat exchangers, thermal processing, dehydration, refrigeration, freezing and extrusion. Two lecture periods (50 min each) and one laboratory (105 min each) period each week.

FSCN 5441. Introduction to New Product Development. (; 2 cr. ; Student Option; Fall Even, Spring Odd Year)

This course is designed to give students an overview of the product development process including management systems, team dynamics, technical problem solving, idea generation, and differences between different categories of food R&D. Prerequisites: FSCN 4112

FSCN 5461. Food Packaging. (2 cr. ; Student Option; Fall Odd Year)

Materials, principles, and procedures of packaging as they apply to food products. Emphasis is on consumer products, but the principles also apply to bulk and institutional foods and ingredients. prereq: 1102, 3102, Phys 1102 or Phys 1302

FSCN 5481. Sensory Evaluation of Food Quality. (; 2 cr. ; Student Option; Periodic Spring)

Fundamentals of sensory perception. Test designs and methods in studying sensory qualities of foods. Issues in sensory evaluation. Group research project. prereq: 3102, STAT 3011

FSCN 5521. Flavor Technology. (; 2 cr. ; Student Option; Spring Even Year)

Overview of flavor chemistry/related technology. Analytical techniques, mechanisms of flavor development (chemical/ biogenesis), off-flavors, industrial production/application of food flavorings. prereq: 4112

FSCN 5531. Grains: Introduction to Cereal Chemistry and Technology. (; 2 cr. ; Student Option; Periodic Fall & Spring)

Origins, structure, biochemistry, and cellular properties of major cereal grains as they relate to primary processing (milling) and secondary processing (production of cereal products). prereq: Biol 1009, Chem 1022

FSCN 5541. Dairy Product Chemistry and Technology. (2 cr. ; Student Option; Fall Odd Year)

Designed for upper division Food Science undergraduate/graduate students. Physiology of milk production in ruminants. Resulting composition. Chemical, physical, microbiological properties of milk components. How milk products are manufactured. prereq: 3102, 4112, Food Science major, upper division undergraduate or graduate student

FSCN 5601. Management of Eating Disorders. (3 cr. ; Student Option; Every Fall & Spring)

Etiology, occurrence, course, treatment, prevention of eating disorders from multidisciplinary perspective. Roles and responsibilities of eating disorder treatment team members of varying types across various treatment milieus. Prereq: Junior, senior or graduate student in nutrition or health related program or instructor consent.

FSCN 5993. Directed Study. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

FSCN 5994. Directed Research. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

Food Systems (FDSY)

FDSY 1016W. Growing Food & Building Community: Urban Agriculture in the Twin Cities. (WI; 3 cr. ; A-F only; Every Fall)

The capacity and support for urban agriculture is expanding globally. It is estimated that 25-30% of urban dwellers worldwide are involved in agriculture. In the future, we can expect that more of our food will be grown in urban centers. Urban farms and food businesses, food hubs, neighborhood community gardens, schoolyard and residential gardens are all part of the current urban food movement. As the first year colloquium for food systems majors, this course will integrate academic and orientation learning objectives and allow students to gain practice in systems thinking-- exhibited through in-class discussion and writing-- using urban agriculture as a framework. In this course, we will evaluate the direct and indirect benefits and challenges of urban agriculture by looking through environmental, political and social lenses. Class field trips and a service learning activity are used to demonstrate the various ways food is grown and how food may be used as a vehicle to achieve social goals. We

will discuss a broad array of topics including horticultural production practices, soil health and environmental sustainability issues, social justice and food access, and public policy and regulations constraining urban farms, with an emphasis on the Minneapolis/St. Paul metro area. Students in this course will deepen their understanding of the complexity of urban food systems, while also recognize social differences of race, ethnicity and class; improve intercultural competence skills as a foundation for positive cross-cultural relationships; and gain an awareness of how urban agriculture can be a force for change.

FDSY 2101. Plant Production Systems. (3 cr. ; Student Option; Every Spring)

How food production systems fit within overall food system. Fundamentals of soils, plant nutrition, plant production metabolites as they affect food production systems. Decisions that differentiate among conventional sustainable/organic systems. prereq: College level general biology course or Hort 1001 or instr consent

FDSY 2102. Diversity of Agricultural Production Systems. (3 cr. ; A-F only; Every Spring)

Examination of agricultural production systems, including organic, alternative, and conventional systems. History of production systems and their implications for producer lifestyles, social and natural environments, and economics at local to global scales. Includes farm visits, producer interviews, group projects, and classroom presentations and debates in addition to lectures and readings. This multidisciplinary course is offered at the University of Minnesota-St. Paul campus, West Central Research and Outreach Center and the University of Minnesota-Morris campus.

FDSY 3093. Directed Study. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

FDSY 3094. Directed Research. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

FDSY 4101. Holistic Approaches to Improving Food Systems Sustainability. (; 3 cr. ; A-F only; Every Spring)

Students in this capstone course address food system sustainability challenges both in the classroom and via service-learning, where they spend 45 hours engaged with a food justice-based community organization. Requires off-campus work at the community partner site. Prerequisites: FDSY 1016W and APEC 3202; or instructor consent

Foreign Study (FOST)

FOST 1040. Study Abroad. (; 1-32 cr. [max 128 cr.] ; Student Option; Every Fall, Spring & Summer)

Course used to grant credit for a new study abroad course or program that, by the time recruiting begins, has not had time to go through the normal approval process.

FOST 1201. Study Abroad. (; 1-32 cr. ; Student Option; Periodic Fall)
Not published in catalog.

FOST 1202. Study Abroad. (; 1-32 cr. ; Student Option; Every Fall, Spring & Summer)
Not published in catalog. prereq: dept consent

FOST 1203. Study Abroad. (; 1-32 cr. ; Student Option; Every Fall, Spring & Summer)
Not published in course catalog. prereq: dept consent

FOST 1204. Study Abroad. (; 1-32 cr. ; Student Option; Every Fall, Spring & Summer)
Not published in catalog. prereq: dept consent

FOST 1205. Study Abroad. (; 1-32 cr. ; Student Option; Every Fall, Spring & Summer)
Not published in catalog. prereq: dept consent

FOST 1206. Study Abroad. (; 1-32 cr. ; Student Option; Periodic Fall)
Not published in catalog. prereq: dept consent

FOST 1207. Study Abroad. (; 1-32 cr. ; Student Option; Periodic Fall)
Not published in catalog. prereq: dept consent

FOST 1208. Study Abroad. (; 1-32 cr. ; Student Option; Periodic Fall)
Not published in course catalog. prereq: dept consent

FOST 1209. Study Abroad. (; 1-32 cr. ; Student Option; Periodic Fall)
Not published in catalog. prereq: dept consent

FOST 1400. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Designated Theme in Cultural Diversity. prereq: dept consent

FOST 1410. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Designated Theme in Citizenship and Public Ethics. prereq: dept consent

FOST 1420. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Designated Theme in The Environment. prereq: dept consent

FOST 1430. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Designated Theme in International Perspectives. prereq: dept consent

FOST 1460. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as two Designated Themes, in Cultural Diversity and International Perspectives. prereq: dept consent

FOST 1480. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as two Designated Themes, in Citizenship and Public Ethics and International Perspectives. prereq: dept consent

FOST 1490. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as two Designated Themes, in The Environment and International Perspectives. prereq: dept consent

FOST 1495. Study Abroad Course. (; 1-10 cr. [max 20 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

FOST 1500. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Arts and Humanities. prereq: dept consent

FOST 1501. The United States in the Post-WW2 Era. (HIS; 3 cr. ; Student Option No Audit; Every Fall, Spring & Summer)

This course is designed as a survey of US history since the Second World War, from the prosperous post-war period of the 1950s to the forty years between the election of JFK in 1960 and the election of Barack Obama in 2008, which mark one of the most turbulent periods in American history. Radical changes occurred during these decades in American political, social, and cultural life, changes which still have repercussions on American society today. Through a variety of readings, seminars, discussions, and research papers, as well as screenings of feature films, documentaries, and musical albums, the course aims at evoking the four decades for the purpose of arriving at

a deeper understanding of the major events that took place during the period. A complete understanding of the transformational nature of these events is not possible, however, without placing them within the context of political and social history, and most especially within the framework of the larger interpretive principles of the culture which American Studies offers.

FOST 1502. Introduction to Popular Music - Many a Voice to Sing With: American Popular Music Since World War II. (HIS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course examines the historical significance of popular music in the United States from the mid twentieth century to the present. Ethnomusicologist Alan Lomax stated, "As we live, so do we sing." Those words have never been more applicable to the plight of the African American who came to America as slaves. We will examine a variety of musical genres beginning with the music of West Africa and moving to Plantations songs (spirituals, work songs), and a variety of musical genres ranging from the blues, rhythm and blues, country, folk, soul, rock, disco, and hip-hop. As we examine the various genres we will need to identify some of the individuals who were instrumental in shaping the landscape of what became American popular music. Such figures as Woody Guthrie, Bessie Smith, Duke Ellington, Buddy Holly, Robert Johnson, Ma Rainey, Elvis Presley, Stevie Wonder, James Brown, Bob Dylan, Joan Baez, Peter, Paul and Mary, Bruce Springsteen, Lauryn Hill, Tracy Chapman, and Jay-Z and many others. All of these individuals helped to shape and define the American popular music scene. All of the musical innovations and opportunities experienced by them are tempered by social, political, economic, and religious variables. As we progress through each era, we will examine many of the social, economic, religious, political, and technological variables that influenced the direction of the music. For example, Jim Crow laws, the church, the Civil Rights Movements, the student, the anti-war movement, the environment protection and the Women's Liberation movements, (anti)-Globalization, all played a major role in how the music was influenced. This course will also consider the global impact American pop music has had on the direction and influences of various musical styles and the economic force it has had on the global economy. The diversity dimensions for this course will be Race, Religion, and Gender. This will be the reoccurring theme throughout the semester as we examine the various developments and contributions of African Americans.

FOST 1510. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a diversified core in Biological Science with Lab. prereq: dept consent

FOST 1520. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a diversified core in Biological Science without Lab. prereq: dept consent

FOST 1530. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Historical Perspective. prereq: dept consent

FOST 1540. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Literature. prereq: dept consent

FOST 1550. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Mathematical Thinking. prereq: dept consent

FOST 1560. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Philosophical Perspective. prereq: dept consent

FOST 1570. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Physical Science with Lab. prereq: dept consent

FOST 1580. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Physical Science without Lab. prereq: dept consent

FOST 1590. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirement as a Diversified Core in Social Science. prereq: dept consent

FOST 1600. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Visual or Performing Arts. prereq: dept consent

FOST 1710. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Arts

and Humanities and a Designated Theme in Cultural Diversity. prereq: dept consent

FOST 1720. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Historical Perspective and a Designated Theme in Cultural Diversity. prereq: dept consent

FOST 1730. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as Diversified Core in Literature and Cultural Diversity. prereq: dept consent

FOST 1740. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Social Science and Cultural Diversity. prereq: dept consent

FOST 1750. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Arts and Humanities and a Designated Theme in Citizenship and Public Ethics. prereq: dept consent

FOST 1760. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Biological Science with Lab and a Designated Theme in Citizenship and Public Ethics. prereq: dept consent

FOST 1770. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Historical Perspective and a Designated Theme in Citizenship and Public Ethics. prereq: dept consent

FOST 1780. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Philosophical Perspective and a Designated Theme in Citizenship and Public Ethics. prereq: dept consent

FOST 1790. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified core in Social

Science and Citizenship and Public Ethics.
prereq: dept consent

FOST 1800. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Arts and Humanities and a Designated Theme in The Environment. prereq: dept consent

FOST 1810. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal education graduation requirements as a Diversified Core in Biological Science with a Lab and a Designated Theme in The Environment. prereq: dept consent

FOST 1820. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Biological Science without Lab and a Designated Theme in The Environment. prereq: dept consent

FOST 1830. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Historical Perspective and a Designated Theme in The Environment. prereq: dept consent

FOST 1840. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the liberal Education graduation requirements as a Diversified core in Physical Science with Lab and a Designated Theme in The Environment. prereq: dept consent

FOST 1850. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Physical Science without Lab and a Designated Theme in The Environment. prereq: dept consent

FOST 1860. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Social Science and a Designated Theme in The Environment. prereq: dept consent

FOST 1870. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Arts and Humanities and a Designated Theme in International Perspectives. prereq: dept consent

FOST 1880. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall & Spring)
Course taken through study abroad that counts toward the Liberal Education requirements for graduation as a Diversified Core in Historical Perspective and a Designated Theme in International Perspectives. prereq: dept consent

FOST 1890. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall & Spring)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Literature and a Designated Theme in International Perspectives. prereq: dept consent

FOST 1900. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Philosophical Perspective and a Designated Theme in International Perspectives. prereq: dept consent

FOST 1910. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Social Science and a Designated Theme in International Perspectives. prereq: dept consent

FOST 1920. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Visual and Performing arts and a Designated Theme in International Perspectives. prereq: dept consent

FOST 3000. Study Abroad: Outside Program. (; 0-20 cr. [max 200 cr.] ; S-N only; Every Fall, Spring & Summer)
Study abroad outside program placeholder course. prereq: dept consent

FOST 3010. Directed Study Abroad. (; 0-18 cr. [max 180 cr.] ; S-N only; Every Fall, Spring & Summer)
N/A

FOST 3020. Exchange Study Abroad. (; 0-18 cr. [max 40 cr.] ; S-N only; Every Fall, Spring & Summer)
N/A prereq: dept consent

FOST 3021. Study Abroad: Bilateral Exchange Program. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3022. Study Abroad: China Center Exchange Program. (0-20 cr. [max 40 cr.] ; S-N only; Every Fall, Spring & Summer)
Study abroad course

FOST 3023. Study Abroad: CSE Exchange Program. (0-20 cr. [max 40 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

FOST 3024. Study Abroad: Collegiate Exchange Programs. (0-20 cr. [max 40 cr.] ; S-N only; Every Fall, Spring & Summer)
study abroad course

FOST 3025. Study Abroad: Scholarship / IRSEP Exchange Program. (0-20 cr. [max 40 cr.] ; S-N only; Every Fall, Spring & Summer)
Study abroad course

FOST 3026. Study Abroad: ISEP Exchange Program. (0-20 cr. [max 40 cr.] ; S-N only; Every Fall, Spring & Summer)
Study abroad course

FOST 3027. Study Abroad: Departmental Affiliated Program. (0-20 cr. [max 40 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad placeholder course.

FOST 3028. Study Abroad: AC China Flagship Capstone Year Program. (0-20 cr. [max 40 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad placeholder course

FOST 3029. Study Abroad: Study Abroad in Dublin. (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Similar to many already-existing courses (ex: FOST 3245 - Study Abroad: Morocco Program), this is a course shell that will be used as a placeholder course for the number of credits planned to take abroad that helps to ensure students maintain their student status and allows financial aid eligibility. Upon the student's return at the end of the program, this course will be removed from the student's record and replaced with actual, individual courses, credits and grades taken while abroad.

FOST 3032. Study Abroad: Study Abroad in Jordan. (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Similar to many already-existing courses (ex: FOST 3245 - Study Abroad: Morocco Program), this is a course shell that will be used as a placeholder course for the number of credits planned to take abroad that helps to ensure students maintain their student status and allows financial aid eligibility. Upon the student's return at the end of the program, this course will be removed from the student's record and replaced with actual, individual courses, credits and grades taken while abroad.

FOST 3033. Study Abroad: Summer Internships in Panama. (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Similar to many already-existing courses (ex: FOST 3245 - Study Abroad: Morocco Program), this is a course shell that will be used as a placeholder course for the number of credits planned to take abroad that helps to ensure students maintain their student status and allows financial aid eligibility. Upon the student's return at the end of the program, this course will be removed from the student's record and replaced with actual, individual courses, credits and grades taken while abroad.

FOST 3034. Study Abroad: Study & Intern in Barcelona. (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Similar to many already-existing courses (ex: FOST 3245 - Study Abroad: Morocco Program), this is a course shell that will be used as a placeholder course for the number of credits planned to take abroad that helps to ensure students maintain their student status and allows financial aid eligibility. Upon the student's return at the end of the program, this course will be removed from the student's record and replaced with actual, individual courses, credits and grades taken while abroad.

FOST 3035. Study Abroad: SOR CAPA Barcelona. (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Similar to many already-existing courses (ex: FOST 3245 - Study Abroad: Morocco Program), this is a course shell that will be used as a placeholder course for the number of credits planned to take abroad that helps to ensure students maintain their student status and allows financial aid eligibility. Upon the student's return at the end of the program, this course will be removed from the student's record and replaced with actual, individual courses, credits and grades taken while abroad.

FOST 3036. Study Abroad: SOR CET. (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Similar to many already-existing courses (ex: FOST 3245 - Study Abroad: Morocco Program), this is a course shell that will be used as a placeholder course for the number of credits planned to take abroad that helps to ensure students maintain their student status and allows financial aid eligibility. Upon the student's return at the end of the program, this course will be removed from the student's record and replaced with actual, individual courses, credits and grades taken while abroad.

FOST 3037. Study Abroad: University Study in Italy. (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Similar to many already-existing courses (ex: FOST 3245 - Study Abroad: Morocco Program), this is a course shell that will be used as a placeholder course for the number of credits planned to take abroad that helps to ensure students maintain their student status and allows financial aid eligibility. Upon the student's return at the end of the program, this course will be removed from the student's record and replaced with actual, individual courses, credits and grades taken while abroad.

FOST 3038. Study Abroad: SOR CAPA Hong Kong. (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Similar to many already-existing courses (ex: FOST 3245 - Study Abroad: Morocco Program), this is a course shell that will be used as a placeholder course for the number of credits planned to take abroad that helps to ensure students maintain their student status and allows financial aid eligibility. Upon the student's return at the end of the program, this course will be removed from the student's record and replaced with actual, individual

courses, credits and grades taken while abroad.

FOST 3039. Study Abroad: Study & Intern in Hong Kong. (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Similar to many already-existing courses (ex: FOST 3245 - Study Abroad: Morocco Program), this is a course shell that will be used as a placeholder course for the number of credits planned to take abroad that helps to ensure students maintain their student status and allows financial aid eligibility. Upon the student's return at the end of the program, this course will be removed from the student's record and replaced with actual, individual courses, credits and grades taken while abroad.

FOST 3040. Study Abroad. (; 1-32 cr. ; A-F only; Every Fall, Spring & Summer)

Course used to grant credit for a new study abroad course or program that, by the time recruiting begins, has not had time to go through the normal approval process. prereq: dept consent

FOST 3050. Study Abroad Through UMN System. (; 0-32 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad through program sponsored by Duluth, Morris, or Crookston campus. prereq: dept consent

FOST 3060. Global Seminar. (; 3 cr. [max 9 cr.] ; A-F only; Every Spring & Summer)

Short term study abroad program during May Session or winter break.

FOST 3110. HECUA-Sponsored Study Abroad Programs. (; 1-20 cr. [max 80 cr.] ; A-F only; Every Fall, Spring & Summer)

Study abroad through Higher Education Consortium for Urban Affairs. prereq: dept consent

FOST 3111. Study Abroad: International Chinese Language Program. (0-20 cr. [max 40 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad placeholder course for new affiliate program, ICLP.

FOST 3115. Study Abroad: Alliance Program. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)

Study abroad course

FOST 3120. AESOP/CIC-Study Abroad Programs. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall, Spring & Summer)

Study abroad through Committee on Institutional Cooperation. prereq: dept consent

FOST 3125. Study Abroad: USIT Irish Studies Summer School Program. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)

Study abroad course

FOST 3130. IES-Study Abroad Program. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall, Spring & Summer)

Study abroad through Institute for the International Education of Students (IES). prereq: dept consent

FOST 3135. Study Abroad: CET Programs. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)

Study abroad course

FOST 3140. CIEE-Study Abroad Program. (; 1-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)

Study abroad through Council on International Educational Exchange. prereq: dept consent

FOST 3150. Butler/IFSA: Study Abroad Program. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall, Spring & Summer)

Study abroad sponsored by Butler University/IFSA and cosponsored by the University of Minnesota. prereq: dept consent

FOST 3160. Arcadia/CEA: Study Abroad Program. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall, Spring & Summer)

Study abroad sponsored by Arcadia College/CEA and cosponsored by the University of Minnesota. prereq: dept consent

FOST 3170. Study Abroad: Integrated Studies in Freiburg. (; 0-20 cr. [max 80 cr.] ; A-F only; Every Fall & Spring)

Study Abroad placeholder course for the Integrated Studies in Freiburg program.

FOST 3175. Study Abroad: AC China Flagship Capstone Year Program. (0-20 cr. [max 40 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course

FOST 3180. Bologna Cooperative Studies Program, Italy. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall & Spring)

Study abroad through Bologna Cooperative Studies Program at the University of Bologna, Italy. prereq: dept consent

FOST 3201. Study Abroad. (; 1-32 cr. ; Student Option; Every Fall, Spring & Summer)

Course used to grant credit for a new study abroad course or program that, by the time recruiting begins, has not had time to go through the normal approval process. prereq: dept consent

FOST 3202. Study Abroad. (; 1-32 cr. ; Student Option; Every Fall, Spring & Summer)

Course used to grant credit for a new study abroad course or program that, by the time recruiting begins, has not had time to go through the normal approval process. prereq: dept consent

FOST 3203. Study Abroad. (; 1-32 cr. [max 1 cr.] ; Student Option; Every Fall, Spring & Summer)

Course used to grant credit for a new study abroad course or program that, by the time recruiting begins, has not had time to go through the normal approval process. prereq: dept consent

FOST 3204. Study Abroad. (; 1-32 cr. ; Student Option; Every Fall, Spring & Summer)

Course used to grant credit for a new study abroad course or program that, by the time recruiting begins, has not had time to go through the normal approval process. prereq: dept consent

FOST 3205. Study Abroad. (; 1-32 cr. ; Student Option; Every Fall, Spring & Summer)
Course used to grant credit for a new study abroad course or program that, by the time recruiting begins, has not had time to go through the normal approval process. prereq: dept consent

FOST 3206. Study Abroad. (; 1-32 cr. ; Student Option; Every Fall, Spring & Summer)
Course used to grant credit for a new study abroad course or program that, by the time recruiting begins, has not had time to go through the normal approval process. prereq: dept consent

FOST 3207. Study Abroad. (; 1-32 cr. ; Student Option; Every Fall, Spring & Summer)
Course used to grant credit for a new study abroad course or program that, by the time recruiting begins, has not had time to go through the normal approval process. prereq: dept consent

FOST 3208. Study Abroad. (; 1-32 cr. ; Student Option; Every Fall, Spring & Summer)
Course used to grant credit for a new study abroad course or program that, by the time recruiting begins, has not had time to go through the normal approval process. prereq: dept consent

FOST 3209. Study Abroad. (; 1-32 cr. ; Student Option; Every Fall, Spring & Summer)
Course used to grant credit for a new study abroad course or program that, by the time recruiting begins, has not had time to go through the normal approval process. prereq: dept consent

FOST 3210. Study Abroad. (; 0-20 cr. [max 80 cr.] ; Student Option; Every Fall, Spring & Summer)
TBD

FOST 3211. Study Abroad. (; 1-32 cr. ; Student Option; Every Fall, Spring & Summer)
Course used to grant credit for a new study abroad course or program that, by the time recruiting begins, has not had time to go through the normal approval process. prereq: dept consent

FOST 3212. Study Abroad. (; 1-32 cr. ; Student Option; Periodic Fall)
Not published in catalog. prereq: dept consent

FOST 3213. Study Abroad. (; 1-32 cr. ; Student Option; Every Fall, Spring & Summer)
Not published in course catalog. prereq: dept consent

FOST 3214. Study Abroad. (; 1-32 cr. ; Student Option; Periodic Fall)
Not published in course catalog. prereq: dept consent

FOST 3215. Study Abroad. (; 1-32 cr. ; Student Option; Periodic Fall)
Not published in catalog. prereq: dept consent

FOST 3220. Study Abroad: SIT Program. (; 1-20 cr. [max 60 cr.] ; A-F only; Every Fall & Spring)
TBD

FOST 3225. Study Abroad: Language Immersion in China. (; 0-20 cr. [max 40 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

FOST 3230. Study Abroad: School for Field Studies (SFS) Program. (; 1-20 cr. [max 60 cr.] ; A-F only; Every Fall & Spring)
TBD

FOST 3235. Study Abroad: University Study in Ireland. (; 0-20 cr. [max 40 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

FOST 3240. University Study in Norway. (; 1-20 cr. [max 60 cr.] ; A-F only; Every Fall & Spring)
TBD

FOST 3245. Study Abroad: Arabic Language and Culture in Morocco Program. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3255. Study Abroad: Language and Culture in Buenos Aires Program. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3265. Study Abroad: Florence Program. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3270. Denmark's International Study Program. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad in Denmark or Iceland through Denmark's international study program. prereq: dept consent

FOST 3275. Study Abroad: Mexico Program. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3285. Study Abroad in Rome Program. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3290. University Study in New Zealand. (; 1-20 cr. [max 60 cr.] ; A-F only; Every Fall & Spring)
TBD

FOST 3295. Study and Internships in Sydney Program. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3305. Study Abroad: Turkey. (; 0-20 cr. [max 40 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

FOST 3306. Study Abroad: Study and Internships in Madrid. (0-20 cr. [max 60 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad placeholder course.

FOST 3310. Study Abroad in Montpellier. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall & Spring)
Semester or year at Universit? Paul Val?ry, Montpellier, France, sponsored by Global Campus and the Department of French and Italian. Students take regular courses or special courses for foreigners. All courses taught

entirely in French by Paul Val?ry faculty. Many disciplines available. prereq: dept consent

FOST 3315. Study Abroad: MSID Ecuador Program. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3316. Study Abroad: Health and Society in Ecuador. (0-20 cr. [max 40 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad placeholder course for the new program, "Health and Society in Ecuador"

FOST 3320. International Program in Toledo, Spain. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall, Spring & Summer)
Study through International Program of Spanish, European, and Latin American Studies in Toledo, Spain. prereq: dept consent

FOST 3325. Study Abroad: MSID India. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3326. Study Abroad: MSID Thailand. (0-20 cr. [max 40 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

FOST 3330. Study Abroad in Venezuela. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall, Spring & Summer)
Semester or summer study in Venezuela through a University of Minnesota program administered by Learning Abroad Center and VENUSA. Spanish language, Venezuelan/Latin American studies. prereq: dept consent

FOST 3335. Study Abroad: MSID Kenya. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3340. Study Abroad in London. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall, Spring & Summer)
TBD

FOST 3345. Study Abroad: MSID Senegal. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3350. University Study in Australia. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall & Spring)
Not listed in catalog.

FOST 3355. Study Abroad: University Study in Israel Program. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3360. University Study in the United Kingdom. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall & Spring)
Not printed in catalog.

FOST 3365. Study Abroad: University Study in South Africa Program. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3370. Study Abroad Through InterStudy. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall & Spring)
Study abroad program cosponsored by InterStudy and the University.

FOST 3375. Study Abroad: University Study in South Korea Program. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3380. Study Abroad: American University Cairo. (; 0-21 cr. [max 42 cr.] ; A-F only; Every Fall, Spring & Summer)
Placeholder course for students studying at American University Cairo.

FOST 3385. Study Abroad in Tanzania Program. (; 0-20 cr. [max 40 cr.] ; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3390. Study Abroad: GlobalLinks, AustraLearn. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall & Spring)
Study abroad program sponsored by AustraLearn and approved by University of Minnesota.

FOST 3391. Study Abroad: GlobalLinks, AsiaLearn. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall & Spring)
Study abroad program sponsored by AsiaLearn and approved by University of Minnesota.

FOST 3392. Study Abroad: GlobalLinks, EuroLearn. (; 1-20 cr. [max 120 cr.] ; A-F only; Every Fall & Spring)
Study abroad program sponsored by EuroLearn and approved by University of Minnesota.

FOST 3400. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Designated Theme in Cultural Diversity prereq: dept consent

FOST 3410. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Designated Theme in Citizenship and Public Ethics. prereq: dept consent

FOST 3420. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Designated Theme in the Environment. prereq: dept consent

FOST 3430. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Designated Theme in International Perspectives. prereq: dept consent

FOST 3460. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as two Designated Themes, in Cultural Diversity and International Perspectives. prereq: dept consent

FOST 3480. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as two Designated Themes, in Citizenship and Public Ethics and International Perspectives. prereq: dept consent

FOST 3490. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as two Designated Themes, in The Environment and International Perspectives. prereq: dept consent

FOST 3495. Study Abroad Course. (; 1-10 cr. [max 20 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

FOST 3500. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Arts and Humanities. prereq: dept consent

FOST 3501. Comparative Studies in US and Chinese Film. (AH; 3 cr. ; Student Option; Every Fall, Spring & Summer)
This course compares major issues, theories, and methods in Chinese and American cinema. The course is organized around a series of keywords, comprising a living vocabulary of culture, power, social change, identity, nationhood, and globalization. Through these and related terms, we will analyze the construction of class, gender, politics and other relationships of power central to the U.S. and Chinese society. Course materials are interdisciplinary and, in addition to film, will also include history, cultural studies, fiction, and popular culture. Assignments include reading, writing, discussion, and a field trip exploring public memory at the China National Film Museum in Beijing. Students analyze similarities and differences between films produced in Hollywood and Beijing, gaining a transnational understanding of film studies and a critical perspective on Chinese and American film traditions. The course also has a strong cultural focus, highlighting the differences in history, economy, social structure, and values systems in the two countries, as seen through the prism of cinema.

FOST 3502. Chinese and Western Cross-Cultural Concepts. (GP,SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)
As political, economic, and social integration of China and Western cultures increases in the 21st century, it is increasingly vital that we attempt to attain a greater mutual understanding between East and West. One path to this goal is to make a comparative study of Chinese and Western core concepts, taking advantage of the growing body of ethnological, sociological, and psychological evidence for cultural differences. Just as ? Western culture? is not a monolithic category,

so what it means to be ?Chinese? is embedded in a larger, Eastern context. This course attempts to present a contrastive analysis of the defining concepts of Chinese and Western culture through the lens of different academic disciplines, including sociology, anthropology, language, semiotics cognitive science, and cross-cultural psychology. The approach is interdisciplinary and comparative, leading students to explore central concepts in Chinese and Western philosophy, values, interpersonal relationships, communication patterns, thinking, and behavioral norms. Emphasis will be on specific examples of various cultural phenomena, and will draw on both scientific research and illustrative informal data in order to generate classroom discussion and open analysis.

FOST 3503. Environmental Issues and International Cooperation. (ENV; 3 cr. ; Student Option; Every Fall, Spring & Summer)
The global environmental crisis is the planet?s biggest existential threat, and will have an incalculable impact on all societies and economies. For students interested in environmental policy, social impact, entrepreneurship, risk management, and sustainability, this course will provide a foundational understanding of the environmental policy decisions that will shape their future careers. With a focus on US-China cooperation, the course will provide case studies of specific international accords and local regulations, as well as the latest scientific and technological advances. Upon completion of the course, students should have a grasp of such questions as how to determine the biggest environmental threats and opportunities, how to measure effectiveness of policy and business decisions, and how to conduct thoughtful, inclusive analysis. The curriculum will also include site visits in Beijing, and guest lectures from local environmental experts.

FOST 3510. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)
N/A prereq: dept consent

FOST 3520. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified core in Biological Science without Lab. prereq: dept consent

FOST 3530. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as Diversified Core in Historical Perspective. prereq: dept consent

FOST 3540. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Literature. prereq: dept consent

FOST 3550. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Mathematical Thinking. prereq: dept consent

FOST 3560. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Philosophical Perspective. prereq: dept consent

FOST 3570. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Physical Science with Lab. prereq: dept consent

FOST 3580. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Physical Science without Lab. prereq: dept consent

FOST 3590. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Social Science. prereq: dept consent

FOST 3600. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Visual or Performing Arts. prereq: dept consent

FOST 3710. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Arts and Humanities and a Designated Theme in Cultural Diversity. prereq: dept consent

FOST 3720. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Historical Perspective and a Designated Theme in Cultural Diversity. prereq: dept consent

FOST 3730. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Study Abroad prereq: dept consent

FOST 3740. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation

requirements as a Diversified Core in Social Science and Cultural Diversity. prereq: dept consent

FOST 3750. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Arts and Humanities and a Designated Theme in Citizenship and Public Ethics. prereq: dept consent

FOST 3760. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Biological Science With Lab and a Designated Theme in Citizenship and Public Ethics. prereq: dept consent

FOST 3770. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Historical Perspective and a Designated Theme in Citizenship and Public Ethics. prereq: dept consent

FOST 3780. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Philosophical Perspective and a Designated Theme in Citizenship and Public Ethics. prereq: dept consent

FOST 3790. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Social Science and Citizenship and Public Ethics. prereq: dept consent

FOST 3800. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Arts and Humanities and a Designated Theme in The Environment. prereq: dept consent

FOST 3810. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Biological Science with a Lab and a Designated Theme in The Environment. prereq: dept consent

FOST 3820. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation

requirements as a Diversified Core in Biological Science without Lab and a Designated Theme in The Environment. prereq: dept consent

FOST 3830. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Historical Perspective and a Designated Theme in The Environment. prereq: dept consent

FOST 3840. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Physical Science with Lab and a Designated Theme in The Environment. prereq: dept consent

FOST 3850. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Physical Science without Lab and a Designated Theme in The Environment. prereq: dept consent

FOST 3860. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Social Science and a Designated Theme in The Environment. prereq: dept consent

FOST 3870. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Arts and Humanities and a Designated Theme in International Perspectives. prereq: dept consent

FOST 3880. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education requirements for graduation as a Diversified Core in Historical Perspective and a Designated Theme in International Perspectives. prereq: dept consent

FOST 3890. Study Abroad. (; 1-10 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Literature and a Designated Theme in International Perspectives. prereq: dept consent

FOST 3896. Virtual International Internship. (GP; 3-4 cr. [max 7 cr.] ; A-F only; Every Fall, Spring & Summer)

This course is designed to provide students with an opportunity to learn about the virtual international work environment by critically examining a professional, remote experience

abroad through an intercultural lens. A key element to this course is to deepen students' knowledge of their internship placement country's professional norms and cultural context in comparison to other students' internship placement countries, as well as the United States, and understand how COVID-19 has impacted these environments. Students' research and writing on COVID-19 globally will include ethical analysis on how the national approach has impacted society, if they agree with this approach or not, and why. We will interrogate how this knowledge will influence their behavior in their society and the world. Students will also enhance their understanding of their chosen field using a global mindset. The course is designed to guide students in the internship experience and create a foundation for a successful professional career as well as working to understand and articulate career skill outcomes. In addition to gaining a cross-cultural comparative view on work, the topics and assignments will deepen students' insights about themselves, professional expectations, and being successful in the virtual workplace. Students are expected to make a valuable contribution to the virtual internship placement through the completion of projects and tasks guided by their internship supervisor in the placement country. This will require students to employ intercultural communication skills in a professional, virtual setting while critically examining their own worldview. Three Credit Course Students who take the Virtual International Internship a second time will complete the three-credit version of this course and will be expected to complete the same number of hours at their internship sites as those who are taking the four-credit course. The academic work for the three-credit course will correspond to the second semester of internship participation in order to increase students' remote, professional experience, strengthen their knowledge of their chosen industry, as well as enhance their global mind-set. The Global Perspectives liberal education requirement is not fulfilled by taking the three-credit version of this course.

FOST 3900. Study Abroad. (; 1-10 cr. [max 30 cr.]; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Philosophical Perspective and a Designated Theme in International Perspectives. prereq: dept consent

FOST 3910. Study Abroad. (; 1-10 cr. [max 30 cr.]; Student Option; Every Fall, Spring & Summer)
Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified Core in Social Science and a Designated Theme in International Perspectives. prereq: dept consent

FOST 3920. Study Abroad. (; 1-10 cr. [max 30 cr.]; Student Option; Every Fall, Spring & Summer)

Course taken through study abroad that counts toward the Liberal Education graduation requirements as a Diversified core in Visual and Performing Arts and a Designated Theme in International Perspectives. prereq: dept consent

FOST 3991. Study Abroad: SOR London Semester & Quarter Programs. (; 0-20 cr. [max 40 cr.]; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3993. Study Abroad: SOR CAPA Sydney. (; 0-20 cr. [max 40 cr.]; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3994. Study Abroad: SOR CAPA Australian Catholic University. (; 0-20 cr. [max 40 cr.]; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3995. Study Abroad: SOR DIS. (; 0-20 cr. [max 40 cr.]; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3996. Study Abroad: SOR GlobaLinks. (; 0-20 cr. [max 40 cr.]; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3997. Study Abroad: SOR Rome. (; 0-20 cr. [max 40 cr.]; A-F only; Every Fall, Spring & Summer)
Study abroad course

FOST 3998. Study Abroad: SOR SFS. (0-20 cr. [max 60 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

FOST 3999. Study Abroad. (; 1-20 cr. [max 40 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad for-credit internship course.

FOST 5000. Study Abroad. (0-18 cr. [max 40 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad registration. prereq: dept consent

FOST 5010. Study Abroad Directed Study placeholder course. (; 0-10 cr. [max 20 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

FOST 5020. Global Experience Program. (; 0-6 cr. [max 18 cr.]; Student Option; Every Fall & Summer)

The course is used to award credit for work successfully completed on the Global Experience Program study abroad internship program. Evaluation standards and work load are determined by the graduate faculty member who signs the Global Experience Program learning contract required of each participant. Number of contact hours varies from location to location. prereq: Must have graduate student status

Forest and Natural Res. Mgmt. (FNRM)

FNRM 1001. Orientation and Information Systems. (; 1 cr. ; A-F or Audit; Every Fall)
Forest resources, recreation resource management, urban forestry programs. Forestry and natural resource careers. Qualification requirements for government positions, competencies, internships, and experiences to compete for jobs in industry. Course planning, mentoring, alumni contacts. Leadership, organization, process. Lab equipment/software, GUIs, the Internet, spreadsheets, Lumina, periodical indexes.

FNRM 1101. Dendrology: Identifying Forest Trees and Shrubs. (; 3 cr. ; Student Option; Every Fall)
Identification nomenclature, classification, and distribution of common/important forest trees/shrubs. Use of keys. Field/lab methods of identification.

FNRM 1902. Satellites to Drones: Monitoring our Changing Environment. (; 3 cr. [max 6 cr.]; Student Option; Every Fall)

This Freshman Seminar course explores the many ways imagery from satellites, airplanes, and more recently drones, allows us to better manage our environment and natural resources. This remotely sensed imagery, combined with other geospatial technologies, gives us an unparalleled ability to monitor our changing world, including identifying natural and anthropogenic environmental impacts such as deforestation and urbanization. Imagery also allows us to plan our land use to minimize or avoid those impacts. In this course, we will discuss how imagery and geospatial data are being used to solve environmental problems, experience imaging data applied to actual environmental issues, learn about the imaging sensors used to acquire these data, and study related applications of remote sensing. We will explore imagery from satellites such as NASA's Landsat, high-resolution commercial sensors (as seen in Google Earth), aircraft-based imaging and lidar sensors, drones, and non-Earth remote sensing. We will discuss the future of the remote sensing of the environment in light of new and emerging imaging technologies. Since this is a Freshman Seminar that is focused on new college students, each class period will begin with a "College Pro Tip" that will cover an important skill, piece of information, or resource that will help you succeed at the University of Minnesota. These will generally take 10-15 minutes, after which we will cover the geospatial topic of the day. See the Class Schedule at the end of this syllabus for more information. prereq: freshman

FNRM 2101. Identifying Forest Plants. (; 1 cr. ; A-F or Audit; Every Summer)
Field identification of common northwoods trees, shrubs, and nonwoody vascular plants. Emphasizes concept of plant communities, soil site relationships, and wildlife values. Taught at Cloquet Forestry Center.

FNRM 2102. Northern Forests Field Ecology. (; 2 cr. ; A-F or Audit; Every Fall)
Field examination of natural history of northern/boreal forests with respect to soils, ecological characteristics of trees, community-

environment relationships, stand development, succession, and regeneration ecology. Taught at the Cloquet Forestry Center. prereq: Biol 1001 or Biol 1009

FNRM 2104. Measuring Forest Resources.

(; 1 cr. ; A-F or Audit; Every Summer)
Introduction to land survey, tree/forest stand measurement (mensuration), and forest sampling techniques. Taught at Cloquet Forestry Center.

FNRM 3101. Park and Protected Area Tourism.

(; 3 cr. ; A-F or Audit; Fall Odd Year)
Tourism is a significant industry locally, nationally, and internationally. Park and protected area attractions are among the most visited but also the most vulnerable attractions. This course is designed to familiarize you with the basic concept of park and protected area tourism, including cultural and ecotourism, and then develop your expertise to plan and evaluate sustainable tourism development and operations. Accordingly, you will complete assignments that apply the knowledge gained to planning and evaluation activities. This course is offered partially on-line. COURSE OBJECTIVES By the end of the class you will be able to: 1. Differentiate and appreciate the complexities involved with defining and developing nature, eco, heritage, geo-, park and protected, cultural and "sustainable tourism." 2. Identify specific social, economic, and environmental impacts associated with park and protected area tourism, how to measure them, and methods to minimize the negative and maximize the positive impacts. 3. Analyze domestic and international case studies of park and protected area tourism. 4. Critically evaluate park and protected area tourism services and effective management and planning. 5. Create elements of a business plan for park and protected area tourism operations that emphasize sustainability.

FNRM 3104. Forest Ecology.

(; 4 cr. ; A-F or Audit; Every Fall)
Form and function of forests as ecological systems. Characteristics and dynamics of species, populations, communities, landscapes, and ecosystem processes. Examples applying ecology to forest management. Weekly discussions focus on research topics in forest ecology, exercises applying course concepts, and current issues in forest resource management. Required weekend field trip. Prereq: Biol 1001, 1009 or equivalent introductory biology course; 1 semester college chemistry recommended.

FNRM 3114. Hydrology and Watershed Management.

(; 3 cr. ; Student Option; Every Fall)
Hydrologic cycle and water processes in upland/riparian systems. Applications of hydrological concepts to evaluate impacts of forest and land management activities on water yield, streamflow, groundwater erosion, sedimentation, and water quality. Concepts, principles, and applications of riparian/watershed management. Regional/national/global examples. Forest ecosystems. prereq: [[BIOL 1001 or BIOL 1009], [[CHEM 1015, CHEM 1017] or CHEM 1021], MATH 1151] or instr consent

FNRM 3131. Geographical Information Systems (GIS) for Natural Resources.

(TS; 4 cr. ; A-F only; Every Fall & Spring)
Spatial data development/analysis in science/management of natural resources. Data structures/sources/collection/quality. Geodesy, map projections, spatial/tabular data analysis. Digital terrain analysis, cartographic modeling, modeling perspectives, limits of technology. Lab exercises. Both onsite and fully online options for course enrollment. prereq: Soph or jr or sr or UHP fr

FNRM 3203. Forest Fire and Disturbance Ecology.

(3 cr. ; A-F or Audit; Every Spring)
Ecology, history, management, control of fire, wind, insect infestation, deer browsing, other disturbances in forests, including disturbance regimes of boreal, northern hardwood, savannas of North America. Influence of disturbance on wildlife habitat, urban/wildland interfaces, forest management, stand/landscape dynamics. Tree mortality in fires, successional patterns created by fires, interactions of life history traits of plants with disturbances.

FNRM 3204. Landscape Ecology and Management.

(; 3 cr. ; A-F or Audit; Every Fall)
Introduction to landscape ecology at different scales in time/space. Development/implications of broad-scale patterns of ecological phenomena, role of disturbance in ecosystems, characteristic spatial/temporal scales of ecological events. Principles of landscape ecology as framework for landscape research, analysis, conservation, and management. prereq: Ecology course

FNRM 3206. Park and Protected Area Management Field Studies.

(2 cr. [max 3 cr.] ; A-F only; Every Fall)
This course is designed to be a directed field study of park and protected area management including observation of and training in (1) recreation planning and visitor management, (2) cultural resource management, (3) natural resource management, (4) nature-based tourism management, and (5) resource interpretation and communication across local, state, federal and tribal park and protected areas in northern Minnesota. prereq: Sophomore status or higher

FNRM 3218. Measuring and Modeling Forests.

(; 3 cr. ; A-F or Audit; Every Spring)
Sampling design, survey techniques to assess resource conditions. Applying metrics/sampling methods to forest vegetation. Calculating tree/stand volume. Modeling approaches. Case studies of modeling to project future growth. Landscape processes, characterization, modeling. prereq: [ESPM 3012 or STAT 3011], MATH 1151

FNRM 3262. Remote Sensing and Geospatial Analysis of Natural Resources and Environment.

(3 cr. ; Student Option; Every Fall & Spring)
Introductory principles and techniques of remote sensing and geospatial analysis applied to mapping and monitoring land and water resources from local to global scales.

Examples of applications include: Land cover mapping and change detection, forest and natural resource inventory, water quality monitoring, and global change analysis. The lab provides hands-on experience working with satellite, aircraft, and drone imagery, and image processing methods and software. Prior coursework in Geographic Information Systems and introductory Statistics is recommended. Prereq: None, but prior coursework in GIS and Statistics is recommended.

FNRM 3362. Drones: Data, Analysis, and Operations.

(3 cr. ; Student Option; Every Spring)
This course explores principles and techniques of Unmanned Aircraft Systems (UAS, also 'drones'), applied to natural resource and environmental issues. The course provides hands-on experience with UAS vehicles, sensors, imagery, and software. Course topics include: UAS flight characteristics, regulations/safety, mission planning, flight operations, data collection, image analysis, and applications. Examples of UAS applications to be explored include forest and natural resource inventory, wetland monitoring, and land cover mapping. Prior coursework in Geographic Information Systems is recommended. Prereq: None, but prior coursework in GIS is recommended.

FNRM 3411. Managing Forest Ecosystems: Silviculture.

(3 cr. ; A-F only; Every Fall)
Management of forest ecosystems for sustaining ecological integrity, soil productivity, water quality, wildlife habitat, biological diversity, commodity production in landscape context. Silvics, forest dynamics, disturbances, regeneration, restoration, silvicultural systems. Ramifications of management choices. Weekend field trip. FEMC track students should take FNRM 5413 concurrently

FNRM 3431. Timber Harvesting and Road Planning.

(; 2 cr. ; Student Option; Every Spring)
Introduction to forest operations. Terminology, basic engineering, equipment and harvesting system options, productivity/costs. Relationship to forest management and silviculture. Road planning, forest management guidelines, approaches for mitigating potential impacts to forest resources. Environmental implications of method/equipment choices. Selling timber. Sale design, layout, and administration. One all-day field trip. prereq: FNRM 3411 or instr consent

FNRM 3462. Advanced Remote Sensing and Geospatial Analysis.

(3 cr. [max 6 cr.] ; Student Option; Every Spring)
This course builds on the introductory remote sensing class, FNRM 3262/5262. It provides a detailed treatment of advanced remote sensing and geospatial theory and methods including Object-Based Image Analysis (OBIA), lidar processing and derivatives, advanced classification algorithms (including Random Forest, Neural Networks, Support Vector Machines), biophysics of remote sensing, measurements and sensors, data transforms, data fusion, multi-temporal analysis, and empirical modeling. In-class and independent lab activities will be used to apply the course

topics to real-world problems. Prior coursework in Geographic Information Systems, remote sensing, and statistics is necessary. prereq: FNRM 3262/5262 or instr consent

FNRM 3471. Forest Management Planning. (; 3 cr. ; A-F or Audit; Every Fall)

Management science as applied to forest decision-making to help develop better forest management plans. Helps students develop a basic understanding of common analytical tools from operations research and how they are applied to forestry problems to help explore many potential solutions. Also reviews traditional approaches based on simulation. Emphasizes trade-off information, interpretation of model results, and linkages between stand-level economic analysis and forest-wide planning. Reviews recent modeling efforts in Minnesota. Includes synthesis of information from multiple natural resource disciplines. Guest speakers demonstrate value of analyses in planning. Emphasizes homework assignments with some group work. An individual project requires an informal class presentation. prereq: recommended ESPM 3261 and [3218 or 3411]

FNRM 3480. Topics in Natural Resources. (; 1-3 cr. [max 12 cr.] ; Student Option; Periodic Fall & Spring)

Lectures in special fields of natural resources given by visiting scholar or faculty member. Topics specified in Class Schedule.

FNRM 3501. Arboriculture: Selection and Maintenance of Trees. (; 3 cr. ; Student Option; Every Spring)

Selection, growth, propagation, and maintenance of trees for urban spaces. Tree selection, site preparation, plant health care management. Prevention, diagnosis, and remediation of urban tree risks such as insects, pathogens, pollution, development, and climate change.

FNRM 3562. Field Remote Sensing. (; 1 cr. ; Student Option; Every Fall)

This course is intended to be taken with, or after, the introductory remote sensing class, FNRM 3262/5262. It builds on the introductory course by providing a field context to the remote sensing discipline. We will focus on field methods and associated analyses that are typical in using and applying imagery and other spatial data. We will use a variety of remote sensing imagery, maps, field data collection tools, and software. Students will learn in an active, hands-on, way through multiple small-group field exercises. This course includes two eight-hour weekend field sessions.

FNRM 3993. Directed Study. (; 1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in

order to enroll. Prereq: Department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements

FNRM 3994. Directed Research. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

FNRM 4232W. Managing Recreational Lands. (WI; 4 cr. ; A-F or Audit; Every Spring)

Most of us participate in some form of outdoor recreation: hiking, hunting, riding all-terrain vehicles, or simply enjoying nature. Managing for outdoor recreation on public lands is mandated by federal law and an integral part of natural resource management. In this class, we'll learn why and how agencies manage recreation at the federal level, the management frameworks that guide this work, and apply management principles to an actual federal property in Minnesota. This course is designed to provide students with an understanding of the principles and practices of outdoor recreation management. Specific objectives are to: 1)compare and contrast federal recreation land management policies & organizations, 2)develop and demonstrate an understanding of conceptual frameworks for recreation resource and visitor use management, 3)evaluate visitor caused impacts to resources and to visitor experiences, 4)understand and apply management tools designed to reduce recreation-related impacts and conflicts, and 5)demonstrate an understanding of course material through exams & applied assignments.

FNRM 4501. Urban Forest Management: Managing Greenspaces for People. (; 3 cr. ; Student Option; Every Spring)

Management concepts for green infrastructure of cities, towns, and communities. Urban forest as a social/biological resource. Emphasizes management of urban forest ecosystem to maximize benefits to people. Tree selection, risk assessment, cost-benefit analysis, landscape planning, values, perceptions. How urban forestry can be a tool to improve community infrastructure.

FNRM 4511. Field Silviculture. (; 2 cr. ; A-F only; Every Spring)

Collection of field data to prepare/write silvicultural prescriptions for regeneration, thinning, and harvesting in context of landscape, watershed, and wildlife habitat issues. Field exercises in forest entomology, pathology, tree improvement, and non-timber forest products. Tree planting. Marking stands for harvest. Taught at the Cloquet Forestry Center. Field trips to forests managed by state/industry. prereq: FNRM 3411

FNRM 4515. Field Resource Survey. (; 1 cr. ; Student Option; Every Spring)

Field applications of sampling/measurement methods for inventory and assessment of forest and other natural resources. Offered at the Cloquet Forestry Center. prereq: FNRM 3218 or instructor consent

FNRM 4521. Field Timber Harvesting and Road Planning. (; 2 cr. ; Student Option; Every Spring)

Design, layout, and administration of timber sales. Forest road planning and design. Timber appraisal, forest management guidelines. Field visits to timber harvesting and road planning sites with private organizations. Develop a harvest plan for landowner's property. Taught at the Cloquet Forestry Center. prereq: FNRM 3411 and 3431, or instructor consent.

FNRM 5101. Park and Protected Area Tourism. (; 3 cr. ; A-F or Audit; Fall Odd Year)

Tourism is a significant industry locally, nationally, and internationally. Park and protected area attractions are among the most visited but also the most vulnerable attractions. This course is designed to familiarize you with the basic concept of park and protected area tourism, including cultural and ecotourism, and then develop your expertise to plan and evaluate sustainable tourism development and operations. Accordingly, you will complete assignments that apply the knowledge gained to planning and evaluation activities. This course is offered partially online. COURSE OBJECTIVES By the end of the class you will be able to: 1. Differentiate and appreciate the complexities involved with defining and developing nature, eco, heritage, geo-, park and protected, cultural & "sustainable tourism." 2. Identify specific social, economic, and environmental impacts associated with park and protected area tourism, how to measure them, and methods to minimize the negative and maximize the positive impacts. 3. Analyze domestic and international case studies of park and protected area tourism. 4. Critically evaluate park and protected area tourism services and effective management and planning. 5. Create elements of a business plan for park and protected area tourism operations that emphasize sustainability.

FNRM 5104. Forest Ecology. (; 4 cr. ; A-F or Audit; Every Fall)

Form and function of forests as ecological systems. Characteristics and dynamics of species, populations, communities, landscapes, and ecosystem processes. Examples applying ecology to forest management. Weekly discussions on research topics, exercises, and current issues in forest resource management. Required weekend field trip. Introductory biology course recommended.

FNRM 5114. Hydrology and Watershed Management. (; 3 cr. ; Student Option; Every Fall)

Hydrologic cycle and water processes in upland/riparian systems. Applications of hydrological concepts to evaluate impacts of forest and land management activities on water yield, streamflow, groundwater erosion, sedimentation, and water quality.

Concepts, principles, and applications of riparian/watershed management. Regional/national/global examples. Forest ecosystems.

FNRM 5131. Geographical Information Systems (GIS) for Natural Resources. (4 cr. ; A-F or Audit; Every Fall)

Geographic information systems (GIS), focusing on spatial data development and analysis in the science and management of natural resources. Basic data structures, sources, collection, and quality; geodesy and map projections; spatial and tabular data analyses; digital elevation data and terrain analyses; cartographic modeling and layout. Lab exercises provide practical experiences complementing theory covered in lecture. prereq: Grad student or instr consent

FNRM 5140. Traditional Ecological Knowledge and Western Natural Resource Management. (3 cr. ; Student Option; Every Fall)

This course is designed to refine your understanding of traditional ecological knowledge, Indigenous knowledge, and the relationship to western natural resource sciences and ecology. Students read and discuss foundational and current literature (typically one book per week) on the topic. The course focuses on Indigenous authors and scholarship. This is a graduate seminar where students will lead class discussions and prepare an individual research project (typically a research paper) related to the class topic and/or their thesis. Students will also discuss and practice how to be good relatives.

FNRM 5153. Forest Hydrology & Watershed Biogeochemistry. (3 cr. ; Student Option; Spring Odd Year)

This rigorous course examines hydrology and biogeochemical cycling in forested watersheds. Topics include role of forests in hydrologic processes (precipitation, runoff generation, and streamflow) and exports (sediment, carbon, and nitrogen). Readings from primary literature, active discussion participation, research/review paper. prereq: [Basic hydrology course, one course in ecology, and one course in chemistry [upper div or grad student]] or instr consent

FNRM 5161. Northern Forest Field Course. (; 2 cr. ; A-F or Audit; Every Summer)

Field identification of common trees, shrubs, and nonwoody vascular plants. Plant communities, soil site relationships, wildlife values. Natural history of northern/boreal forests in terms of soils, ecological characteristics of trees, community-environment relationships, stand development, succession, and regeneration ecology. Land survey, tree/forest stand measurement, forest sampling techniques. Taught at the Cloquet Forestry Center.

FNRM 5203. Forest Fire and Disturbance Ecology. (3 cr. ; A-F or Audit; Every Spring)

Ecology, history, management, control of fire, wind, insect infestation, deer browsing, other disturbances in forests, including disturbance regimes of boreal, northern hardwood, savannas of North America. Influence of disturbance on wildlife habitat, urban/wildland interfaces, forest management,

stand/landscape dynamics. Tree mortality in fires, successional patterns created by fires, interactions of life history traits of plants with disturbances. prereq: Grad student or instr consent

FNRM 5204. Landscape Ecology and Management. (; 3 cr. ; A-F or Audit; Every Fall)

Introduction to landscape ecology at different scales in time/space. Development/implications of broad-scale patterns of ecological phenomena, role of disturbance in ecosystems. Characteristic spatial/temporal scales of ecological events. Principles of landscape ecology as framework for landscape research, analysis, conservation, and management. prereq: Grad student or instr consent

FNRM 5206. Park and Protected Area Management Field Studies. (2 cr. [max 3 cr.] ; A-F only; Every Fall)

This course is designed to be a directed field study of park and protected area management including observation of and training in (1) recreation planning and visitor management, (2) cultural resource management, (3) natural resource management, (4) nature-based tourism management, and (5) resource interpretation and communication across local, state, federal and tribal park and protected areas in northern Minnesota. prereq: grad student

FNRM 5216. Geodesy, Coordinate, and Surveying Calculations for GIS Professionals. (1 cr. ; Student Option; Every Fall)

Where exactly are we? How do we define and refine geographic locations on a lumpy, spinning, unstable planet? On course completion students will understand concepts and practices that are at the very foundation of GIS: geodesy and geographic projections. They will have a working knowledge of geodetic datums and datum evolution, be able to make common geodetic and coordinate geometry calculations, and solve common problems that arise during datum and coordinate system conversions while engaged in the practice of GIS.

FNRM 5218. Measuring and Modeling Forests. (; 3 cr. ; A-F or Audit; Every Spring)

General sampling design and survey techniques to assess current resource conditions. Application of metrics/sampling methods to forest vegetation. Calculation of tree/stand volume, selection of modeling approaches. Case studies of modeling to project future growth. Landscape processes, characterization, and modeling.

FNRM 5228. Advanced Topics in Assessment and Modeling of Forests. (; 3 cr. ; A-F or Audit; Fall Even Year)

Application of recently developed mathematics, computer science, and statistics methodologies to natural resource functioning, management, and use problems. Specific topics, software, and methodologies vary. prereq: 3218, Math 1272, Stat 5021

FNRM 5232. Managing Recreational Lands. (; 4 cr. ; A-F or Audit; Every Spring)

Most of us participate in some form of outdoor recreation: hiking, hunting, riding all-terrain vehicles, or simply enjoying nature. Managing for outdoor recreation on public lands is mandated by federal law and an integral part of natural resource management. In this class, we'll learn why and how agencies manage recreation at the federal level, the management frameworks that guide this work, and apply management principles to an actual federal property in Minnesota. This course is designed to provide students with an understanding of the principles and practices of outdoor recreation management. Specific objectives are to: 1) Compare and contrast federal recreation land management policies and organizations, 2) Develop and demonstrate an understanding of conceptual frameworks for recreation resource and visitor use management, 3) Evaluate visitor caused impacts to resources and to visitor experiences, 4) Understand and apply management tools designed to reduce recreation-related impacts and conflicts, and 5) Demonstrate an understanding of course material through exams and applied assignments. prereq: Grad student or instr consent

FNRM 5259. Visitor Behavior Analysis. (; 3 cr. ; Student Option; Every Fall)

Recreation, leisure, and tourism are significant parts of the world, national, and state economies. Understanding visitor behavior is important and has significant implications for organizations, agencies, and businesses related to parks, tourism destinations, and museums. In this class, you will learn to apply both social science theory and methods to understand consumers, with an emphasis on visitors to parks and protected areas. You will immediately apply your learning of survey development, interviewing, observation and content analysis to real-world situations in class projects. This is an online course.

FNRM 5262. Remote Sensing and Geospatial Analysis of Natural Resources and Environment. (3 cr. ; Student Option; Every Fall & Spring)

Introductory principles and techniques of remote sensing and geospatial analysis applied to mapping and monitoring land and water resources from local to global scales. Examples of applications include: Land cover mapping and change detection, forest and natural resource inventory, water quality monitoring, and global change analysis. The lab provides hands-on experience working with satellite, aircraft, and drone imagery, and image processing methods and software. Prior coursework in Geographic Information Systems and introductory Statistics is recommended. prereq: Grad student or instr consent

FNRM 5264. Advanced Forest Management Planning. (; 3 cr. ; Student Option; Every Fall)

Modeling tools for forest planning to better integrate forest resource conditions/uses and better understand trade-offs and potential management strategies. Analyzing facets of forest management that add complexity including multi-market interactions, temporal detail, spatial objectives, planning under

uncertainty, and recourse strategies.

Optimization models, decomposition and heuristic techniques designed to capitalize on characteristics of forestry problems. Case studies involving recent or ongoing large-scale applications. Student projects with opportunity to tailor to student interests or expertise.

FNRM 5362. Drones: Data, Analysis, and Operations. (3 cr. [max 6 cr.] ; Student Option; Every Spring)

This course explores principles and techniques of Unmanned Aircraft Systems (UAS, also "drones"), applied to natural resource and environmental issues. The course provides hands-on experience with UAS vehicles, sensors, imagery, and software. Course topics include: UAS flight characteristics, regulations/safety, mission planning, flight operations, data collection, image analysis, and applications. Examples of UAS applications to be explored include: forest and natural resource inventory, wetland monitoring, and land cover mapping. Prior coursework in Geographic Information Systems is recommended. Prereq: grad student or instr consent

FNRM 5411. Managing Forest Ecosystems: Silviculture. (3 cr. ; A-F only; Every Fall)

Management of forest ecosystems for sustaining ecological integrity, soil productivity, water quality, wildlife habitat, biological diversity, commodity production in landscape context. Silvics, forest dynamics, disturbances, regeneration, restoration, silvicultural systems. Ramifications of management choices. Weekend field trip. FEMC track students should take FNRM 5413 concurrently. prereq: grad student

FNRM 5413. Managing Forest Ecosystems: Silviculture Lab. (1 cr. ; A-F only; Every Fall)

Development of silvicultural prescriptions to achieve various landowner objectives. Timber cruise, growth/yield simulations, stand density management diagrams, thinning schedules, use of forest vegetation simulator. Field trips, computer labs, lectures. prereq: FNRM major or minor or grad student; FNRM-FEMC track students should take FNRM 3411/5411 concurrently or instructor consent

FNRM 5431. Timber Harvesting and Road Planning. (; 2 cr. ; Student Option; Every Spring)

Introduction to forest operations. Terminology, basic engineering, equipment and harvesting system options, productivity/costs. Relationship to forest management and silviculture. Road planning, forest management guidelines, approaches for mitigating potential impacts to forest resources. Environmental implications of method/equipment choices. Selling timber. Sale design, layout, and administration. One all-day field trip. prereq: grad student

FNRM 5462. Advanced Remote Sensing and Geospatial Analysis. (3 cr. ; Student Option; Every Spring)

This course builds on the introductory remote sensing class, FNRM 3262/5262. It provides a detailed treatment of advanced remote sensing and geospatial theory and methods including Object-Based Image Analysis (OBIA), lidar processing and derivatives, advanced

classification algorithms (including Random Forest, Neural Networks, Support Vector Machines), biophysics of remote sensing, measurements and sensors, data transforms, data fusion, multi-temporal analysis, and empirical modeling. In-class and independent lab activities will be used to apply the course topics to real-world problems. Prior coursework in Geographic Information Systems, remote sensing, and statistics is necessary. Prereq: grad student or instr consent

FNRM 5471. Forest Management Planning. (; 3 cr. ; A-F or Audit; Every Fall)

Management science as applied to forest decision-making to help develop better forest management plans. Helps students develop a basic understanding of common analytical tools from operations research and how they are applied to forestry problems to help explore many potential solutions. Also reviews traditional approaches based on simulation. Emphasizes trade-off information, interpretation of model results, and linkages between stand-level economic analysis and forest-wide planning. Reviews recent modeling efforts in Minnesota. Includes synthesis of information from multiple natural resource disciplines. Guest speakers demonstrate value of analyses in planning. Emphasizes homework assignments with some group work. An individual project requires an informal class presentation. prereq: Grad student

FNRM 5480. Topics in Natural Resources. (; 1-3 cr. ; Student Option; Every Spring)

Lectures in special fields of natural resources given by visiting scholar or faculty member. Topics specified in Class Schedule.

FNRM 5501. Urban Forest Management: Managing Greenspaces for People. (; 3 cr. ; Student Option; Every Spring)

Management concepts for green infrastructure of cities, towns, and communities. Urban forest as social/biological resource. Emphasizes management of urban forest ecosystem to maximize benefits. Tree selection, risk assessment, cost-benefit analysis, landscape planning, values, perceptions. How urban forestry can be a tool to improve community infrastructure.

FNRM 5562. Field Remote Sensing. (; 1 cr. ; Student Option; Every Fall)

This course is intended to be taken with, or after, the introductory remote sensing class, FNRM 3262/5262. It builds on the introductory course by providing a field context to the remote sensing discipline. We will focus on field methods and associated analyses that are typical in using and applying imagery and other spatial data. We will use a variety of remote sensing imagery, maps, field data collection tools, and software. Students will learn in an active, hands-on, way through multiple small-group field exercises. This course includes two eight-hour weekend field sessions. Prerequisite: grad student

French (FREN)

FREN 1001. Beginning French I. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)

Bonjour! Join us in learning the global language of diplomacy, culture, cuisine, and commerce! French is spoken on five continents, in approximately 40 countries, and even in Maine and Louisiana. Studying French will deepen your understanding of world history and the relationships between different cultures around the globe and close to home. Studying the language of Les Misérables, Monet, and joie de vivre allows you to access some of the most amazing art, thought, and food on the planet! Beginning French (French 1001) is designed for students with little or no knowledge of the French language. It focuses on developing your intercultural, reading, listening, speaking, and writing skills. By the end of this course, you will be able to communicate about family, housing, and school. You will also gain familiarity with French-speaking communities around the world. The course features preparatory and practice activities outside of class designed to encourage analysis of language structure so that class time can be primarily devoted to meaningful interaction in French.

FREN 1002. Beginning French II. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)

Bienvenue en 1002! Ready to embark on a new journey to further develop your knowledge of the beautiful language of French? If you passed French 1001 or have taken the Entrance Proficiency Test (EPT) and were placed in 1002, this course is for you! While exploring topics such as French holidays and cultural celebrations and traditions, food, and ecology, you will further develop your listening, speaking, reading, and writing skills. You will also learn about the concept of laïcité, one of the pillars of French society, and the differences and similarities between the school systems in France and the U.S. Preparatory activities designed to encourage students to analyze grammar points need to be completed at home so that class time can be primarily devoted to meaningful interactions in French. prereq: FREN 1001 or equivalent.

FREN 1003. Intermediate French I. (5 cr. ; Student Option; Every Fall, Spring & Summer)

Nous vous souhaitons la bienvenue dans le troisième semestre de français. In this course, you will explore current issues such as the role technology plays in today's society and living a healthy lifestyle. Other themes include family, friends, and current social issues such as environment, energy, and immigration. Students will use film, excerpts of literature, and other authentic texts as part of the curriculum. Upon completion of the class, you will have more confidence in expressing past, future, and hypothetical events as well as your own opinions, feelings, and regrets. French 1003 is a five-credit course, so you should plan to spend an additional 10 hours a week on coursework outside the classroom. Upon successful completion of this course you will be able to enroll in French 1004. prereq: C- or better in FREN 1002 or 1022, or EPT (for students taking their first French course at the U)

FREN 1004. Intermediate French II. (5 cr. ; Student Option; Every Fall, Spring & Summer)

Vous ?tes les bienvenus! Come join us in exploring some of the foundations of cultural identity. What does it mean to be "French?" What does it mean to be "American?" What are some things that people living within a particular culture have in common as a function of living in that culture? Where do personal and cultural identities intersect? We pay special attention to development of intercultural competence, comparing how food, child-rearing practices, elements of national identity, and diversity are treated in France and the US. We revisit many grammar concepts you have seen before, focusing on accuracy and extended language use. This course will allow you to be much more confident in using comparisons, narrating (past and present), linking ideas together into longer discourse, describing, etc. Upon successful completion of this course, you should be solidly in the Intermediate ranges of proficiency in French, able to travel and/or use French for your own goals. You will also be prepared for more advanced study in French here or abroad (FREN 3015 and 3014 are options after this course). prereq: C- or better in FREN 1003, or EPT/LPE (for students taking their first French course at the U)

FREN 1022. Accelerated Beginning French. (5 cr. ; Student Option; Every Fall & Spring) Heureux de vous revoir! Because you have studied French before, you already know what a wonderful language it is. This course is designed to return you to studying the language of Les Mis?rables, Monet, and joie de vivre! French 1022 is an accelerated review of French 1001 followed by the material covered in French 1002. At the end of this course, you will be able to communicate about topics such as food, family, school, the environment, travel and much more. If you have had a gap of more than a year since your last French class, you need to take the EPT to place into French 1022.

FREN 1501. Gateways to French and Francophone Studies: English Only. (AH,GP; 3 cr. ; A-F or Audit; Every Fall & Spring)

What key moments in French and Francophone culture can help us understand our world today? What are French and Francophone Studies? This course taught in English answers these questions by letting you discover the diverse cultures of France and French-speaking countries (such as Senegal, Canada or Belgium), and the ways we study them in the humanities. You will encounter texts, visual material, films, music, and historical events from various eras and learn how to make sense of them. Faculty from the French program will come and share with you what they research and why. A portion of the semester will be devoted to one of two role-playing simulations. During these weeks, you will delve deeply into the material, researching your historical character and working with other students whose goals converge with yours to sway the opinions of your other classmates. Along the way, you will enhance your skills in public speaking and writing. (1) The French Revolution. Where did the notion of the social contract and human

rights come from? What dilemmas did the people of France face in this turbulent attempt to transition from monarchy to a new form of government? (2) The 1889 Universal Exhibition in Paris, which was a focus of debates about art, esthetics and urbanism. Do you want to be a traditional painter, Van Gogh, an art critic, a woman patron, an anarchist, or a worker on the Eiffel Tower? How did each of these groups or individuals understand the role of art? You can take French 1501 as a freestanding class or at the same time as a language class (FREN 1001-1004, depending on your level). The class is required for new majors and minors in French Studies, but you can take it simply to discover the fascinating cultures of French-speaking communities worldwide! No prerequisites. All materials for French 1501 are in English, and students in all programs are welcome!

FREN 1502. Gateways to French and Francophone Studies: Bilingual. (AH,GP; 3 cr. ; A-F or Audit; Every Fall & Spring)

What are French and Francophone Studies? What key moments in French and Francophone culture can help us understand our world today? This course taught in English answers these questions by letting you discover the diverse cultures of France and French-speaking countries (such as Senegal, Canada or Belgium), and the ways we study them in the humanities. You will encounter texts, visual material, films, music, and historical events from various eras and learn how to make sense of them. Faculty from the French program will come and share with you what they research and why. A portion of the semester will be devoted to one of two role-playing simulations. During these weeks, you will delve deeply into the material, researching your historical character and working with other students whose goals converge with yours to sway the opinions of your other classmates. Along the way, you will enhance your skills in public speaking and writing. (1) The French Revolution. Where did the notion of the social contract and human rights come from? What dilemmas did the people of France face in this turbulent attempt to transition from monarchy to a new form of government? (2) The 1889 art exhibition in Paris, which was a focus of debates about art, esthetics and urbanism. Do you want to be a traditional painter, Van Gogh, an art critic, a woman patron, an anarchist, or a worker on the Eiffel Tower? French 1502 is taught in English, but it includes some readings in French. In some semesters, it may also include occasional discussions or small group activities in French. You can take French 1502 as a freestanding class or at the same time as a language class (FREN 3015-3016, depending on your level). The class is required for new majors and minors in French Studies, but you can take it simply to discover the fascinating cultures of French-speaking communities worldwide! prereq: FREN 1004 (or equivalent through the LPE)

FREN 1911. Globalizing the ?Middle Ages?. (; 3 cr. ; A-F only; Periodic Fall) Students in this seminar will help develop ? Medieval Studies? as a part of ?Global

Studies.? After learning how Medieval Studies was invented, developed, and utilized in the development of European power relations from the 14th through 21st centuries, students will read, view, and discuss material about other parts of the globe during the time corresponding to Europe?s Middle Ages (ca. 500- 1500 C.E.), envisaging how the integration of such material into ?Medieval Studies? can change not only education, but also social and political encounters among peoples and nations today.

FREN 3014. French Phonetics. (3 cr. ; Student Option; Every Fall & Spring)

Survey of major institutions/components of modern French culture with special attention to lexical enrichment/pronunciation practice. Study of linguistic description of French sounds/transcription. prereq: 1004

FREN 3015. Advanced French Grammar and Communication. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Taught entirely in French. Prerequisite: French 1004 or LPE. Voil?, c'est fait: You have completed French 1004 or passed the LPE. You are certified as an intermediate speaker of French. Don't lose your momentum! French 3015 allows you to start working toward a new goal: advanced proficiency in speaking, listening, reading, and writing French. Along with this higher proficiency comes a deeper understanding of French and Francophone culture around the world. In this class, you will focus on grammar in context, reading longer, more complex texts in the original language. You will write short compositions that include various genres such as the first-person narrative, the business letter, and the essay. You will learn how to use the correction software Antidote as a means of perfecting your writing skills. In class, you will participate in group work to boost your oral comprehension skills and in writing workshops to boost your writing skills. Listening activities include a film, an audiobook, a song, and videos related to readings. Written exercises include translation, grammar, and vocabulary building. Literary readings include excerpts from a medieval text (La l?gende de Tristan et Iseut), as well as four 20th-century texts (by Danielle Cadorette, Annie Ernaux, Albert Camus, and Pierre-Jakez H?lias). Journalists include Kamel Daoud (published in the Le Monde) and Fatym Layachi (published in the Moroccan newspaper Tel Quel). Based on these readings and discussions of the themes of friendship, family, education, work, technology, and bilingualism, you will explore notions of identity in the French and Francophone world.

FREN 3016. Advanced French Composition and Communication. (3 cr. ; Student Option; Every Fall & Spring)

Taught entirely in French. In this class, you will continue the work you began in FREN 3015, keeping your eyes on the goal of advanced proficiency. You will continue to focus on grammar in context, reading challenging texts in the original language. You will write short compositions that include various genres: a summary of an online article of your own

choosing, an argumentative essay, and a film or literary analysis. You will perfect your use of the correction software Antidote as you move toward advanced proficiency in writing. In class, you will participate in group work to boost your oral comprehension skills and in writing workshops to boost your writing skills. Listening activities include several films, a song, and videos related to readings. Written exercises include translation, grammar, and vocabulary building. This course explores identity in the French and Francophone world through the themes of youth, travel, immigration, and colonisation. Literary readings include excerpts from the 18th century (Voltaire and Louis S?bastien Mercier), the 20th century (Ying Chen and Driss Chra?bi), and the 21st century (Tahar Ben Jelloun, Abdellah Ta?a, and Mina Oualdhadj). Newspaper articles include the sociologist Edgar Morin (published in *Le Monde*) and the columnist R?da Allali (published in the Moroccan newspaper *Tel Quel*). But French 3016 adds new genres of writing as well. We will read selections from crime novels (Ren? Fr?gni and Michel de Roy), a graphic novel (Marjane Satrapi), and science-fiction (Pierre Boulle). This course is a good stepping-stone for an advanced course in French and Francophone film as we read about and view samples of Algerian, Canadian, and French films. Prerequisite: FREN 3015.

FREN 3017W. Advanced Writing in French: Genre, Style, Rhetoric. (WI; 3 cr. ; A-F only; Every Fall)

Workshop in journalistic/literary prose writing in French. Theme of journalistic/literary readings varies. Article, editorial, review, essay, biography, tale, prose poem. Word order, sequence of tenses, indirect discourse, literary tenses. Overview of stylistics/use of rhetorical figures. prereq: 3016

FREN 3018. French Oral Communication. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Intensive work in oral expression, listening comprehension. Incorporates wide variety of cultural topics. prereq: 3014, 3015

FREN 3022. The Language and Culture of Business in France. (; 3 cr. ; Student Option; Every Spring)

Examines French business language as well as business practices and culture in France. Includes cross-cultural analysis. prereq: 3015; completion of 3016 recommended

FREN 3101W. Methods in French and Francophone Studies. (LITR,WI; 3 cr. [max 4 cr.] ; Student Option; Every Fall & Spring)

Taught entirely in French. In this course, you will delve deeply into original stories, lyrics, plays, and films in French, from around the world and across time. What verbal and visual codes carry meaning in a given culture? How do cultures create a space for the subject or the self? As you discuss these questions, you will become a faster and more independent reader, gain sensitivity to the sonorities and rhythms of the French language and the nuances of sense it makes possible, and learn to perceive implicit meaning in texts. Theoretical readings and lessons in developing

thesis statements and organizing arguments will enhance your ability to understand and create complex arguments in French. Each individual section of this course addresses these questions with a different selection of readings and films grouped around a specific theme, so please consult the Class Info page to find out more! nonfiction texts, cultural artifacts, and audio/visual media pertaining to France and Francophone communities across the centuries. prereq: 3016 or equiv

FREN 3140. Topics in Medieval and Renaissance Literature. (; 3 cr. [max 9 cr.] ; Student Option; Every Spring)

Different aspects of French literature/culture of medieval/Renaissance periods (11th-16th century). Content varies depending on instructor. Literary, historical, or social problem. Period, author, genre, or topic of interest. Readings may be literary, critical, cultural, historical, political, etc. Specific content posted in department and in Course Guide. prereq: 3101

FREN 3172. The Court Society: Literature, Culture, Spectacle. (3 cr. ; Student Option; Periodic Fall)

Examines the court and salon society in 17th-century France. The production of taste, sociability, and national identity is considered in literature, painting, architecture, and the plastic arts. prereq: FREN 3101W or instructor permission. Old:

FREN 3240. Topics in Ancien Regime Literature. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall)

Different aspects of French literature/culture from early modern period (17th/18th centuries). Content varies depending on instructor. Literary, historical, or social problems. Period, author, genre or topic of interest. Readings may be literary, critical, cultural, historical, political, etc. Specific content posted in department/Course Guide. prereq: 3101

FREN 3345. The Holocaust in France: Literature, History, Testimony. (3 cr. ; Student Option; Periodic Fall & Spring)

This course examines the event of the Holocaust (which we call "Shoah" in France since the 80s and especially since the film of the same name by Claude Lanzmann) in literature, film, and archives. France has a complex relationship with Jews since the Middle Ages. During the French Revolution (1789), then under the Empire (Napoleon Bonaparte, 1800-1815), the Jews benefitted from political emancipation. The Republic defended the equality of Jews before the law as French citizens. But France was also the country of political anti-Semitism and of the Dreyfus Affair (there were in the nineteenth century some very virulent anti-Semitic propaganda writers, for example Edouard Drumont, author of *Jewish France*, in 1880, just before the Dreyfus Affair). This history of the Jews in France culminates with the Vichy regime, the policy of collaboration with Nazi Germany, antisemitic writings and propaganda emanating from important writers such as Louis-Ferdinand Celine and politicians, and the deportation of part of the Jewish population to

the extermination camps. How does this story affect fictional writing, and debates on how to represent this event? More than a course on the Holocaust, we explore the story of its reminiscence in French culture. It is not a history class, but a class in culture, literature, memory and testimony. prereq: FREN 3015; it is recommended that students have taken, or take concurrently, FREN 3101W.

FREN 3350. Topics in Literature. (; 3 cr. [max 9 cr.] ; Student Option; Every Fall & Spring)

Focuses on a problem, period, author, or topic of interest. Specific content posted in department and listed in Course Guide. prereq: 3101

FREN 3410. Topics in Quebecois Literature. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Study writing produced in Quebec as a literature of its own, not simply as a part of Canadian literature. Literature will be studied in relation to other North American literatures and to Francophone literature produced elsewhere in the world. prereq: 3101

FREN 3431. Gender and Sexuality in Francophone Literature and Cinema. (3 cr. ; A-F only; Periodic Fall & Spring)

This course will introduce students to colonial and postcolonial representations of gender and sexuality in Francophone contexts. Through literary and cinematic works from the Caribbean, Maghreb, West Africa, and Quebec, we will examine constructions and deconstructions of gender roles and sexual norms in relation to other identity categories such as race, class, nation and religion. We will consider topics such as exotic portrayals of the other, repressive and rebellious eroticism, and ambivalent or unruly affirmations of identity. Taught in French. prereq: 3101W. All courses counted toward a major/minor must be taken on an A-F basis.

FREN 3451. North African Cinema. (; 3 cr. ; Student Option; Fall Odd Year)

Cinemas of the Maghreb, the northern African nations of Morocco, Algeria, and Tunisia. Themes may include North African cities/communities; gender, class and ethnicity; and impact of globalization in migratory patterns. Films. Readings in philosophy, history, sociology, anthropology, and cultural critique. prereq: 3101

FREN 3471. Topics in Francophone African Literature and Cultures. (GP; 3 cr. ; Student Option; Fall Odd Year)

Issues relevant to cultures/societies of francophone Sub-Saharan Africa as reflected in literature, film, and cultural critique. prereq: 3101W

FREN 3479. Francophone Writers of the African Diaspora. (; 3 cr. ; Student Option; Fall Even Year)

Literature from Francophone North Africa, Africa, the Caribbean of the colonial and/or post-colonial eras, examined in its historical, cultural, or ideological contexts. Reading selections may include texts by immigrant or exiled writers in France. prereq: 3101

FREN 3500. Linguistic Analysis of French.

(3 cr. ; A-F only; Fall Even Year)
Introduction to scientific study of French language. Concepts/terminology to describe nature/functioning of sounds, words, sentences/meaning, and variation. Taught in French. prereq: 3015

FREN 3521. History of the French Language.

(; 3 cr. ; Student Option; Fall Odd Year)
Origins/development of French language from Latin to contemporary French. Selected texts. Present stage/development. prereq: 3015, [3500 or Ling 3001 or instr consent]

FREN 3531. Sociolinguistics of French.

(GP; 3 cr. ; Student Option; Periodic Fall)
Explores variation in the use of French associated with factors such as medium (oral/written), style (formal/informal), region, social and economic groups. Prerequisite: FREN 3015 or equivalent; strongly recommended: FREN 3500 or LING 3001.

FREN 3541. Oral Discourse of French.

(; 3 cr. ; Student Option; Periodic Fall & Spring)
Contemporary French discourse. Spontaneous, multi-speaker discourse. Readings. Syntactic analysis. Phonological/lexical particularities. Macro level analyses. Discourse analysis/conversation analysis. prereq: 3015, [3500 or Ling 3001 or instr consent]

FREN 3611. Speaking of Love in Medieval France: Stories, Songs, and Letters.

(GP,LITR; 3 cr. ; A-F only; Fall Even Year)
How did people talk about love in the Middle Ages? What songs did they sing about it? What stories did they tell? How did it define the self? In this course, we will study troubadour songs, short tales, romances, and letters composed in twelfth-century France and Anglo-Norman England. We will examine their historical context: the patronage of Eleanor of Aquitaine and her family, the broader context of medieval court life, and the erudite circles that formed during the rise of the Parisian schools. Because what people say is determined by the language, motifs, and forms that they have available to them, we will discuss the transmission of ideas about love and the interpretation of exemplary figures (Tristan and Iseut, Lancelot and Guinevere). We will also consider the literary form of these texts in relation to their meaning. But at the heart of our inquiry will be the notion of the self. How did "speaking of love" allow medieval writers to cultivate their own subjectivity or individuality? Texts will include troubadour songs, the Lais of Marie de France, the romances of Tristan and Iseut by Thomas of England and B?roul, Chr?tien de Troyes's Arthurian romances, and the letters of Abelard and Heloise. We will also study a film about Eleanor of Aquitaine and her family (The Lion in Winter, 1968) and a contemporary opera about a troubadour and his lady, Kaija Saariaho's L'Amour de loin (2000). FREN 3611 and 3711 meet together. Both FREN 3611 and 3711 are taught in English. Reading and writing assignments for FREN 3611 are in modern French. FREN 3611 may count towards the major or minor in French Studies. Reading and writing

assignments for FREN 3711 are in English. FREN 3711 does not count towards the major or minor in French Studies. prereq: FREN 3015

FREN 3614. Disabled Bodies, Minds and Selves in French Literature, Culture and Art.

(3 cr. ; Student Option; Periodic Fall & Spring)
At any given moment in history, what are the socio-cultural forces that give rise to an understanding of physical difference? What forces enable self-expression, self-determination, and liberation from this understanding? This course explores the history of disability and the representations of disability in literature, art, and culture. We will investigate theory and praxis of disability studies in France. Spanning the Renaissance to the present day, this course seeks to understand the experiences of disabled people and their communities in different periods, through a variety of genres and media, exploring medical histories, representation (for a public presumed to be able-bodied), memoir, activism, and art and literature by disabled people.

FREN 3632. Revolution and Human Rights: The French Revolution and its Legacy.

(AH,CIV; 3 cr. ; Student Option; Spring Even Year)
What role did the French Revolution play in shaping how we think about the possibility of massive social change, justice, and rights today? How especially did 18th-century philosophy, culture, politics, and economics influence the development of what we call universal individual "human rights." We also ask: could we have done better? To do so, we will play "Rousseau, Burke, and Revolution in France, 1791," a Reacting to the Past flipped-classroom role-playing game. Working individually and in teams, students will prepare speeches, produce pamphlets and newspapers, not only to learn about the stakes of this historical turning point and the philosophical debates surrounding it, but also to imagine changing it. We will also seek out and document the legacy of this Revolution in our lives and around the world today. This class offers students the knowledge and skills to participate in substantive debate aimed at solving problems collectively, to effect change aligning with their beliefs and philosophies, and to reflect critically on historical legacy. prereq: Fren 3015; Fren 3016 recommended

FREN 3650. Topics in French/Francophone Cultures.

(; 3 cr. [max 9 cr.] ; Student Option; Every Fall, Spring & Summer)
French/francophone cultures in various historical, social, political, geographical contexts. prereq: 3015

FREN 3661. Francophone North America.

(3 cr. ; Student Option; Periodic Fall & Spring)
Ce cours est une introduction aux diff?rentes communit?s francophones en Am?rique du Nord. Nous retracerons l'histoire de ces communit?s au Canada, aux ?tats-Unis et ? Saint-Pierre et Miquelon (une collectivit? d'outre-mer fran?aise) et examinerons les diff?rentes manifestations des cultures francophones qui se sont d?velopp?es: leur langue, leur musique, leurs traditions, leurs

drapeaux, leur cuisine, leur litt?rature et leur cin?ma. Nous explorerons aussi l'impact que ces cultures exercent sur une r?gion majoritairement anglophone. This course is an introduction to the different Francophone communities in North America. We will retrace the history of these communities in Canada, the United States, and Saint-Pierre et Miquelon (a French collectivit? d'outre-mer), and examine the different manifestations of the Francophone cultures that developed: language, music, traditions, flags, cuisine, literature, and cinema. We will also explore the impact that these cultures exert on a region predominantly English speaking.

FREN 3732. Revolution and Human Rights: The French Revolution and its Legacy.

(AH,CIV; 3 cr. ; Student Option; Spring Even Year)
What role did the French Revolution play in shaping how we think about the possibility of massive social change, justice, and rights today? How especially did 18th-century philosophy, culture, politics, and economics influence the development of what we call universal individual "human rights." We also ask: could we have done better? To do so, we will play "Rousseau, Burke, and Revolution in France, 1791," a Reacting to the Past flipped-classroom role-playing game. Working individually and in teams, students will prepare speeches, produce pamphlets and newspapers, not only to learn about the stakes of this historical turning point and the philosophical debates surrounding it, but also to imagine changing it. We will also seek out and document the legacy of this Revolution in our lives and around the world today. This class offers students the knowledge and skills to participate in substantive debate aimed at solving problems collectively, to effect change aligning with their beliefs and philosophies, and to reflect critically on historical legacy. No prerequisites. All materials for Fren 3732 are in English, and students in all programs are welcome!

FREN 3750. Topics in French or Francophone Literature and Culture.

(; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall)
Theme, problem, period, or topic of interest in French or Francophone literature or culture. See Class Schedule. Taught in English. prereq: Non-French major; knowledge of French helpful

FREN 3850. Topics in French and Francophone Media.

(; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)
Topics in French and Francophone media. Content varies by instructor; topics may include studies in French and/or Francophone cinema, film, theater, television, and/or other media. prereq: FREN 3015.

FREN 3852. Memory in French and Francophone Cinema.

(; 3 cr. ; Student Option; Periodic Fall & Spring)
This course will examine cinema?s privileged relationship with memory. Our itinerary will take us through key French and Francophone films, asking how these works record, construct and deconstruct ?individual? and ?collective?

memories. Topics will include bearing witness to the traumas of war, genocide and colonization; commemorating resistance and fostering emancipation; interventions in identity politics; (re)partitions of rural and urban spaces; and the elusive divide between fiction, documentary and memoir. Students will be expected to master a vocabulary for the formal analysis of film. prereq: Students should have completed FREN 3016 with a minimum grade of B.

FREN 3896. Internship in a French-Speaking Milieu. (; 1-4 cr. ; A-F only; Every Fall, Spring & Summer)

Volunteer or paid work in French-speaking milieu, undertaken at initiative of individual students. Work under direction of work supervisor/advisor chosen from among regular or adjunct faculty. Complete two-three written assignments designed to enhance language/field-specific learning. prereq: 3016, 3014 [3018 strongly recommended], [3022 strongly recommended for students undertaking internships in business, government, or law]

FREN 4001. Beginning French for Graduate Student Research I. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)

Bonjour! Join us in learning the global language of diplomacy, culture, cuisine, and commerce! French is spoken on five continents, in approximately 40 countries, and even in Maine and Louisiana. Studying French will deepen your understanding of world history and the relationships between different cultures around the globe and close to home. Studying the language of Les Misérables, Monet, and joie de vivre allows you to access some of the most amazing art, thought, and food on the planet! Beginning French (French 1001) is designed for students with little or no knowledge of the French language. It focuses on developing your intercultural, reading, listening, speaking, and writing skills. By the end of this course, you will be able to communicate about family, housing, and school. You will also gain familiarity with French-speaking communities around the world. The course features preparatory and practice activities outside of class designed to encourage analysis of language structure so that class time can be primarily devoted to meaningful interaction in French.

FREN 4002. Beginning French for Graduate Student Research II. (5 cr. ; Student Option; Every Fall, Spring & Summer)

Bienvenue en 4002! Ready to embark on a new journey to further develop your knowledge of the beautiful language of French? If you passed French 1001/4001 or have taken the Entrance Proficiency Test (EPT) and were placed in 1002, this course is for you! While exploring topics such as French holidays and cultural celebrations and traditions, food, and ecology, you will further develop your listening, speaking, reading, and writing skills. You will also learn about the concept of laïcité, one of the pillars of French society, and the differences and similarities between the school systems in France and the US. Preparatory activities designed to encourage students to analyze grammar points need to be completed

at home so that class time can be primarily devoted to meaningful interactions in French. prereq: FREN 1001/4001 or equivalent.

FREN 4003. Int French for Grad Research I. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)

Nous vous souhaitons la bienvenue dans le troisième semestre de français. In this course, you will explore current issues such as the role technology plays in today's society and living a healthy lifestyle. Other themes include family, friends, and current social issues such as environment, energy, and immigration. Students will use film, excerpts of literature, and other authentic texts as part of the curriculum. Upon completion of the class, you will have more confidence in expressing past, future, and hypothetical events as well as your own opinions, feelings, and regrets. French 4003 is a five-credit course, so you should plan to spend an additional 10 hours a week on coursework outside the classroom. Upon successful completion of this course you will be able to enroll in French 4004. prereq: C- or better in FREN 1002/4002 or 1022/4022, or EPT (for students taking their first French course at the U)

FREN 4004. Intermediate French for Graduate Student Research II. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)

Vous êtes les bienvenus! Come join us in exploring some of the foundations of cultural identity. What does it mean to be "French?" What does it mean to be "American?" What are some things that people living within a particular culture have in common as a function of living in that culture? Where do personal and cultural identities intersect? We pay special attention to development of Intercultural Competence, comparing how food, child-rearing practices, elements of national identity, and diversity are treated in France and the US. We revisit many grammar concepts you have seen before, focusing on accuracy and extended language use. This course will allow you to be much more confident in using comparisons, narrating (past and present), linking ideas together into longer discourse, describing, etc. Upon successful completion of this course, you should be solidly in the Intermediate ranges of proficiency in French, able to travel and/or use French for your own goals. You will also be prepared for more advanced study in French here or abroad. prereq: C- or better in FREN 1003/4003, or EPT/LPE (for students taking their first French course at the U)

FREN 4022. Accelerated Beginning French for Graduate Student Research. (; 5 cr. ; Student Option; Every Fall & Spring)

Heureux de vous revoir! Because you have studied French before, you already know what a wonderful language it is. This course is designed to return you to studying the language of Les Misérables, Monet, and joie de vivre! French 1022 is an accelerated review of French 1001/4001 followed by the material covered in French 1002/4002. At the end of this course, you will be able to communicate about topics such as food, family, school, the

environment, travel and much more. If you have had a gap of more than a year since your last French class, you need to take the EPT to place into French 1022. prereq: 1001/4001 or equivalent

FREN 4101V. Honors Capstone Seminar in French and Francophone Studies. (WI; 2 cr. [max 3 cr.] ; A-F only; Every Spring)

Course for French and FRIT majors only, to be taken during the final semester. This is the capstone experience of the major in French and Francophone or FRIT Studies. Building on your prior coursework, your linguistic expertise in French, and your analytical skills, it gives you the opportunity to do independent, original work on a topic of particular interest to you. This project is designed to bridge two upper-division French courses: a 3-credit elective of your own choice in the areas of literature, culture, or linguistics (i.e., one of your required electives numbered 31xx-36xx) and the senior project course itself (4101W/V). The elective provides background in the general field of research, while French 4101W/V allows you to learn the basics of research and advanced academic writing while working with a faculty member and a group of peers involved in similar projects. prereq: French 3101W and at least three electives completed.

FREN 4101W. Capstone Seminar in French and Francophone Studies. (WI; 2 cr. [max 3 cr.] ; A-F only; Every Spring)

Course for French and FRIT majors only, to be taken during the final semester. This is the capstone experience of the major in French and Francophone or FRIT Studies. Building on your prior coursework, your linguistic expertise in French, and your analytical skills, it gives you the opportunity to do independent, original work on a topic of particular interest to you. This project is designed to bridge two upper-division French courses: a 3-credit elective of your own choice in the areas of literature, culture, or linguistics (i.e., one of your required electives numbered 31xx-36xx) and the Senior Project Course itself (4101W/V). The elective provides background in the general field of research, while French 4101W/V allows you to learn the basics of research and advanced academic writing while working with a faculty member and a group of peers involved in similar projects. prereq: French 3101W and at least three electives completed.

FREN 4109W. Capstone Independent Study in French and Francophone Studies. (WI; 2 cr. ; A-F only; Every Fall & Spring)

Completion of research paper based on paper written for previous course or expansion of project undertaken in concurrent course. prereq: instr consent, [completion of most major coursework or permission of DUS]

FREN 4110V. Honors Capstone Independent Study in French and Francophone Studies. (WI; 2-4 cr. [max 8 cr.] ; A-F only; Every Fall & Spring)

Directed study used to develop or complete honors thesis in French and Francophone studies. prereq: [Completion of most major coursework or permission of DUS], candidate for honors in French, instr consent

FREN 4993. Directed Study. (; 1-4 cr. [max 9 cr.] ; Student Option; Every Fall, Spring & Summer)

Designed to meet unique requirements agreed upon by a faculty member and a student. Individual contracts are drawn up listing contact hours, number of credits, written and other work required. Each contract will vary. prereq: instr consent

FREN 5265. Graduate Proseminar in French Studies. (2 cr. ; Student Option; Every Spring)

This course introduces new graduate students to the goals, skills, practices, standards and other components of academic careers in the fields of French and Francophone studies, mostly in the US context. It is an introduction to all major aspects of our profession. The seminar combines readings, lectures and presentations by the instructor and guest lecturers, collective discussions, individual and group research, and writing assignments. The final product of the seminar is a talk ready to be delivered at a graduate or national conference, or a book review or short article ready to be submitted for publication.

FREN 5350. Topics in Literature and Culture. (; 3 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Problem, period, author, or topic of interest. See Class Schedule. prereq: 3101 or equiv

FREN 5410. Topics in Quebecois Literature. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Study writing produced in Quebec as a literature of its own, not simply as a part of Canadian literature. Literature will be studied in relation to other North American literatures and to Francophone literature produced elsewhere in the world.

FREN 5431. Gender and Sexuality in Francophone Literature and Cinema. (3 cr. ; A-F only; Periodic Fall & Spring)

This course will introduce students to colonial and postcolonial representations of gender and sexuality in Francophone contexts. Through literary and cinematic works from the Caribbean, Maghreb, West Africa, and Quebec, we will examine constructions and deconstructions of gender roles and sexual norms in relation to other identity categories such as race, class, nation and religion. We will consider topics such as exotic portrayals of the other, repressive and rebellious eroticism, and ambivalent or unruly affirmations of identity. Taught in French.

FREN 5531. Sociolinguistics of French. (; 3 cr. ; Student Option; Periodic Fall)

Explores variation in the use of French associated with factors such as medium (oral/written), style (formal/informal), region, social and economic groups. prereq: Graduate student status and advanced proficiency in French

FREN 5614. Disabled Bodies, Minds and Selves in French Literature, Culture and Art. (3 cr. ; Student Option; Periodic Fall & Spring)

At any given moment in history, what are the socio-cultural forces that give rise to an understanding of physical difference?

What forces enable self-expression, self-determination, and liberation from this understanding? This course explores the history of disability and the representations of disability in literature, art, and culture. We will investigate theory and praxis of disability studies in France. Spanning the Renaissance to the present day, this course seeks to understand the experiences of disabled people and their communities in different periods, through a variety of genres and media, exploring medical histories, representation (for a public presumed to be able-bodied), memoir, activism, and art and literature by disabled people.

FREN 5852. Memory in French and Francophone Cinema. (; 3 cr. ; Student Option; Periodic Fall & Spring)

This course will examine cinema's privileged relationship with memory. Our itinerary will take us through key French and Francophone films, asking how these works record, construct and deconstruct individual and collective memories. Topics will include bearing witness to the traumas of war, genocide and colonization; commemorating resistance and fostering emancipation; interventions in identity politics; (re)partitions of rural and urban spaces; and the elusive divide between fiction, documentary and memoir. Students will be expected to master a vocabulary for the formal analysis of film. prereq: Students should have completed FREN 3016 with a minimum grade of B.

FREN 5995. Directed Teaching. (; 1 cr. ; S-N or Audit; Every Fall)

Directed teaching.

French and Italian (FRIT)

FRIT 1601. Migrants and Refugees in Mediterranean Cinema. (AH,GP; 3 cr. ; Student Option; Periodic Spring)

This course deals with films made in France, Spain, Italy, the Maghreb (Morocco, Algeria, and Tunisia), sub-Saharan Africa and the Levant (mostly Syria). All of the films tackle migration and most of them deal with the crossing of the Mediterranean Sea in particular. It focuses on how migrants, regular and clandestine migrations, as well as related themes, including globalization, hospitality and transnational modes of transportation have been filmed, discussed and written about in various types of discourses. Why and how do people emigrate? Where are the major destinations of migrants? What is Fortress Europe? What is the "global South"? What is the so-called refugee crisis? Who is a refugee? What impact has the Arab Spring had on contemporary migrations to Europe? How does mass media portray the global South? What do political discourses tell us about the European and North African handlings of recent human migratory movements? Can artists effectively put forward an alternate take on such issues? What types of responses in artistic productions as well as in the political and humanitarian arenas have failed attempts at crossing the Mediterranean Sea triggered? These are some of the questions we will address. Among the films that we will analyze?all shown in class?

are Chus Guti?rrez?s Return to Hansala, Reem Kherici?s Paris or Perish, Isma?l Ferroukhi?s The Grand Voyage and Gianfranco Rosi?s Fire at Sea. All films have English subtitles. The class will be conducted in English.

FRIT 3850. Topics in French and Italian Cinema. (; 3 cr. [max 9 cr.] ; Student Option; Every Fall & Summer)

Theme, problem, period, filmmaker, or topic of interest in French/Italian cinema. See Class Schedule. Taught in English. prereq: Knowledge of [French or Italian] helpful but not required

FRIT 5240. Topics in French & Italian Literatures & Cultures. (; 3 cr. [max 12 cr.] ; Student Option; Periodic Fall & Spring)

Topics dealing with intersections of French & Italian literatures & cultures. Taught in English.

FRIT 5999. Teaching of French and Italian: Theory and Practice. (; 3 cr. ; Student Option; Every Fall)

Theoretical and practical aspects of language learning and teaching applied to French and Italian. Includes history of foreign language teaching in 20th-century United States. Taught in English.

Gay, Lesbian, Bisexual, Transg (GLBT)

GLBT 1001. Introduction to GLBT Studies. (DSJ,SOCS; 3 cr. ; Student Option; Every Fall)

History of contemporary GLBT-identified communities. Terms of theoretical debates regarding sexual orientation, identity, and experience. Analyzes problems produced and insights gained by incorporating GLBT issues into specific academic, social, cultural, and political discourses.

GLBT 3211. History of Sexuality in Europe. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

History of sexuality in Europe, from ancient Greece to present. Plato's philosophy of love, St. Augustine's conception of sin, prostitution in 15th century, sexual science of Enlightenment. Industrial revolution and homosexual subcultures. Rape scares and imperialism. Eugenics and Nazi Germany.

GLBT 3212. Dissident Sexualities in U.S. History. (3 cr. ; A-F or Audit; Every Fall)

History of sexuality in United States. Emphasizes sexualities that have challenged dominant social/cultural norms. Development of transgender, bisexual, lesbian, gay identities/communities. Politics of sex across lines of race/ethnicity. Historical debates over controversial practices, including sex work.

GLBT 3301. Gay, Lesbian, Bisexual, and Transgender Social Movements in the United States. (; 3 cr. ; Student Option; Every Spring)

Interdisciplinary course. Development of GLBT social movements using social movement theory/service learning.

GLBT 3305. Queer Cinema. (AH; 3 cr. ; Student Option; Periodic Fall & Spring)

What "queer" and "queering" signify in relation to cinema. Directors, films, styles, genres

of queer cinema. Ways in which traditional narrative codes are challenged/repackaged. Ideological dimensions. Impact of political climate. Readings, screenings, discussions, assignments.

GLBT 3309. LGBTQ Literature: Then and Now. (DSJ,LITR; 3 cr. ; Student Option; Every Fall)

LGBTQIA life in the US has changed significantly over the past few decades. By examining a selection of poetry, prose, and film, our class will try to answer the questions: "How did we get to where we are today?" and "Where do we go next?" We will look at classic works in their historical contexts to see what was revolutionary about their publication; we will trace how they paved the way for all that followed. We will look at very new works to understand the concerns of twenty-first century LGBTQIA writers and readers. From the "lavender scare" to the Stonewall Riots to the AIDS pandemic to marriage equality to genderqueer and trans movements, we will explore how LGBTQIA authors and filmmakers have both responded to and shaped the ethos of our times.

GLBT 3404. Transnational Sexualities. (GP; 3 cr. ; Student Option; Periodic Fall & Spring) Lesbian/gay lives throughout world. Culturally-specific/transcultural aspects of lesbian/gay identity formation, political struggles, community involvement, and global networking. Lesbian/gay life in areas other than Europe and the United States.

GLBT 3456W. Sexuality and Culture. (DSJ,WI; 3 cr. ; Student Option; Periodic Fall & Spring)

Historical/critical study of forms of modern sexuality (heterosexuality, homosexuality, romance, erotic domination, lynching). How discourses constitute/regulate sexuality. Scientific/scholarly literature, religious documents, fiction, personal narratives, films, advertisements.

GLBT 3502. Transgender Studies Now. (DSJ; 3 cr. ; Student Option; Periodic Fall & Spring)

Transgender studies transforms ideas about gender, sexuality, identity, and biology. We look at how knowledge is made about transgender life across disciplines and media: film, fiction, and the internet, as well as medicine, history, anthropology, and gender studies. This course also asks how transgender social practices and community politics are embedded in dynamics of race, class, sexuality, nationality, and ability.

GLBT 3993. Directed Studies. (; 1-6 cr. ; A-F or Audit; Periodic Fall & Spring)

Guided individual study. GLBT topic not available through regular course offerings. Students work with faculty who share their research interests. Number of credits based on scope of project, student needs, and advising instructor's approval. prereq: GLBT studies minor, instr consent

GLBT 4101. Gender, Sexuality, and Politics in America. (DSJ,HIS; 3 cr. ; Student Option; Every Fall)

Ways public and private life intersect through the issues of gender, sexuality, family, politics, and public life; ways in which racial, ethnic, and class divisions have been manifest in the political ideologies affecting private life.

GLBT 4204. Sex, Love, & Disability. (3 cr. ; Student Option; Periodic Fall & Spring)

In America's cultural imagination, people with disabilities are figured either as childlike and asexual, or improperly hypersexual. For disabled people (or anyone perceived as disabled) this paradox has meant denial of sexual agency and gender expression, histories of forced sterilization and institutionalization, sociopolitical marginalization, and great risk of sexual violence (and even death). In this course, we'll examine this history to better understand our contemporary present. We'll analyze constructions of disability and sexuality as they are interwoven with gender, class, race, and citizenship. We will ask: What might it mean to desire disability? Is there a disability sexual culture? Do disabled people queer sex, or does sexuality queer disability? What is the relationship between GLBTQ and disability rights and liberation movements? Drawing from feminist, queer, and disability studies, we'll answer these questions (and more) by examining how the imagined able-bodymind structures our understanding of gender/sexuality, and how disability sexual cultures resist these norms.

GLBT 4403. Queering Theory. (; 3 cr. ; Student Option; Periodic Fall & Spring)

This course will give you a solid theoretical foundation in the field of queer studies in addition to explaining its relation to other scholarly traditions, including (but not limited to) feminist theory, GLBT studies, literary studies, psychoanalysis, and postmodernism. Over the course of the semester you will examine the historical forces that birthed queer politics and theory, become conversant in its conceptual basis, interrogate and analyze its various uses and applications, and finally apply it in your own arguments. prereq: Any GWSS or GLBT course

GLBT 4415. Transnational Body Politics.

(GP; 3 cr. ; A-F only; Periodic Fall & Spring) Our bodies are always already modified. How we shape our bodies can express our deepest feelings about who we are. Body modification can also represent cultural and subcultural identifications or expectations based on gender, race, class, and sexuality. But what we do with our bodies is never separate from the politics of cultural difference and fluctuating ideas of what is acceptable or unacceptable, civilized or uncivilized. These ideas are historically and culturally specific. This course looks at body modification on a transnational scale to ask how we come to know what differentiates "mutilation" from "correction." We ask how feminist, queer and critical race theories illuminate these debates, reading across historical, anthropological, medical, and literary texts. Weekly topics include gender, race, and cosmetic surgery; skin whitening technologies; transnational gender

reassignment; surgical tourism; female genital cutting; piercing, tattooing and scarification; the cultural politics of hair; and body modification in the context of transnational feminized labor.

GLBT 4502. Gender and Public Policy. (3 cr. ; Student Option; Periodic Fall & Spring) Public policy issues, processes, and histories as these affect women-, children-, and gender-related issues.

GLBT 5993. Directed Study. (; 1-12 cr. ; Student Option; Every Fall & Spring) Directed Study

Gender, Women, & Sexuality Std (GWSS)

GWSS 1001. Gender, Power, and Everyday Life. (; 3 cr. ; Student Option; Every Summer) U.S. multi-/cross-cultural studies of contemporary social, cultural, and personal conditions of women's lives.

GWSS 1002. Politics of Sex. (DSJ,SOCS; 3 cr. ; Student Option; Every Spring) Introductory survey of historical, cultural, psychological, and sociopolitical dimensions of analyzing gender/sexuality. Norms/deviances pertaining to gender/sexuality as differently enacted/understood by social groups in different time-/place-specific locations.

GWSS 1003W. Women Write the World. (GP,WI,LITR; 3 cr. ; Student Option; Every Fall) Concepts in literary studies. Poems, plays, short stories, novels, essays, letters by women from different parts of world. Focuses on lives, experiences, and literary expression of women, including basic concepts of women's studies.

GWSS 1004. Screening Sex: Visual and Popular Culture. (AH; 3 cr. ; Student Option; Fall Even, Spring Odd Year) Film history and theory; feminist critique of popular culture.

GWSS 1005. Engaging Justice. (CIV; 3 cr. ; Student Option; Fall Odd, Spring Even Year) U.S./cross-cultural studies of social movements/political organizing around justice/equality.

GWSS 1006. Skin, Sex, and Genes. (SOCS,TS; 3 cr. ; Student Option; Fall Odd Year) Interdisciplinary course that explores the tense relationships between science, medicine, and gender and sexuality.

GWSS 1007. Introduction to GLBT Studies. (DSJ,SOCS; 3 cr. ; Student Option; Every Fall) History of contemporary GLBT-identified communities. Terms of theoretical debates regarding sexual orientation, identity, experience. Analyzes problems produced/insights gained by incorporating GLBT issues into specific academic, social, cultural, political discourses.

GWSS 1916. Life and Debt: Gender, Race and Debt. (; 3 cr. ; A-F only; Every Fall) This course borrows its title from the film ?Life and Debt? by Stephanie Black, based on the essay ?A Small Place? by Jamaica Kincaid. The film examines the deployment of credit and

debt to establish and maintain hierarchies of power and wealth among nations. The course will explore the ways allocations of credit and debt are used to create, transform, or maintain gender roles and hierarchies, racial hierarchies, and other power relations, as well as economic relationships, at various scales, from global to the most local and interpersonal. This course thus provides students with the opportunity to situate one of the most difficult features of contemporary life ? debt ? in a larger context.

GWSS 3002V. Honors: Gender, Race and Class in the U.S.. (WI,DSJ; 3 cr. ; A-F only; Periodic Fall & Spring)

Comparative study of women, gender, race, class, sexuality in two or more ethnic cultures in U.S. prereq: Honors

GWSS 3002W. Gender, Race, and Class in the U.S.. (DSJ,WI; 3 cr. ; A-F only; Every Fall & Spring)

Comparative study of women, gender, race, class, sexuality in two or more ethnic cultures throughout U.S.

GWSS 3003. Gender and Global Politics.

(GP,SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Similarities/differences in women's experiences throughout world, from cross-cultural/historical perspective. Uses range of reading materials/ media (feminist scholarship, fiction, film, news media, oral history, autobiography).

GWSS 3102V. Honors: Feminist Thought and Theory. (AH,WI,CIV; 3 cr. ; A-F only; Every Fall)

Substantively, this course surveys the rich and varied history of influential feminist ideas. These ideas propel us to think critically about sex, gender, sexuality, and the categories that intersect with them; these ideas provide us with language to express ourselves more critically and creatively; these ideas enable us to rethink relationships of power and forge coalition-al values and connections across difference. This course also holds the field of feminism accountable for its influence, in hopes of contributing to more liberating feminist theories. Methodologically, this course develops students' skills in tracking arguments, understanding commonly used theoretical terms, learning how to apply theory to real life situations, and honing students' theoretical writing.

GWSS 3102W. Feminist Thought and Theory. (AH,WI,CIV; 3 cr. ; A-F only; Periodic Fall & Spring)

Substantively, this course surveys the rich and varied history of influential feminist ideas. These ideas propel us to think critically about sex, gender, sexuality, and the categories that intersect with them; these ideas provide us with language to express ourselves more critically and creatively; these ideas enable us to rethink relationships of power and forge coalition-al values and connections across difference. This course also holds the field of feminism accountable for its influence, in hopes of contributing to more liberating feminist theories. Methodologically, this course develops students' skills in tracking

arguments, understanding commonly used theoretical terms, learning how to apply theory to real life situations, and honing students' theoretical writing.

GWSS 3203W. Blood, Bodies and Science. (SOCS,WI,TS; 3 cr. ; Student Option; Every Fall & Summer)

What does the ?social life? of Coronavirus and Covid-19 look like? Do pandemics have politics? Are diseases biomedical or socio-political phenomena? Why are African-Americans disproportionately affected by Covid-19 and HIV in the US? Why did the US become a hotspot for the rapid transmission of Coronavirus and what does this reveal about the market-based healthcare system? What are the global stories, struggles, failures, and successes of the Covid-19 pandemic? What will a post-pandemic world look like? In this class, you will answer these questions as they learn about the intersections of science and technology with the politics of race, ethnicity, gender, sexuality, and disability.

GWSS 3208. Transgender Health. (; 3 cr. ; A-F only; Every Summer)

Transgender Health is an online, 3 credit, 8-week course, in which we will learn how the social categories of sex and gender transform our understanding of health and medicine. This course offers feminist perspectives on transgender health care and considers how health care and social services professionals serve (or fail to serve) the diverse needs of transgender patients and clients. Students will engage with literature from feminist and queer studies, the media, public health, medicine, social work, and legal studies.

GWSS 3212. Chicana Feminism: La Chicana in Contemporary Society. (AH,DSJ; 3 cr. ; Student Option; Every Fall & Spring)

Scholarly/creative work of Chicanas or politically defined women of Mexican American community. Interdisciplinary. Historical context, cultural process, and autoethnography.

GWSS 3215. Bodies That Matter: Feminist Approaches to Disability Studies. (DSJ; 3 cr. ; Student Option; Periodic Spring)

The COVID-19 pandemic has made questions of disability and ableism central and visible for all of us as never before. Dis/ability is not a physical or mental defect but a form of social meaning mapped to certain bodies in larger systems of power and privilege. Feminist approaches explore dis/ability as a vector of oppression intersecting and constituted through race, class, gender, sexuality, and citizenship. The course examines ideologies of ableism and the material realities of such oppression, and works toward imagining and constructing a more just and equitable society. As health care is differentially distributed or limited for people who are sickened by COVID-19, we see that systems of social and economic power determine the life chances of those who claim, or are claimed by disability. Meanwhile, people with disabilities have developed many daily life strategies that can be models for everyone coping with the pandemic.

GWSS 3218. Politics of Reproduction. (3 cr. ; A-F only; Every Fall & Spring)

We often think of reproduction solely in terms of physiological events like pregnancy, delivery, or menstruation that occur in (or to) individual female bodies. Additionally, physicians and demographers appear to be the primary professional experts when it comes to managing and quantifying such reproductive events. In contrast, this class grapples with reproduction as a social and biological set of meanings and processes through which racial, gender, sexual, and socio-economic inequalities have been amplified, reconfigured, and contested across time and space. We trace how control over reproduction has been critical to a variety of professional, economic and political endeavors, including the rise and consolidation of disciplines like obstetrics-gynecology and demography; the maintenance of white privilege in colonial spaces and the metropole; post-World War II techno-scientific projects of "development" in the global South; and the emergence of the welfare state. The course identifies inequalities along the lines of race, class, gender, sexuality, and nationality in reproductive experiences and outcomes in a wide range of countries, including Cameroon, China, Cuba, Sudan, Soviet Russia, Romania, Zimbabwe, India, Senegal, Burkina Faso, South Africa, Nigeria, and the US. We locate individually embodied reproductive meanings and practices related to pregnancy, delivery, abortion, post-abortion care, contraception, sterilization, surrogacy, and child care in regional, national and global political economies. In other words, we investigate continuities and disruptions in reproductive politics between the individual body and the social body; the past, present and future; and local and global arenas. By exploring how reproduction operates domestically and globally as a mechanism of governance and social and economic stratification, we also consider possibilities for reproductive justice.

GWSS 3301W. Women Writers. (LITR,WI; 3 cr. ; Student Option; Every Spring)

Complexities of women's roles and way women writers have used various genres of literature to articulate personal and social struggles. Fiction, poetry, drama, critical nonfiction texts. Fidelity/ betrayal within relationships and societal perceptions. What images of femininity do these writers convey? How do formal and stylistic devices transform meaning?

GWSS 3302. Women and the Arts. (AH,DSJ; 3 cr. ; Student Option; Every Fall)

Study of women in the arts, as represented and as participants (creators, audiences). Discussion of at least two different art forms and works from at least two different U.S. ethnic or cultural communities.

GWSS 3303W. Writing Differences: Literature by U.S. Women of Color. (DSJ,WI,LITR; 3 cr. ; Student Option; Fall Odd Year)

Interpret/analyze poetry, fiction, and drama of U.S. women minority writers. Relationship of writer's history, ethnicity, race, class, and gender to her writings.

GWSS 3305. Queer Cinema. (AH; 3 cr. ; Student Option; Periodic Fall & Spring)

What "queer" and "queering" signify in relation to cinema. Directors, films, styles, genres of queer cinema. Ways in which traditional narrative codes are challenged/repackaged. Ideological dimensions. Impact of political climate. Readings, screenings, discussions, assignments.

GWSS 3306. Pop Culture Women. (AH,DSJ; 3 cr. ; Student Option; Every Fall & Spring) Contemporary U.S. feminism as political/intellectual movement. Ways in which movement has been represented in popular culture.

GWSS 3307. Feminist Film Studies. (AH,DSJ; 3 cr. ; Student Option; Every Fall) Construction of different notions of gender in film, social uses of these portrayals. Lectures on film criticism, film viewings, class discussions.

GWSS 3390. Topics in Visual, Cultural, and Literary Studies. (; 3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring) Topics specified in Class Schedule.

GWSS 3402. Pleasure, Intimacy and Violence. (3 cr. ; Student Option; Spring Odd Year) Gender/sexual?violence?to?poststructural,?anti?racist?theories/debates?about?social?construction?of?sexuality. How?intimacy/violence?are?co?-constituted?within?normative frameworks?of?U.S.?governmentality.?Writings?by?black feminist?criminologists?who?have?linked?incarceration,?welfare?reform,?other?forms?of?state?regulation?to?deeply? systemic?forms?of?violence?against?people?of?color.

GWSS 3404. Transnational Sexualities. (GP; 3 cr. ; Student Option; Fall Odd, Spring Even Year) Lesbian/gay lives throughout world. Culturally-specific/transcultural aspects of lesbian/gay identity formation, political struggles, community involvement, and global networking. Lesbian/gay life in areas other than Europe and the United States.

GWSS 3406. Gender, Labor, and Politics. (GP,SOCS; 3 cr. ; Student Option; Every Fall) Historical developments/contemporary manifestations of women's participation in labor force/global economy. Gender as condition for creation/maintenance of exploitable category of workers. How women's choices are shaped in various locations. Women's labor organizing. GWSS / Gender, Women, and Sexuality Studies / Gender Studies

GWSS 3406H. Honors: Gender, Work, Labor. (GP,SOCS; 3 cr. ; A-F only; Every Fall) Historical developments/contemporary manifestations of women's participation in labor force/global economy. Gender as condition for creation/maintenance of exploitable category of workers. How women's choices are shaped in various locations. Women's labor organizing.

GWSS 3409W. Asian American Women's Cultural Production. (AH,WI,DSJ; 3 cr. ; Student Option; Every Fall) Analysis of media, art, literature, performance, on artistic contributions. History, politics,

culture of Asian American women. Interpret cultural production to better understand role of race, gender, nation within American society/citizenship.

GWSS 3415. Feminist Perspectives on Domestic Violence and Sexual Assault. (DSJ; 3 cr. ; A-F only; Every Fall) History of and contemporary thinking about public policies and legal remedies directed toward domestic violence and sexual assault. How notions of public/private spheres and social constructions of gender roles, agency, and bodies contribute to attitudes/responses.

GWSS 3490. Topics in Political Economy and Global Studies. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) Topics specified in Class Schedule.

GWSS 3501. Gay, Lesbian, Bisexual and Transgender Social Movements in the United States. (3 cr. ; Student Option; Every Spring) Interdisciplinary course. Development of GLBT social movements using social movement theory/service learning.

GWSS 3502. Transgender Studies Now. (DSJ; 3 cr. ; Student Option; Periodic Fall & Spring) Transgender studies transforms ideas about gender, sexuality, identity, and biology. We look at knowledge is made about transgender life across disciplines and media: film, fiction, and the internet, as well as medicine, history, anthropology, and gender studies. Also asks how transgender social practices and community politics are embedded in dynamics of race, class, sexuality, nationality and ability.

GWSS 3503. Women and the Law. (; 3 cr. ; Student Option; Periodic Fall & Spring) Legal system as it relates to women: historical legal approach to issues related to constitutional rights of women.

GWSS 3505V. Girls, Girlhood, and Resistance. (WI; 0-3 cr. ; A-F only; Fall Odd Year) A critical engagement with what constitutes "girlhood" and "resistance" through comparative analyses of girls' resistance and activism across North America.

GWSS 3505W. Girls, Girlhood, and Resistance. (WI; 3 cr. ; Student Option; Fall Odd Year) A critical engagement with what constitutes "girlhood" and "resistance" through comparative analyses of girls' resistance and activism across North America.

GWSS 3515. Comparative Indigenous Feminisms. (GP; 3 cr. ; Student Option; Periodic Fall & Spring) The course will examine the relationship between Western feminism and indigenous feminism as well as the interconnections between women of color feminism and indigenous feminism. In addition to exploring how indigenous feminists have theorized from 'the flesh' of their embodied experience of colonialism, the course will also consider how indigenous women are articulating decolonization and the embodiment of

autonomy through scholarship, cultural revitalization, and activism.

GWSS 3549. U.S. Women's Legal History. (DSJ,HIS; 3 cr. ; A-F or Audit; Fall Odd Year) Women's legal status, from colonial era through 20th century. Women's citizenship, civil rights. Marriage, divorce, and child custody. Reproductive/physical autonomy/integrity. Economic/educational equality. prereq: Soph or jr or sr

GWSS 3590. Topics: Social Change, Activism, Law, and Policy Studies. (; 3 cr. [max 6 cr.] ; Student Option; Periodic Fall, Spring & Summer) Topics specified in Class Schedule.

GWSS 3611. Stories, Bodies, Movements. (6 cr. ; A-F only; Periodic Fall & Spring) For most of us, stories seem to simply 'happen.' We listen to stories, we tell stories, we are moved by stories, and we retell stories. However, every act of telling stories involves making decisions or moves, and each re-telling of a familiar story may either give birth to new meanings, nuances, and affects, or, it may erase their possibility. Thus, each storyteller can be seen as a translator of stories with a responsibility to retell stories ethically. It is precisely through these translational acts that all politics become politics of storytelling. In this course, we will consider the ways in which the politics of the global and the intimate derive their meanings, effects, and affects from the circulation, transaction, and re-tellings of stories within and across borders. We will ask how a praxis of ethical engagement with politics can be imagined as a praxis of receiving and retelling stories. By immersing ourselves in the process of remembering, telling, listening, trimming, interweaving, distilling, and performing stories, we will consider how ethical receiving and retelling of stories involves continuous revising, repositioning, and re-theorizing of such vexed and entangled terrains and terminologies as identity, community, rights, and justice, as well as the contingent meanings of knowledge, truth, and ethics. This course engages this terrain through a mode of active learning in which all the participants will read and reflect, listen and discuss, tell and retell, watch and play, move and perform collectively. By becoming aware of the ways in which our minds-bodies-souls are inserted in the receiving and translation of stories, we will grapple together with the ways in which our bodies--as our embodiments--help to relationally shape not only our own performances but also our responses to the performances of other living and moving bodies around us. We will learn from writings, film, songs, and plays by writers, artists, activists, and thinkers from a range of historical and contemporary locations and struggles. These include: Marie Lily Cerat, W. E. B. Du Bois, Suheir Hamad, Sterlin Harjo, Naeem Inayatullah, June Jordan, AnaLouise Keating, Kauanui, J. Kehaulani, Audre Lorde, Viet Thanh Nguyen, Middle East Research and Information Project, Alok Rai, Nina Simone, Leanne Betasamosake Simpson, Sangtin Writers, Standing Rock Collective, Eve Tuck,

Patrick Wolfe, and K. Wayne Yang. Many of the 'Acts' in this course will be co-facilitated with local or international artists and writers. There are no prerequisites for this course. We invite people from all kinds of locations and journeys to join us in this collective exploration. For further information, email: nagar@umn.edu. Grading Basis: A/F. The course requires all the participants to do sustained work and deep reflections, enjoy the process of imagining and creating with peers in a non-competitive environment.

GWSS 3612. Global Tourism, Ecology and the Creative Arts in Indonesia. (3 cr. [max 6 cr.] ; Student Option; Periodic Summer)

Students in this course will study cultural traditions, the creative industry, and tourism in Indonesia as an important part of the economy of the global south. The course will be held on the sites of dance performances, temples, heritage houses, and other cultural sites. Artists, cultural practitioners, cultural ministry officers, and policy makers for the tourism industry will serve as guest lecturers throughout. The course will be centered on creative intervention through the tourism industry and the arts and the particularity of creative impulse, gender difference, value of tradition, and modernity as a concept in Balinese culture.

GWSS 3626W. Witches, Seers and Saints: Women, Gender and Religion in the US. (WI; 3 cr. ; Student Option; Periodic Fall & Spring)

This course examines the development and ramifications of gender ideologies within several religious groups in North America from the colonial period to the present and explores women's strategies that have contributed to and resisted these ideologies.

GWSS 3681. Gender and the Family in the Islamic World. (; 3 cr. ; A-F only; Periodic Spring)

This course explores the experiences of Muslim women and Muslim families from a historical and comparative perspective. Expanding the discussion on Muslim women's lives and experiences beyond the Middle East, by also centralizing on the experiences of Muslim women and families outside of this geographical area highlights the complex and diverse everyday experiences of Muslim women around the world. This wider lens exposes the limitations intrinsic in the stereotypical representation of Muslims in general and Muslim women in particular. We will explore the intricate web of gender and family power relations, and how these are contested and negotiated in these societies. Some of the themes the course explores include the debates on Muslim women and colonial representations, sexual politics, family, education and health, women and paid work, gender and human rights, and Islamic feminisms debates. prereq: At least soph; 1001 recommended

GWSS 3690. Topics: Women, Society, and Race in the United States. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Topics specified in Class Schedule.

GWSS 3896. Internship for Academic Credit. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

An applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals, which may be related to a student's major field or area of interest. The work can be full or part time, paid or unpaid, primarily in off-campus environments. Internships integrate classroom knowledge and theory with practical application and skill development in professional or community settings. The skills and knowledge learned should be transferable to other employment settings and not simply to advance the operations of the employer. Typically the student's work is supervised and evaluated by a site coordinator or instructor

GWSS 3993. Directed Study. (1-12 cr. ; Student Option; Every Fall, Spring & Summer) TBD Prereq instr consent, dept consent, college consent.

GWSS 3994. Directed Research. (1-12 cr. ; Student Option; Every Fall & Spring) TBD Prereq instr consent, dept consent, college consent.

GWSS 4001. Nations, Empires, Feminisms. (; 3 cr. ; A-F only; Spring Even Year) Feminist critiques of the nation-state and citizenship, political economy and development, globalization, and/or empire and colonialism. Overview of the broader literature and an interrogation of specific attendant questions (such as how do feminists theorize state violence; what are feminist and queer critiques of U.S. empire; and how do feminists theorize globalization from above and below).

GWSS 4002. Politics of Engagement and Social Justice. (CIV; 3 cr. ; A-F only; Fall Odd Year)

Ways in which feminist scholars have thought about and worked to complicate the opposition between theory and praxis. Diverse efforts by intellectuals situated within the Western academy to produce scholarship that is committed to deinstitutionalizing knowledge production and relevant to political struggles confronted by their own material and institutional inequalities.

GWSS 4003. Science, Bodies, Technologies. (; 3 cr. ; Student Option; Spring Odd Year)

Feminist approaches to scientific methods and practices. Relationship between scientific practices and social relations, emphasizing the larger social, political, and economic context in which scientific knowledge production takes place. How scientific knowledge structures relationships of power and inequality, and constructs understandings of bodies and identities. Ways in which science shapes meanings of sex, race, gender and sexuality.

GWSS 4103. Transnational Feminist Theories. (GP; 3 cr. ; Student Option; Periodic Fall & Spring)

Western/non-Western feminist theories in conversation. Historical, cultural, political context. Relation of theory to activism.

GWSS 4107. Feminist Methods. (3 cr. ; A-F only; Every Fall)

This course considers the relationship between theory and research in feminist studies. Students review and examine the key issues of feminist scholarship. Methods and methodologies are learned through developing a research proposal for the senior capstone.

GWSS 4108. Senior Capstone: Writing. (3 cr. ; A-F only; Every Fall & Spring)

The GWSS 4108 is the capstone of a GWSS major's education in GWSS and an opportunity for them to produce a thorough and significant research project. While the final version of the project can take several different forms, each one requires the student to do a deep examination of your topic. GWSS 4108 is a 3-credit class that allows students the opportunity to be surrounded by other GWSS majors as you work through their projects collaboratively. This class allows students to keep organized and on track with their projects, be a part of a writing and research community, and have their work read and critiqued by others so their end results are nuanced, polished pieces of writing and research.

GWSS 4122. Philosophy and Feminist Theory. (; 3 cr. ; Student Option; Periodic Fall)

Encounters between philosophy/feminism. Gender's influence in traditional philosophical problems/methods. Social role of theorist/theorizing as they relate to politics of feminism. This course surveys central debates in feminist philosophy, with a focus on the methods and virtues of resistance. Along the way, we will consider the question of how we should live in an oppressive society. Topics may include intimidation, gaslighting, silencing, epistemic injustice, emotional labor, intersectionality, resistance, anger, and violence. prereq: 8 crs in [philosophy or women's studies] or instr consent

GWSS 4204. Sex, Love, & Disability. (3 cr. ; Student Option; Periodic Fall & Spring)

In America's cultural imagination, people with disabilities are figured either as childlike and asexual, or improperly hypersexual. For disabled people (or anyone perceived as disabled) this paradox has meant denial of sexual agency and gender expression, histories of forced sterilization and institutionalization, sociopolitical marginalization, and great risk of sexual violence (and even death). In this course, we'll examine this history to better understand our contemporary present. We'll analyze constructions of disability and sexuality as they are interwoven with gender, class, race, and citizenship. We will ask: What might it mean to desire disability? Is there a disability sexual culture? Do disabled people queer sex, or does sexuality queer disability? What is the relationship between GLBTQ and disability rights and liberation movements? Drawing from feminist, queer, and disability studies, we'll answer these questions (and more) by examining how the imagined able-bodymind structures our understanding of gender/sexuality, and how disability sexual cultures resist these norms.

GWSS 4303W. Writing Differences: Literature by U.S. Women of Color.

(DSJ,WI,LITR; 3 cr. ; Student Option; Fall Odd Year)

Interpret/analyze poetry, fiction, drama of U.S. women minority writers. Relationship of writer's history, ethnicity, race, class, gender to writings.

GWSS 4401. Chicana/Latina Cultural Studies.

(AH,DSJ; 3 cr. ; Student Option; Fall Even Year)

Readings in Chicana/Latina cultural studies. TV, film, art, music, dance, theatre, literature. Identity/sexuality. Production of culture/theory.

GWSS 4403. Queering Theory. (3 cr. ; Student Option; Periodic Fall & Spring)

This course will give you a solid theoretical foundation in the field of queer studies in addition to explaining its relation to other scholarly traditions, including (but not limited to) feminist theory, GLBT studies, literary studies, psychoanalysis, and postmodernism. Over the course of the semester you will examine the historical forces that birthed queer politics and theory, become conversant in its conceptual basis, interrogate and analyze its various uses and applications, and finally apply it in your own arguments. prereq: Any GWSS or GLBT course

GWSS 4406. Black Feminist Thought in the American and African Diasporas. (; 3 cr. ; Student Option; Periodic Spring)

Critically examine spatiality of African descendant women in Americas/larger black diaspora. Writings from black feminist/queer geographies, history, contemporary cultural criticism. Recent black feminist theorizing.

GWSS 4415. Transnational Body Politics. (GP; 3 cr. ; A-F only; Periodic Fall & Spring)

Our bodies are always already modified. How we shape our bodies can express our deepest feelings about who we are. Body modification can also represent cultural and subcultural identifications or expectations based on gender, race, class, and sexuality. But what we do with our bodies is never separate from the politics of cultural difference and fluctuating ideas of what is acceptable or unacceptable, civilized or uncivilized. These ideas are historically and culturally specific. This course looks at body modification on a transnational scale to ask how we come to know what differentiates "mutilation" from "correction." We ask how feminist, queer, and critical race theories illuminate these debates, reading across historical, anthropological, medical and literary texts. Weekly topics include gender, race and cosmetic surgery; skin whitening technologies; transnational gender reassignment; surgical tourism; female genital cutting; piercing, tattooing and scarification; the cultural politics of hair; and body modification in the context of transnational feminized labor.

GWSS 4490. Topics: Political Economy and Global Studies. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Topics specified in Class Schedule. prereq: Sr or grad student or instr consent

GWSS 4502. Gender and Public Policy. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Public policy issues, processes, and histories as these affect women-, children-, and gender-related issues.

GWSS 4590. Topics: Social Change, Activism, Law, and Policy Studies. (; 3 cr. ; Student Option; Spring Even Year)

Topics specified in Class Schedule.

GWSS 4980. Directed Instruction. (1-8 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Guided individual reading or study.

GWSS 4993. Directed Study. (; 1-5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)

TBD prereq: Filled out student/faculty contract, instr consent, dept consent, college consent

GWSS 4994. Directed Research. (1-8 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Guided individual reading or study.

GWSS 5104. Transnational Feminist Theory. (; 3 cr. ; Student Option; Fall Odd Year)

Third World and transnational feminisms. Interrogating the categories of "women," "feminism," and "Third World." Varieties of power/oppression that women have endured/resisted, including colonization, nationalism, globalization, and capitalism. Concentrates on postcolonial context.

GWSS 5122. Philosophy and Feminist Theory. (; 3 cr. ; Student Option; Periodic Fall)

Encounters between philosophy/feminism. Gender's influence in traditional philosophical problems/methods. Social role of theorist/theorizing as they relate to politics of feminism. This course surveys central debates in feminist philosophy, with a focus on the methods and virtues of resistance. Along the way, we will consider the question of how we should live in an oppressive society. Topics may include intimidation, gaslighting, silencing, epistemic injustice, emotional labor, intersectionality, resistance, anger, and violence. prereq: 8 crs in [philosophy or women's studies] or instr consent

GWSS 5190. Topics: Theory, Knowledge, and Power. (; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

Topics specified in Class Schedule.

GWSS 5290. Topics: Biology, Health, and Environmental Studies. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Topics specified in class schedule.

GWSS 5390. Topics: Visual, Cultural, and Literary Studies. (; 3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring)

Topics specified in Class Schedule.

GWSS 5406. Black Feminist Thought in the American and African Diasporas. (; 3 cr. ; Student Option; Periodic Spring)

Critically examines spatiality of African descendant women in Americas/larger black diaspora. Writings from black feminist/queer geographies, history, contemporary cultural criticism. Recent black feminist theorizing.

GWSS 5490. Topics: Political Economy and Global Studies. (; 3 cr. [max 12 cr.] ; Student Option; Every Spring)

Topics specified in Class Schedule.

GWSS 5502. Gender and Public Policy. (3 cr. ; Student Option; Periodic Fall & Spring)

Public policy issues, processes, and histories as these affect women-, children-, and gender-related issues.

GWSS 5503. Queering Theory. (3 cr. ; Student Option; Periodic Fall & Spring)

This course will give you a solid theoretical foundation in the field of queer studies in addition to explaining its relation to other scholarly traditions, including (but not limited to) feminist theory, GLBT studies, literary studies, psychoanalysis, and postmodernism. Over the course of the semester you will examine the historical forces that birthed queer politics and theory, become conversant in its conceptual basis, interrogate and analyze its various uses and applications, and finally apply it in your own arguments. prereq: Any GWSS or GLBT course

GWSS 5993. Directed Study. (; 1-12 cr. ; Student Option; Every Fall, Spring & Summer)

TBD

GWSS 5994. Directed Instruction. (; 1-12 cr. [max 36 cr.] ; Student Option; Every Fall, Spring & Summer)

TBD

GWSS 5995. Directed Research. (; 1-8 cr. [max 36 cr.] ; Student Option; Every Fall & Spring)

TBD

General Dentistry (GEND)**GEND 5151. Advanced General Dentistry Seminar I.** (; 5-10 cr. ; S-N or Audit; Every Fall & Summer)

Clinical seminars with emphasis on treatment planning, case presentation, techniques and materials, comprehensive oral healthcare and maintenance, and issues in practice management. Correlated with concurrent clinical experiences.

GEND 5152. Advanced General Dentistry Seminar II. (; 5-10 cr. ; S-N or Audit; Every Fall)

Clinical seminars with emphasis on treatment planning, case presentation, techniques and materials, comprehensive oral healthcare and maintenance, and issues in practice management. Correlated with concurrent clinical experiences.

GEND 5153. Advanced General Dentistry Seminar III. (; 2-10 cr. ; S-N or Audit; Every Fall & Spring)

Clinical seminars with emphasis on treatment planning, case presentation, techniques and materials, comprehensive oral healthcare and maintenance, and issues in practice management. Correlated with concurrent clinical experiences.

GEND 5254. Advanced General Dentistry Clinic I. (; 5-15 cr. ; S-N or Audit; Every Fall & Summer)

Comprehensive oral health care delivered in a variety of settings, emphasizing complex restorative care, coordinating care with dental and medical specialists, special needs patients, and advanced techniques.

GEND 5255. Advanced General Dentistry Clinic II. (; 5-15 cr. ; S-N or Audit; Every Fall)

Comprehensive oral health care delivered in a variety of settings, emphasizing complex restorative care, coordinating care with dental and medical specialists, special needs patients, and advanced techniques.

GEND 5256. Advanced General Dentistry Clinic III. (; 5-15 cr. ; S-N or Audit; Every Fall & Spring)

Comprehensive oral health care delivered in a variety of settings, emphasizing complex restorative care, coordinating care with dental and medical specialists, special needs patients, and advanced techniques.

GEND 5261. Advanced General Dentistry Clinical Administration I. (; 5-10 cr. ; S-N or Audit; Periodic Fall & Spring)

Field experience in community dental clinic practice and administration.

GEND 5262. Advanced General Dentistry Clinical Administration II. (; 5-10 cr. ; S-N or Audit; Every Fall)

Field experience in community dental clinic practice and administration.

GEND 5263. Advanced General Dentistry Clinical Administration III. (; 1-10 cr. ; S-N or Audit; Every Fall & Spring)

Field experience in community dental clinic practice and administration.

GEND 5264. Advanced General Dentistry Clinic IV. (; 1-15 cr. ; S-N or Audit; Every Summer)

Comprehensive oral health care delivered in a variety of settings, emphasizing complex restorative care, coordinating care with dental and medical specialists, special needs patients, and advanced techniques.

GEND 5265. Advanced General Dentistry Clinic V. (; 1-15 cr. ; S-N or Audit; Every Fall)

Comprehensive oral health care delivered in a variety of settings, emphasizing complex restorative care, coordinating care with dental and medical specialists, special needs patients, and advanced techniques.

GEND 5266. Advanced General Dentistry Clinic VI. (; 1-15 cr. ; S-N or Audit; Every Fall & Spring)

Comprehensive oral health care delivered in a variety of settings, emphasizing complex restorative care, coordinating care with dental and medical specialists, special needs patients, and advanced techniques.

Genetics, Cell Biol/Developmnt (GCD)

GCD 2002W. Ethical and Social Challenges in Genetics. (TS,WI; 3 cr. ; A-F only; Every Fall)

For nonscientists. Advances in genetics and their application to society. Ethical and social issues of advancements in genomics and

genetics in our everyday lives. prereq: BIOL 1009 or equiv

GCD 2171. Stem Cells in Biomedicine and Society. (TS; 3 cr. [max 6 cr.] ; Student Option; Every Spring)

A course that focuses on the general properties of stem cells, their potential uses in biomedicine, and the potential impact of their use on society. The course is suitable for students who have successfully completed at least one general biology course that included coverage of basic genetics and cell biology. Stem cells are one of the rapidly growing topics in biology. Research into stem cells ranges from basic biology to regeneration to clinical applications to ethics. In this course, you will learn the general features of embryonic, artificial, or adult-tissue stem cells: how they contribute to tissue regeneration, how scientists create and manipulate stem cells, what scientists do with them, what the public considers stem cell research and why. Then, you will learn about bone marrow transplantation, an established stem cell-based therapy, and various diseases and potential applications of stem cells to treat/cure the diseases. By the end of this course, you will have deeper insights into stem cells. Recommended prerequisites: BIOL1009 (General Biology), BIOL1951 (Foundations of Biology Lecture I for Biological Sciences Majors) or an equivalent General Biology course that includes basic coverage of genetics and cell biology This course can NOT be used as an elective for some CBS majors, such as the GCD major. Check the Program Requirements for your major to determine if it can be used as an elective.

GCD 3022. Genetics. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Mechanisms of heredity, implications for biological populations. Applications to practical problems. prereq: Introductory biology course such as Biol 1009

GCD 3033. Principles of Cell Biology. (; 3 cr. ; A-F only; Every Fall & Spring)

Components and activities common to eukaryotic cells. Chromosomes, membranes, organelles and the cytoskeleton, and processes including cellular communication, replication, motility, transport and gene expression. Relevance to human health and medicine. Appropriate for non-CBS majors. prereq: BIOL 1009 or equiv

GCD 3035. Culture, Identity & Precision Medicine. (2 cr. ; A-F or Audit; Every Fall)

Working effectively across cultural differences is essential to healthcare. As we reduce healthcare disparities and improve access to treatment, cultural competence will only become more important. This course will explore issues of culture and identity (broadly defined) relevant to the practice of precision medicine (the practice of using genomic information to predict risk, inform diagnosis, and plan treatment for medical issues). Examples of the intersections of culture/identity and precision medicine include incorporating religious beliefs and traditions into treatment or prevention recommendations, how to document

gender inclusively and accurately in medical records, underrepresentation of minority groups in research databases, and identifying systemic barriers to access. Students will cultivate a better understanding of their own intersectional identity, build language to effectively address cultural differences in healthcare interactions, and critically assess the research and practice of genomic healthcare. This course is open to all students interested in culture and identity in healthcare, as the lessons will translate to all allied health fields.

GCD 3485. Bioinformatic Analysis: Introduction to the Computational Characterization of Genes and Proteins. (; 4 cr. ; A-F only; Every Fall, Spring & Summer)

Bioinformatic analysis is the exploration of molecular sequence, structure, and function using online tools and databases. In this class, we'll learn to use some of the most powerful tools available for biologists to investigate the nature of genes and proteins. We will each explore a gene and the protein it encodes that no one before us has studied. We will learn to analyze and interpret the diverse forms of bioinformatic data we obtain, and we will consider how the data we find allows us to generate and evaluate original hypotheses that can be tested in the laboratory. This is a hands-on course. While the class has no exams, it does require the completion of four problem sets and a summative final project over the course of the semester. It also involves doing some peer review of classmates' work. prereq: introductory course in genetics and cell biology such as Foundations

GCD 3486. Personal Genome Analysis. (3 cr. [max 4 cr.] ; A-F only; Every Spring)

In this course, students will analyze their personal genome data. They will gain experience using computer applications and online databases of human genetic information. They will learn about their ancestry, their regional origins, and their risks of genetically linked disease. They will learn how to put human genome results into context and how to explain human genomics in non-technical language. prereq: Biol 2003/2003H

GCD 4005W. Cell Biology-Writing Intensive. (WI; 4 cr. ; A-F only; Every Spring)

Processes fundamental to cells. Emphasizes eukaryotic cells. Assembly/function of membranes/organelles. Cell division, cell form/movement, intercellular communication, transport, secretion pathways. Cancer cells, differentiated cells. prereq: GCD major, Biol2003/2003H or Biol4003 or grad

GCD 4025. Cell Biology, Development & Regeneration Laboratory. (3 cr. ; Student Option; Every Spring)

This course is designed for juniors and seniors to learn experimental approaches and techniques to study cellular processes and stem cell biology during animal development and tissue regeneration. Students will be exposed to the advantages of different model systems that include cultured cells, chick, *C. elegans* and zebrafish. Students will learn to manipulate the cytoskeleton, perform cell differentiation, RNAi and regeneration assays,

and to image both fixed tissue and live animal samples with conventional light microscopes as well as cutting edge technology, including super-resolution and multi-photon microscopes. prereq: Biol 2003/2003H or instructor permission; Recommended prerequisite: Biol 4004 or GCD 4005W (priority enrollment to GCD majors)

GCD 4034. Molecular Genetics and Genomics. (; 3 cr. ; Student Option; Every Fall)

Molecular genetics and genomics of eukaryotes. Course emphasizes mechanisms of gene regulation and how these are studied. Current strategies used to study the activity and function of genes and genomes, including the role of chromatin, will be covered. Techniques will include gene knockouts/ knockdown, genome engineering, genome-wide analysis of RNA and protein expression and function, as well as genome-wide protein binding and chromatin interaction mapping. Technologies covered will include next-generations and third-generation sequencing and CRISPR-based strategies for gene modification and precision gene regulation. Students will analyze and present recent primary papers in molecular genetic and genomics. prereq: BIOL 4003

GCD 4111. Histology: Cell and Tissue Organization. (; 4 cr. ; Student Option; Every Spring)

Structure/function of vertebrate tissues/organs. Electron microscopy, light microscopy, physiology, cell biology of higher animals. Light microscopy of mammalian tissues. prereq: GCD 3033 or BIOL 4004 or instructor consent

GCD 4143. Human Genetics and Genomics. (; 3 cr. ; Student Option; Every Spring)

Human Genetics ? the science of how our genomes function, vary, and shape our unique, individual characteristics ? is a rapidly expanding field with major implications for medical and fundamental research, clinical practice, and many other areas. In this course, students will learn about the principles of human genetics & genomics at the levels of molecules, cells, individuals, and populations. Topics include patterns of inheritance; the molecular causes and biochemical basis of genetic disorders; disease gene identification; the origin and distribution of human genetic variation; genetic influences on common, complex diseases; epigenetics and regulation of gene expression; genomic technologies for understanding human genomes; cancer genetics; behavioral genetics; human ancestry and evolution; applications such as genetic screening, genetic counseling, and gene therapy; and ethical questions raised by emerging abilities to edit the human genome, modify the human germline, and many more. prereq: Biol 4003 or instructor consent

GCD 4144W. Human Genetics - Writing Intensive. (WI; 4 cr. ; Student Option No Audit; Every Spring)

Human Genetics is the science of how our genomes function, vary, and shape our unique, individual characteristics and is a rapidly expanding field with major implications for

medical and fundamental research, clinical practice, and many other areas. In this course, students will learn about the principles of human genetics & genomics at the levels of molecules, cells, individuals, and populations. Topics include patterns of inheritance; the molecular causes and biochemical basis of genetic disorders; disease gene identification; the origin and distribution of human genetic variation; genetic influences on common, complex diseases; epigenetics and regulation of gene expression; genomic technologies for understanding human genomes; cancer genetics; behavioral genetics; human ancestry and evolution; applications such as genetic screening, genetic counseling, and gene therapy; and ethical questions raised by emerging abilities to edit the human genome, modify the human germline, and many more. This writing intensive course is available only to Health and Genomics minors. prereq: BIOL 4003 or instr consent; Health and Genomics minor

GCD 4151. Molecular Biology of Cancer. (3 cr. ; A-F or Audit; Every Fall)

Regulatory pathways involved in directing normal development of complex eukaryotic organisms, how disruptions of these pathways can lead to abnormal cell growth/cancer. Causes, detection, treatment, prevention of cancer. prereq: Biol 4003

GCD 4161. Developmental Biology. (; 3 cr. ; Student Option; Every Fall)

Developmental biology is the study of the process by which organisms grow and develop from embryo to adult. This field encompasses the biology of morphogenesis, differentiation, regeneration, metamorphosis, and the growth and differentiation of stem cells. Topics focus primarily on animal development to include fertilization, cell specification, body patterning, stem cells, neurogenesis, organogenesis, limb formation, regeneration, sex determination, and developmental timing, as well as environmental impacts on development. Students will learn about genetic models such as fruit flies, nematodes, fish, mice, and plants. Coverage will be extended to human development and disease as appropriate. prereq: BIOL 4003; also recommended prerequisite: BIOL 4004 or GCD 4005W

GCD 4171. Stem Cells in Biology and Medicine. (; 3 cr. ; A-F only; Every Spring)

Contemporary stem cell biology with emphasis on mechanisms/applications. Embryonic, tissue-specific, and induced pluripotent stem cells and potential uses in human disease. prerequisites: BIOL 4003 Genetics; recommended prerequisite: BIOL 4004 Cell Biology or GCD 4005W This course can be used as an elective for certain CBS majors, such as the GCD major. Check the Program Requirements for your major to determine if it can be used as an elective.

GCD 4593. Genomics Directed Studies - Community Experience. (2-4 cr. ; S-N only; Every Fall, Spring & Summer)

Directed Studies is an individual-study, community-based experience in which the student is mentored directly by a faculty

member. The topic for the course is the application of genomics in human health and healthcare. This course is designed for students to get experience in applied genetics or genomics. The details need to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the minor before the student is allowed to register. Four credits total of 4593, 4693, or 4694, or a combination thereof, are required for the Health & Genomics minor. prereq: department consent, instructor consent

GCD 4693. Genomics Directed Studies - Literature Review. (2-4 cr. ; S-N only; Every Fall, Spring & Summer)

Directed Research is an individual-study, laboratory, or field investigation course. The research topic needs to be agreed on by both the student and the faculty mentor and explained in a Research/Directed Studies contract. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. Four credits total of 4593, 4693, or 4694, or a combination thereof, are required for the Health & Genomics minor. prereq: department consent; instructor consent.

GCD 4694. Genomics Directed Research. (2-4 cr. ; S-N only; Every Fall, Spring & Summer)

Directed Research is an individual-study, laboratory, or field investigation course. The research topic needs to be agreed on by both the student and the faculty mentor and explained in a Research/Directed Studies contract. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. Four credits total of 4593, 4693, or 4694, or a combination thereof, are required for the Health & Genomics minor. prereq: department consent; instructor consent.

GCD 4793W. Directed Studies: Writing Intensive. (WI; 1-7 cr. ; S-N only; Every Fall & Summer)

Writing Intensive Directed Studies is an individual-study, literature-based investigation in which the student is mentored directly by a faculty member. One main feature of this course is that the student will receive writing instruction and the written output of the course will be revised during the semester. The project needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, how writing instruction will take place, a timeline for when student writing will be handed in and how it will be assessed,

methodology to be used by the student, and how assessment of learning will be conducted by the mentor. Additional oversight is established for this course near the end of the semester the written output is submitted to the DUGS for the major. The DUGS is responsible to determine that the writing meets standards set by the CBS Education Policy Committee for quality of writing, appropriate citation of literature, well-constructed figures, tables, and legends (if present), appropriate use and interpretation of statistics (if present), conclusions that are supported by evidence, and well-formatted references. This course is graded S/N and approval of the DUGS is required before a grade of S can be given by the faculty mentor. prereq: department consent, instructor consent, no more than 7 credits of 4793, 4794, 4993W, 4994W counts towards CBS major requirements.

GCD 4794W. Directed Research: Writing Intensive. (WI; 1-7 cr. [max 42 cr.]; S-N only; Every Fall & Summer)

Writing Intensive Directed Research is an individual-study, laboratory or field research experience in which the student is mentored directly by a faculty member. This course is intended for students who already have initiated a research project in the lab of the mentor and already have results. In this course the student will receive writing instruction. The written output usually is in the form of a scientific paper describing the results of the student's project. Written output of the course must be revised during the semester and a schedule for writing, assessment and revision needs to be in place at the beginning of the semester. The project needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the Director of Undergraduate Studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, how writing instruction will take place, a timeline for when student writing will be handed in and how it will be assessed, methodology to be used by the student, and how assessment of learning will be conducted by the mentor. Additional oversight is established for this course - near the end of the semester the written output is submitted to the DUGS for the major. The DUGS is responsible to determine that the writing meets standards set by the CBS Education Policy Committee for quality of writing, appropriate citation of literature, well-constructed figures, tables, and legends (if present), appropriate use and interpretation of statistics (if present), conclusions that are supported by evidence, and well-formatted references. The DUGS can call for a final revision before a grade is given. This course is graded S/N and approval of the DUGS is required before a grade of S can be given by the faculty mentor. prereq: department consent, instructor consent, no more than 7 credits of 4793, 4794, 4993W, 4994W counts towards CBS major requirements.

GCD 4950. Special Topics in Genetics. (; 1-3 cr. ; Student Option; Every Fall)

Special Topics Shell

GCD 4993. Directed Studies. (; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Directed Studies is an individual-study, literature-based investigation in which the student is mentored directly by a faculty member. The topic for the course needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. prereq: department consent, instructor consent, no more than 7 credits of 4793, 4794, 4993W, 4994W counts towards CBS major requirements.

GCD 4994. Directed Research. (; 1-7 cr. [max 42 cr.] ; S-N only; Every Fall, Spring & Summer)

Directed Research is an individual-study, laboratory or field investigation course. The research topic needs to be agreed on by both the student and the faculty mentor and explained in a Research/Directed Studies contract. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. prereq: department consent, instructor consent, no more than 7 credits of 4793, 4794, 4993W, 4994W counts towards CBS major requirements.

GCD 5005. Computer Programming for Biology. (3 cr. ; Student Option; Every Fall)

Computer programming skills with applications in biology. Design/build new computer programs for applications in cell/developmental biology, including modeling of biological processes, advanced data analysis, automated image analysis. prereq: BIOL 4003 or BIOL 4004 or GCD 3033 or CBS grad or BMBB or MCDB&G grad student, general statistics course

GCD 5036. Molecular Cell Biology. (; 3 cr. ; Student Option; Every Fall)

Analysis of dynamic cellular activities at the molecular level in cell biological fields that are experiencing new research advances not yet reflected in textbooks. Significant emphasis is placed on understanding the experimental basis of our current knowledge of cellular processes through analysis of scientific papers. Project and presentation-based assessments of learning outcomes. prereq: Biol 4004 or GCD 4005W or grad

GCD 5101. Critical and Translational Reasoning in Visual Science. (3 cr. ; A-F only; Every Spring)

This course is appropriate for graduate and senior undergraduate students in several areas of biology, including GCD, NSC, IBP, and BMBB programs. Students will be introduced to the function of the visual system,

including the retina and brain, and learn to understand the visual system on a cellular level. Main goals of the course include to practice scientific and translational reasoning and scientific communication. This will be facilitated through a combination of lectures and group discussions of scientific papers, as well as writing of a term paper. In most weeks one lecture and one group discussion will be held. Scientific and translational reasoning and scientific communication are core competencies for life scientists. Scientific reasoning includes the ability to recognize why a scientific question is significant (or not), experimental design and rigor, interpretation of data, and identifying caveats to conclusions. Models of biological processes will be discussed and appropriate predictions will be identified in order to test those models. Translational reasoning is needed to move basic scientific discoveries into practice. To practice translational reasoning, we will investigate how diseases manifest on the cellular level, examine the use of disease models (cell based or animal models) and their limitations, how investigational therapeutic drugs are tested, how their effects on disease are scored, and how clinical trials are used to test the safety and efficacy of new therapeutic drug candidates. Students will interact with MD and PhD faculty and learn about their respective priorities. This course should be informative for students who are interested in the life sciences, and may help to discover personal interests and preferred career paths. The course will be taught by a team of instructors who share an interest in vision science. prereq: Senior major in GCD, Neuroscience, IBP, or BMBB or grad, open to advanced juniors with instructor permission

GCD 5111. Quantitative Fluorescence Microscopy. (3 cr. ; A-F only; Every Summer)

Fluorescence microscopy is an essential technique to probe the inner workings of cells and tissues. You will learn hands on the inner workings of fluorescent microscopes, how to set up and acquire fluorescent images using microscopes, and how to quantitatively analyze image data using FIJI (ImageJ) software. prereq: Undergraduate students require instructor permission for enrollment. Graduate students are allowed to register for 5111 without instructor permission. Recommended prerequisite: GCD 3033 or BIOL 4004

GCD 5914. Ethical and Legal Issues in Genetic Counseling. (2 cr. ; A-F only; Every Fall)

This course will provide a foundational knowledge of the ethical and legal considerations that are relevant to individuals working at the intersection of genetics and medical science. This will involve pre-class reading and research assignments in addition to relevant videos, podcasts, blog readings, and documentaries on this topic. Students will learn to frame ethical questions using appropriate frameworks, consult research, develop strategies for reaching resolutions, and communicate their process and outcomes. Students will work individually as well as collectively through case discussions in small

groups and large group settings. Class time will be split between lecture, discussion, and in-class activities.

Geographic Information Science (GIS)

GIS 5530. GIS Internship. (; 1-3 cr. [max 6 cr.] ; S-N only; Every Fall & Spring)
Practical hands-on experience using GIS to solve problems in a real-world work environment. prereq: instr consent, strong GIS/mapping skills

GIS 5555. Basic Spatial Analysis. (; 3 cr. ; Student Option; Every Fall)
How to use spatial data to answer questions on a wide array of social, natural, and information science issues. Exploratory data analysis/visualization. Spatial autocorrelation analysis/regression. prereq: [STAT 3001 or equiv, MGIS student] or instr consent

GIS 5571. ArcGIS I. (; 3 cr. ; Student Option; Every Fall)
First of a two-course series focusing on ArcGIS Desktop. Overview of ArcGIS system and its use for spatial data processing. Data capture, editing, geometric transformations, map projections, topology, Python scripting, and map production. prereq: [GEOG 5561 or equiv, status in MGIS program, familiarity with computer operating systems] or instr consent

GIS 5572. ArcGIS II. (; 3 cr. ; Student Option; Every Spring)
Continues GIS 5571. Raster analysis, dynamic segmentation, geometric networks, geocoding, Python scripting, and data interoperability. Substantial projects include map and poster design and production. prereq: [5571, [GEOG 5561 or equiv], in MGIS program] or instr consent

GIS 5573. Introduction to Digital Mapping: ArcGIS Basics. (2 cr. ; A-F only; Every Fall)
Desktop mapping functions using ArcGIS software. Application of systems to display/analysis of geographical data. prereq: [GEOG 5561 or equiv, in MGIS program] or instr consent

GIS 5574. Web GIS and Services. (3 cr. ; Student Option; Every Fall)
Plan, design, develop, publish web-based GIS solution. Build websites, prepare data for web. Commercial software, Open Source software, volunteer geographic information, open GIS standards/developing web GIS application. Hands-on experience with variety of web GIS technologies/software. prereq: [GEOG 5561 or equiv, in MGIS program] or instr consent

GIS 5576. Spatial Digital Humanities. (3 cr. ; Student Option; Every Spring)
Introduction to Spatial Digital Humanities
GIS 5576 is a basic overview of desktop GIS (both Esri and open source), as well as an introduction to a number of other mapping techniques (such as Esri Maps for Office, ArcGIS Online, web mapping basics, georeferencing historical maps, etc) in addition to digital scholarship techniques. Course

objectives include: understanding the basics of mapping and geospatial information using GIS; documenting and managing spatial data using coherent/standardized methods; understanding several spatial analysis methods that are relevant to student research area; and applying spatial research methods into student research.

GIS 5577. Spatial Database Design and Administration. (3 cr. ; Student Option; Every Spring)
Spatial database design, development planning/management, maintenance, security, access/distribution, and documentation. prereq: instr consent

GIS 5578. GIS Programming. (3 cr. ; Student Option; Every Spring)
Programming techniques using Python and other languages specifically relating to GIS technologies. prereq: instr consent

Geography (GEOG)

GEOG 1301W. Our Globalizing World. (GP,WI,SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)
Introduction to geographical understandings of globalization and of connections/differences between places.

GEOG 1372. Geography of Global Cities. (GP,SOCS; 3 cr. ; Student Option; Every Fall)
Urban forms/processes. Uses key global cities as examples. Political, historical, and economic contexts of cities. Planning ideologies. Globalization. Race/segregation. Population growth. Environmental problems. Current issues in global urbanization.

GEOG 1403. Biogeography of the Global Garden. (BIOL,ENV; 4 cr. ; Student Option; Every Fall & Spring)
The geography of biodiversity and productivity, from conspicuous species to those that cause human disease and economic hardship. The roles played by evolution and extinction, fluxes of energy, water, biochemicals, and dispersal. Experiments demonstrating interactions of managed and unmanaged biotic with the hydrologic cycle, energy budgets, nutrient cycles, the carbon budget, and soil processes.

GEOG 1403H. Honors: Biogeography of the Global Garden. (BIOL,ENV; 4 cr. ; A-F only; Every Fall & Spring)
The geography of biodiversity and productivity, from conspicuous species to those that cause human disease and economic hardship. The roles played by evolution and extinction, fluxes of energy, water, biochemicals, and dispersal. Experiments demonstrating interactions of managed and unmanaged biotic with the hydrologic cycle, energy budgets, nutrient cycles, the carbon budget, and soil processes. prereq: Honors

GEOG 1425. Introduction to Weather and Climate. (ENV,PHYS; 4 cr. ; Student Option; Every Fall & Spring)
A pre-calculus introduction to the nature of the atmosphere and its behavior. Topics covered include atmospheric composition, structure, stability, and motion; precipitation processes,

air masses, fronts, cyclones, and anticyclones; general weather patterns; meteorological instruments and observation; weather map analysis; and weather forecasting.

GEOG 1502. Mapping Our World. (SOCS,TS; 3 cr. ; Student Option; Every Fall & Spring)
Learn how maps and other spatial technologies like phones, drones, and GPS work. Use web-based tools to make maps for class, jobs, and fun. Explore how mapping is a useful lens through which to view interactions between technology and society, and see how mapping technology saves lives, rigs elections, and spies on people.

GEOG 1913. Living with Innovation. (; 3 cr. ; A-F only; Periodic Fall & Spring)
Technology has significantly improved lives across the globe: we have seen the cost of goods fall due to mass production; people have become more connected through revolutionary developments in transport and electronic communication; health has improved through better sanitation, pharmaceuticals, and surgical techniques. Yet there are still challenges for the future in terms of feeding a growing world population and coming to terms with climate changes. The solutions will be through new developments, innovations, in bio-, nano-, info-, and energy-technologies. These are already bringing benefits but also possible risks. For example, the benefits of genetic engineering for improved food security are obvious and yet there is a fear that it will lead to ?frankenfoods?. Similarly, artificial intelligence (AI) has the potential to take over boring and repetitive jobs in the work place but in so doing could put millions out of work, and some even fear robots threatening human existence. This seminar will examine the idea that living with innovation depends on developing policies that properly manage risks in an informed way, by trying to anticipate and assess them rather than just to avoid them. Risk assessment is a scientific approach that combines an understanding of threat, exposure and vulnerability ? recognizing uncertainties in all the elements ? to estimate the likelihood of impacts. Risk management policy often has to balance the risks from emerging technologies with their benefits. Historically the risks that have arisen from innovation have been small compared with benefits so decisions have been relatively easy. However, some of the risks from the new generation of emerging technologies have potentially big consequence, e.g. in the development of bioweapons, misuse of geo-engineering to unilaterally alter climate, cyberwar, and killer robots. These present special challenges for policy to ensure that we enjoy the benefits of the technology while keeping catastrophic threats acceptably low ? and will form a basis of small group discussions as part of the seminar. An underlying message from the seminar will be that making the right connections between science and policy is a key part of living with innovation.

GEOG 1915. Cultural heritage and environmental change in Gullah/Geechee Nation. (; 3 cr. ; A-F only; Periodic Fall)

Sea level rise and climate change pose serious challenges for the well-being of people living along the coast. When responding to these challenges, communities, scientists, and governments have to take account of the way in which some communities have deep cultural ties to the land they inhabit. Co-taught by Queen Quet, the Chiefess and Head of State of the Gullah/Geechee Nation and Kate Derickson, faculty in Geography and long time collaborator of Queen Quet's, this course will explore the thorny challenges at the intersection of cultural heritage and environmental change by engaging with the case of the Gullah/Geechee people. The Gullah/Geechee people are descended from freed and escaped enslaved Africans brought to the Southeast coast and the Sea Islands in part due to their knowledge of agriculture to be enslaved on rice, cotton, and indigo plantations. Today, many Gullah/Geechee people still live on the same land that their ancestors were enslaved on. Their ancestors bought this land during Reconstruction and continued to practice traditional farming and it and traditional fishing in the surrounding waterways. The Gullah/Geechee culture is inextricably tied to the land and the water of the Sea Islands and the coast, a connection that has to be accounted for in efforts to mitigate the effects of climate change and inform future planning and community development in the region. Students will spend the course in a virtual "studio" setting on campus once weekly - learning, discussing, and exploring the history and culture of the Gullah/Geechee people and the causes and consequences of environmental change in the region. We will also explore different models, ethics, and approaches to engaged scholarship. Students will be divided into groups with a region of Gullah/Geechee Nation to focus on. Each group will produce a StoryMap with archival data, photos, and other relevant data and information collected during and after the field trip. Training in building StoryMaps will be provided. Grades will be assessed on an individual and group basis.

GEOG 1916. Social Justice and the Twin Cities. (; 3 cr. ; A-F only; Periodic Fall)

This seminar will explore the interconnected histories, geographies, and politics of the Twin Cities ? Minneapolis and St. Paul, Minnesota. Drawing on urban geography, urban studies, feminist, and critical race theory literatures, we will examine how settler colonialism, anti-Black racism, and other intersecting forces of oppression shape how urban spaces are formed and experienced in the Twin Cities. We will also closely examine how different urban actors, from local grassroots collectives, non-profit organizations, and city governments, have sought to address social and racial inequities and work towards social change. Furthermore, we will deeply engage with the longstanding histories and presents of Black, Indigenous, and Latinx social justice activism in the Twin Cities. Students will have the opportunity to learn from local community organizers and activists and go on a field trip to learn about social justice and social change in the Twin Cities.

GEOG 1973. Geography of the Twin Cities. (SOCS; 3 cr. ; Student Option; Every Fall & Spring)

Social and physical characteristics of the Twin Cities. Their place in the urban network of the United States.

GEOG 3101. Geography of the United States and Canada. (SOCS,TS; 4 cr. ; Student Option; Every Fall & Spring)

Analysis of the ways in which the aspirations and abilities of diverse groups of people interact with the complexities of the natural environment to produce the contemporary pluralistic cultures and regional differentiation of the United States and Canada.

GEOG 3111. Geography of Minnesota. (; 3 cr. ; Student Option; Every Spring & Summer)

The evolution of Minnesota and its current geographical characteristics. The state is a unique political entity that possesses similarities with other states because of the homogenizing influence of the federal government.

GEOG 3121. Geography of Latin America. (3 cr. ; Student Option; Every Fall)

This course will look at historical and contemporary Latin America to give students an idea about the varied political, economic, and cultural practices in the Caribbean, Central America, and South America. Readings will focus mostly on the experiences and struggles of Afro-Latin, indigenous, and working-class populations in Latin America, in order that we might learn about the region from otherwise marginalized viewpoints. Course assignments will ask students to critically reflect on the power relations that shaped and continue to shape the region. Course topics include colonialism, state formation, present-day territorial contestation, and the current political shifts that dominate the news headlines across the region. At the end of the semester students will have a solid understanding of the forces responsible for conditions in present-day Latin America.

GEOG 3145. The Islamic World. (GP,SOCS; 3 cr. ; Student Option; Every Fall)

Foundation of Islam in Arabian Peninsula, its spread to Asia and Africa. Islamic civilization, influence on Europe before rise of capitalism. Rise of Capitalist Europe, colonization of Islamic World Islamic resurgence and post-colonial world. State-society and development. Culture/conflict in Moslem societies. Gender and Islam. Islamic World and the West. Moslems in North America and Europe. Case studies.

GEOG 3161. Europe: A Geographic Perspective. (GP; 3 cr. ; Student Option; Fall Even Year)

Comparative analysis and explanation of Europe's physical, demographic, ethnic/cultural, economic, political, and urban landscapes. European integration--the European Union. Transformation of Eastern Europe.

GEOG 3211. East Asia. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

Physical and human geography of Japan, mainland China and Taiwan, North and South Korea; population pressure, economic and urban development, and international relations.

GEOG 3331. Geography of the World Economy. (GP,SOCS; 3 cr. ; Student Option; Every Fall)

Geographical distribution of resources affecting development; location of agriculture, industry, services; geography of communications; agglomeration of economic activities, urbanization, regional growth; international trade; changing global development inequalities; impact of globalizing production and finance on the welfare of nations, regions, and cities.

GEOG 3341. Black Geographies. (3 cr. ; Student Option; Every Fall)

This course will engage the sub-discipline of Black Geographies by looking at Geographical literature on the question of Blackness as well as case studies on the ways in which Afro-descendant populations make place. Course readings and films will attend to Blackness as it manifests across the African Diaspora, with specific focus on the Americas. We will discuss the experiences and struggles of enslaved Africans in the Americas, struggles against slavery, the ways in which we can understand histories of Blackness, and different forms of struggle employed by Afro-descendant populations today. At the end of the semester students will have a solid grounding in the literature around Black Geographies, as well as a nuanced understanding of the different ways in which Black populations analyze and create space.

GEOG 3371W. Cities, Citizens, and Communities. (DSJ,WI; 3 cr. [max 4 cr.] ; Student Option; Every Fall, Spring & Summer)

Introduction to cities and suburbs as unique crossroads of cultural, social, and political processes. Competing/conflicting visions of city life, cultural diversity, and justice. Focuses on the American city.

GEOG 3373. Changing Form of the City. (GP,HIS; 3 cr. ; Student Option; Every Spring)

Urban origins, ancient cultures/cities, the medieval city, rediscovery of planning, colonial cities. Industrialization and urban expansion. Speculative cities, utopian cities, planning triumphs/disasters. Cities as reflections of society, culture, the past.

GEOG 3374W. The City in Film. (AH,WI; 4 cr. ; Student Option; Every Spring)

Cinematic portrayal of changes in 20th-century cities worldwide including social and cultural conflict, political and economic processes, changing gender relationships, rural versus urban areas, and population and development issues (especially as they affect women and children).

GEOG 3376. Political Ecology of North America. (ENV; 3 cr. ; Student Option; Every Fall)

Social production of nature in North America related to questions of social/environmental justice. Economic, political, cultural, ecological

relations that shape specific urban/rural environments, social movements that have arisen in response to environmental change. Importance of culture/identity in struggles over resources/environments.

GEOG 3377. Music in the City. (AH,DSJ; 3 cr. ; A-F or Audit; Every Spring)

Why is music so central to the life of the city? Throughout the ages, throughout the world, music seems to have a special power to fill urban space with meaning. This is mostly why the music industry is always desperately trying to chase the new ways music is produced and consumed. Much about the rapid changes in the industry can be linked to changes taking place in the geography of cities and globalization. Through music, people feel connected to landscapes, neighborhoods, buildings, and identities. Music gives value to places, so helps cement us/them divisions, a process easily seen (heard) in national anthems. This course tries to understand how the interplay exactly occurs between sounds, places, and differences through case studies from many genres. The course makes use of a large range of media and learning styles. Themes include the transnational circuits of reggae, the class backgrounds of punk, Motown and civil rights, psychedelic counterculture, underground electronic music, and the ambivalent identities of Minneapolis's very own Prince.

GEOG 3379. Environment and Development in the Third World. (ENV,SOCS; 3 cr. ; A-F or Audit; Every Spring)

Concepts for analyzing relations between capitalist development and environment in Third World. Historical geography of capitalist development. Case studies. Likelihood of social/environmental sustainability. prereq: Soph or jr or sr

GEOG 3381W. Population in an Interacting World. (GP,WI,SOCS; 3 cr. [max 4 cr.] ; Student Option; Every Fall, Spring & Summer)

Comparative analysis and explanation of trends in fertility, mortality, internal and international migration in different parts of the world; world population problems; population policies; theories of population growth; impact of population growth on food supply and the environment.

GEOG 3388. Going Places: Geographies of Travel and Tourism. (CIV; 3 cr. ; A-F only; Every Spring)

Are you wondering whether you will be able to travel as you did a few years ago? One of the largest industries, tourism is in a profound crisis. This course understands tourism in relation to other kinds of mobility, like shopping, colonialism, trafficking, migration, and pilgrimage. As the negative environmental and health impacts of tourism have become obvious, significant demands have emerged on its practices and policies. Investigating the landscapes and economies of cars, planes, beaches, parks, malls, and museums, we come to appreciate the unique challenges tourism poses for global citizenship and the planet. To gain a critical geographical understanding of mobility we engage a range of ethical

frameworks such as human rights, feminism, social justice, and utilitarianism. Our final destination is an informed and critical ethics of travel in the age of pandemics and climate change.

GEOG 3401W. Geography of Environmental Systems and Global Change. (ENV,WI; 3 cr. [max 4 cr.] ; Student Option; Every Spring)

Geographic patterns, dynamics, and interactions of atmospheric, hydrospheric, geomorphic, pedologic, and biologic systems as context for human population, development, and resource use patterns.

GEOG 3411W. Geography of Health and Health Care. (WI; 3 cr. [max 4 cr.] ; Student Option; Every Fall)

Application of human ecology, spatial analysis, political economy, and other geographical approaches to analyze problems of health and health care. Topics include distribution and diffusion of disease; impact of environmental, demographic, and social change on health; distribution, accessibility, and utilization of health practitioners and facilities.

GEOG 3421. Climatology. (4 cr. ; Student Option; Every Spring)

This is a course on general climatology and the physical fundamentals of climate change that are most relevant to biophysical and socio-environmental processes. It is geared towards students in geography, environmental science, and the liberal arts and humanities who need a foundational understanding of climatology to grapple with social and biophysical dimensions of climate change. In a conceptual but not heavily quantitative framework, course activities (readings, discussion, lectures, computer labs), the course provides a broad-level overview of the physical processes that underlie Earth's climate system and lead to climate variations at global, regional, and local scales, as well as a survey of contemporary topics in climate change science. Course themes include: Earth's atmosphere and ocean; global energy and water balances; general and secondary circulation; controls on regional climate; climate data collection and interpretation; coupled modes of climate variability and related teleconnections; paleoclimatology; climate change; extreme events; climate modeling frameworks; observed and anticipated climate change impacts.

GEOG 3423. Urban Climatology. (3 cr. ; Student Option; Every Spring)

Urban climatology focuses on how cities modify the local environment. Initial focus is on urban energy balance as the basis of most urban-climate research. The course also explores how atmospheric composition, urban hydrology, and urban ecosystems affect the urban climate, and how urban climates are linked to regional and global climate change.

GEOG 3431. Plant and Animal Geography. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Introduction to biogeography. Focuses on patterns of plant/animal distributions at different scales over time/space. Evolutionary, ecological, and applied biogeography.

Paleobiogeography, vegetation-environment relationships, vegetation dynamics/disturbance ecology, human impact on plants/animals, nature conservation. Discussions, group/individual projects, local field trips.

GEOG 3511. Principles of Cartography. (; 4 cr. ; Student Option; Every Spring)

History and development of US academic cartography, coordinate systems and map projections, data classification and map generalization, methods of thematic symbolization, and cartographic design. A series of computer-based lab exercises will apply conceptual lecture material to the creation of thematic maps. prereq: 3 cr in geog or instr consent

GEOG 3531. Numerical Spatial Analysis. (; 4 cr. ; Student Option; Every Fall & Summer)

"Everything is related to everything else, but near things are more related than distant things." The First Law of Geography proposed by Waldo Tobler implies the complex yet fascinating nature of the geospatial world. Spatial analysis in order to understand geographic numbers is becoming increasingly necessary to support knowledge discovery and decision-making. The objective of this course is to teach the fundamental theory and quantitative methods within the scope of geospatial analysis. The course starts with basic statistics, matrix, the background of spatial analysis, and exploratory spatial data analysis. Then, we will dive into the special nature of our spatial world, with fundamental geographic ideas and theories being introduced. The focus will be on numerical methods and models including descriptive statistics, pattern analysis, interpolation, and regression models. Finally, some advanced topics regarding spatial complexities and spatial networks will be introduced to arouse further interest in this realm. To sum, this is an introductory course that makes use of quantitative analytics such as linear algebra, statistics, and econometrics for spatial data analysis. By taking this course you will: - quantitatively understand critical concepts behind geospatial processes, such as scale, spatial weights, spatial autocorrelation, spatial dependence, spatial pattern. -learn key methods of analyzing spatial data: e.g., point pattern analysis, spatial autocorrelation statistics, spatial prediction, and spatial regression. -examine the lectured methods/models with data from geographic scenarios using Python and related programming packages. prereq: high-school algebra; Basic stats and linear algebra recommended

GEOG 3541. Principles of Geocomputing. (; 3 cr. ; Student Option; Every Spring)

The availability of computing infrastructures such as high-performance and cloud computing, high-speed networks, and rich data has led to a new scientific paradigm using computational approaches, termed computational science. Geocomputation is the "application of a computational science paradigm to study a wide range of problems in geographical and earth systems (the geo contexts)" (Openshaw, 2014). This course will

introduce students to geocomputation as well as related areas including big spatial data, and cyberinfrastructure. Students will engage in hands-on exercises learning principles and best-practices in geocomputing. The ability to program is an essential skill for GIScientists. Learning to program takes time and a lot of practice, and in this course students will learn how to develop programs in the Python programming language to solve geospatial problems.

GEOG 3561. Principles of Geographic Information Science. (; 4 cr. ; Student Option; Every Fall & Spring)

Introduction to study of geographic information systems (GIS) for geography and non-geography students. Topics include GIS application domains, data models and sources, analysis methods and output techniques. Lectures, readings and hands-on experience with GIS software. prereq: Jr or sr

GEOG 3573. Introduction to Digital Mapping: ArcGIS Basis. (2 cr. ; A-F only; Every Fall)

Desktop mapping functions using ArcGIS software. Application of systems to display/analysis of geographical data.

GEOG 3605. Geographic Perspectives on Planning. (; 3 cr. [max 4 cr.] ; Student Option; Every Fall)

The purpose of this course is to introduce the students to the discipline of urban planning, and to the various challenges planning has aimed to respond during its history. How and why did cities come into being before the invention of modern urban planning? What were the challenges that modern urban planning arose to encounter in the late 20th century? How have the planning challenges changed since then, and how have planning tools and planning systems evolved since the early 21st century in different countries? During the course, we will also discuss the role of planning in contemporary society, asking who needs planning and why. How does planning respond to political struggles and conflicts of interests in cities today? Furthermore, we will reflect on the academic status of urban planning and ask: to what extent can planning be based on knowledge and theory? To answer these questions, we will study history of planning, get acquainted with the basics of planning theory, and look at various international examples of planning systems and planning practice drawn from a variety of international settings, the main focus being on US, UK, and mainland Europe.

GEOG 3839. Introduction to Dendrochronology. (; 3 cr. ; Student Option; Every Fall)

Historical development, operational techniques, biological background, and principles of tree ring analysis. Applications of tree-ring data to investigate environmental change and past cultures. prereq: [1403, [BIOL 1001 or BIOL 1009 or equiv]] or instr consent

GEOG 3900. Topics in Geography. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Special topics/regions covered by visiting professors in their research fields.

GEOG 3973. Geography of the Twin Cities. (SOCS; 3 cr. ; Student Option; Every Fall & Spring)

Social/physical characteristics of Twin Cities. Their place in U.S. urban network.

GEOG 3991. Geography Capstone. (; 1 cr. ; S-N only; Every Fall & Spring)

The goals of this course are to help you reflect on your path through your Geography BA or BS major, assess the knowledge and skills you developed during your degree program, recognize how your knowledge and skills support your personal and professional interests and goals, and articulate the value of a geographic perspective for tackling complex social and environmental issues. The course is only open to students in their senior year.

GEOG 3992. Directed Reading. (1-8 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Guided individual reading. Prereq-instr consent, dept consent, college consent.

GEOG 3993. Directed Studies. (1-8 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Guided individual study. Prereq-instr consent, dept consent, college consent.

GEOG 3994. Directed Research. (1-8 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Individual guided research. Prereq instr consent, dept consent, college consent.

GEOG 3996. Senior Project Directed Research. (3-4 cr. [max 8 cr.] ; A-F only; Every Fall, Spring & Summer)

Individual guided research course taken in fulfillment of the senior project requirement. Prereq instr consent,dept consent,college consent.

GEOG 3997. Senior Project. (2 cr. [max 4 cr.] ; A-F only; Every Fall, Spring & Summer)

Senior Project add-on credit. Must be taken concurrently with required or elective course related to area of specialization. Prereq instr consent, dept consent, college consent.

GEOG 4001. Modes of Geographic Inquiry. (; 3 cr. ; Student Option; Every Fall & Spring)

Examination of competing approaches to the study of geography. Environmental determinism; regional tradition; scientific revolution; behavioral geography; modeling and quantitative geography; radical geography; interpretive and qualitative approaches; feminist and postmodern geography; ecological thinking and complexity; geographic ethics.

GEOG 4002W. Environmental Thought and Practice. (WI; 3 cr. ; Student Option; Periodic Spring)

Changing conceptions of nature, culture, and environment in Western social/political thought. How our understanding of humans/nonhumans has been transformed by scientific and technological practices. Interdisciplinary, reading intensive. prereq: Jr or sr

GEOG 5385. Globalization and Development: Political Economy. (; 4 cr. ; Student Option; Periodic Fall & Spring)

Nature/scope of modern world system (capitalism), its impact on regional development processes. Roles of state and of international financial institutions. prereq: Sr or grad or instr consent

GEOG 5401W. Geography of Environmental Systems and Global Change. (ENV,WI; 3 cr. [max 4 cr.] ; Student Option; Periodic Fall)

Geographic patterns, dynamics, and interactions of atmospheric, hydrospheric, geomorphic, pedologic, and biologic systems as context for human population, development, and resource use patterns. prereq: grad student or instr consent

GEOG 5426. Climatic Variations. (; 3 cr. ; Student Option; Periodic Fall)

Theories of climatic fluctuations and change at decadal to centuries time scales; analysis of temporal and spatial fluctuations especially during the period of instrumental record. prereq: 1425 or 3401 or instr consent

GEOG 5511. Principles of Cartography. (; 4 cr. ; Student Option; Every Spring)

Topics on data sources for mapping. History of thematic cartography (focused on 19th-century European activity). Multivariate classification/symbolization. Models for cartographic generalization, spatial interpolation, and surface representation. Animated/multimedia cartography.

GEOG 5531. Numerical Spatial Analysis. (; 4 cr. ; Student Option; Every Fall)

Applied/theoretical aspects of geographical quantitative methods for spatial analysis. Emphasizes analysis of geographical data for spatial problem solving in human/physical areas.

GEOG 5541. Principles of Geocomputing. (; 3 cr. ; A-F or Audit; Every Spring)

The availability of computing infrastructures such as high-performance and cloud computing, high-speed networks, and rich data has led to a new scientific paradigm using computational science. Geocomputation is the "application of a computational science paradigm to study a wide range of problems in geographical and earth systems (the geo) contexts" (Openshaw, 2014). This course will introduce students to geocomputation as well as related areas including big spatial data, and cyberinfrastructure. Students will engage in hands-on-exercises learning principles and best-practices in geocomputing. The ability to program is an essential skill for GIScientists. Learning to program takes time and a lot of practice, and in this course students will learn how to develop programs in the Python programming language to solve geospatial problems.

GEOG 5543. Advanced Geocomputing. (3 cr. ; Student Option; Every Fall)

The availability of computing infrastructures such as high-performance and cloud computing, highspeed networks, and rich data has led to a new scientific paradigm using computational approaches, termed computational science. Geocomputation is the "application of a computational science paradigm to study a wide range of problems

in geographical and earth systems (the geo) contexts" (Openshaw, 2014). This course will delve into advanced topics in geocomputation as well as related areas ranging from geographic information and spatial big data to cyberinfrastructure and parallel computation. Students will engage in hands-on exercises learning principles and best practices in geocomputing while using cutting-edge computational infrastructures.

GEOG 5561. Principles of Geographic Information Science. (; 4 cr. ; Student Option; Every Fall & Spring)

Introduction to the study of geographic information systems (GIS) for geography and non-geography students. Topics include GIS application domains, data models and sources, analysis methods and output techniques. Lectures, reading, and hands-on experience with GIS software. prereq: grad

GEOG 5562. GIS Development Practicum. (3 cr. ; Student Option; Periodic Fall)

Algorithms/data structures for digital cartographic data, topological relationships, surface modeling, and interpolation. Map projections, geometric transformations, numerical generalization, raster/vector processing. Hands-on experience with software packages. prereq: GIS 5571 or instr consent

GEOG 5563. Advanced Geographic Information Science. (; 3 cr. ; Student Option; Every Fall & Spring)

Advanced study of geographic information systems (GIS). Topics include spatial data models, topology, data encoding, data quality, database management, spatial analysis tools and visualization techniques. Hands-on experience using an advanced vector GIS package. prereq: B or better in 3561 or 5561 or instr consent

GEOG 5564. Urban Geographic Information Science and Analysis. (; 3 cr. ; Student Option; Periodic Fall)

Core concepts in urban geographic information science including sources for urban geographical and attribute data (including census data), urban data structures (focusing on the TIGER data structure), urban spatial analyses (including location-allocation models), geodemographic analysis, network analysis, and the display of urban data. prereq: 3561 or 5561

GEOG 5588. Advanced Geovisualization. (; 3 cr. ; Student Option; Every Fall)

The generation and use of geographic information has become an integral part of our daily life, science, and technology. This has led to increasing interest in the design and development of interactive maps and dynamic geographic visualizations in 2D, 3D, and Web environments. The Advanced Geovisualization course intends to equip students with the knowledge and advanced technical skills needed to design and implement effective maps and create dynamic and interactive visualizations using geospatial data sets.

GEOG 5900. Topics in Geography. (; 3 cr. [max 9 cr.] ; Student Option; Every Fall & Spring)

Special topics and regions. Course offered by visiting professors in their research fields.

German (GER)

GER 1001. Beginning German. (; 5 cr. ; Student Option; Every Fall, Spring & Summer) Emphasis on working toward novice-intermediate low proficiency in all four language modalities (listening, reading, speaking, writing). Topics include everyday subjects (shopping, directions, family, food, housing, etc.).

GER 1002. Beginning German. (; 5 cr. ; Student Option; Every Fall, Spring & Summer) Listening, reading, speaking, writing. Emphasizes proficiency. Topics include free-time activities, careers, and culture of German-speaking areas. prereq: 1001

GER 1003. Intermediate German. (; 5 cr. ; Student Option; Every Fall, Spring & Summer) Listening, reading, speaking, writing. Contextualized grammar/vocabulary. Authentic readings. Essay assignments. prereq: 1002 or Entrance Proficiency Test

GER 1004. Intermediate German. (; 5 cr. ; Student Option; Every Fall, Spring & Summer) Listening, reading, speaking, writing. Contextualized grammar/vocabulary. Authentic readings. Essay assignments. prereq: 1003 or completion of Entrance Proficiency Test at 1004 level

GER 1022. Beginning German Review. (; 5 cr. ; Student Option; Every Fall & Spring) Intended for students with previous experience in German, primarily those who have studied German in high school or at community colleges, or who are transfer students. Intensive review of all four language modalities (listening, reading, speaking, writing), with a proficiency emphasis to prepare for German 1003. prereq: Placement above 1001

GER 1551. Sustainability in Germany: Recreation, Education, Innovation. (GP; 3 cr. ; Student Option; Every Spring) How has Germany responded to the grand challenge of climate-change? In what ways are perspectives on climate change & sustainability reflected in everyday culture? This course is designed for students to seek answers to these questions by experiencing life in Germany first-hand. During the first part of the course, you will review concepts & vocabulary related to climate change & sustainability, learn about the stages of intercultural development, reflect on your own cultural identity, practice conversational speaking in German, & prepare to immerse yourself in a foreign country. In May, you will apply what you learned as you travel to Freiburg & Munich. There you will see innovative technologies developed to lower CO2 emissions & talk with students, teachers, & business owners to learn about green communities that promote sustainable living. Finally, you will reflect on your own intercultural development as well as how approaches in Germany to climate change differ or are similar to those in your own country. prereq: Ger 1003 or equivalent; may be concurrently enrolled in 1003

GER 1601. Fleeing Hitler: German and Austrian Filmmakers Between Europe and Hollywood. (AH; 3 cr. ; Student Option; Fall Odd Year)

German/American films by famous directors who left Europe in Nazi period. Analysis of films by Fritz Lang, Max Ophuls, Robert Siodmak, Otto Preminger, Billy Wilder, Douglas Sirk, and others. Films as art works and as cultural products of particular social, political, and historical moments.

GER 1912. Oktoberfest: Fact and Fiction. (; 3 cr. ; A-F only; Periodic Fall)

This freshmen seminar examines the Bavarian Volksfest Oktoberfest from its origins to present day. Beyond the images of the American imagination, Oktoberfest is a complicated festival. Students will explore different facets each week including: gender and rape culture, race and "Italian weekend," money, and the impact the festival has on the city itself.

GER 3011W. Conversation and Composition. (WI; 4 cr. ; Student Option; Every Fall & Spring)

Achieving proficiency in professional or academic German. Refinement of oral/written expression. Review of important communicative modes of language. Wide range of topics to develop advanced level of proficiency. prereq: 1004

GER 3012W. Conversation and Composition. (WI; 3 cr. ; Student Option; Periodic Fall & Spring)

Prepares students for upper-level language and content courses in German. Continues the same focus and approach as 3011 with the addition of a larger reading component. prereq: 3011

GER 3014. German Media. (; 3 cr. ; Student Option; Every Spring)

Introduction to German language media. German language newspaper/magazine articles. The Internet. Radio/TV broadcasts. Structure/style of journalistic prose. prereq: 3011

GER 3016. Techniques of Translation. (; 3 cr. ; Student Option; Periodic Spring)

Theory/practice of translation from/to German in various genres. Idiomatics, stylistics, and cross-cultural aspects of translation. prereq: 3011

GER 3021. Business German. (; 3 cr. ; Student Option; Periodic Fall & Spring)

German economy, business culture. Practice of language used in business. Reading/discussion of German business documents. Preparation of formal letters and reports. prereq: 3011 or equiv

GER 3104W. Reading and Analysis of German Literature. (LITR,WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Introduction to literary analysis. Readings from drama, prose, and lyric poetry, from 18th century to present. prereq: 3011

GER 3421. 18th-Century German Literature. (; 3 cr. ; Student Option; Periodic Fall & Spring) German literature, 1720-1810, Enlightenment/Weimar classicism in historical/cultural context.

Reading/discussion of literary/philosophical works, aesthetic criticism. prereq: 3011

GER 3431. 19th-Century Literature. (; 3 cr. ; Student Option; Periodic Fall)

Literary/cultural exploration of 19th-century German literature through an investigation of romanticism, realism, and naturalism. Reading/discussion of literary/critical texts. prereq: 3011

GER 3441. 20th-/21st-Century Literature. (; 3 cr. ; Student Option; Periodic Fall)

German literature, from 1890 to present, in historical, political, social, and cultural context. prereq: 3011

GER 3490. Topics in German Literature. (; 3 cr. [max 9 cr.]; Student Option; Every Fall & Spring)

Intensive exploration of specific authors, literary genres, or literary topics not covered in period courses.

GER 3501. Contemporary Germany. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Social, political, and cultural developments in Germany, from 1945 to present. prereq: 3011

GER 3510. Topics in German Studies. (; 3 cr. [max 9 cr.]; Student Option; Every Spring)

One topic in depth dealing with culture or civilization of German-speaking countries. prereq: 3011

GER 3520. Topics in Austrian and Central European Culture. (; 3 cr. [max 9 cr.]; Student Option; Periodic Fall & Spring)

Culture, politics, and economy in Austria and Central Europe. Comparative analysis of cultural/political developments. Topics vary. prereq: 3011

GER 3551. Sustainability in Germany: Recreation, Education, Innovation. (GP; 3 cr. ; Student Option; Every Spring)

How has Germany responded to the grand challenge of climate-change? In what ways are perspectives on climate change & sustainability reflected in everyday culture? This course is designed for students to seek answers to these questions by experiencing life in Germany first-hand. During the first part of the course, you will review concepts & vocabulary related to climate change & sustainability, learn about the stages of intercultural development, reflect on your own cultural identity, practice conversational speaking in German, & prepare to immerse yourself in a foreign country. In May, you will apply what you learned as you travel to Freiburg & Munich. There you will see innovative technologies developed to lower CO2 emissions & talk with students, teachers, & business owners to learn about green communities that promote sustainable living. Finally, you will reflect on your own intercultural development as well as how approaches in Germany to climate change differ or are similar to those in your own country. prereq: Ger 3011 or equivalent; may be concurrently enrolled in 3011

GER 3601. German Medieval Literature. (GP,LITR; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

Literary investigation of the greatest works of medieval German poetry. Readings in English.

Majors will be required to write a paper with use of secondary sources in English and German. prereq: No knowledge of German required

GER 3604W. Introduction to German Cinema. (AH,WI,GP; 3 cr. ; Student Option; Fall Even, Spring Odd Year)

An introduction to the study of German cinema, with a focus on the relation between German film and German history, literature, culture, and politics.

GER 3610. German Literature in Translation. (; 3 cr. [max 9 cr.]; Student Option; Periodic Fall & Spring)

In-depth study of authors or topics from various periods in German literature. prereq: No knowledge of German required; cr toward major or minor requires reading in German

GER 3631. Jewish and German Writing at the Margins: Multilingualism, Race, Memory. (; 3 cr. ; Student Option; Periodic Fall & Spring)

How are minority stories, novels, and poems constructed at the margins of a majority culture's language? This course addresses this question by exploring the complexity of Jewish culture in modernity, with a focus on 20th and 21st century German and American literature. We will first tackle the open-ended and endlessly productive question of what is meant by Jewish culture. What is a Jewish writer and is there such a thing as Jewish writing? What makes a text "Jewish"? How do Jewish authors challenge the assumptions of majority culture in their work? What role do multilingualism and translation play in the formation of Jewish cultures at the margins? We will trace the lines of affinity between the U.S. and Europe to explore the entangled histories of Germans and Jews, and between German Jews and Turkish Germans, as we look at works that challenge and expand the definition of Jewishness in the 20th century. Additional topics to be considered include how the legacies of American slavery and European colonialism shape our understandings of the Nazi genocide of the Jews, and whether Jewish writing should be understood under the rubric of "whiteness." Moving beyond the approach to German Jewish literary studies anchored in Weimar Germany, we will explore the circulation of Jewish memory between Europe and the U.S. in the aftermath of the Holocaust. We will read works by, among others, Franz Kafka, Paul Celan, Gershon Scholem, Hannah Arendt, Benjamin Stein, Walter Benjamin, Barbara Honigmann, H?l?ne Cixous, Raymond Federman, W.G. Sebald, Allen Ginsberg, Adeena Karasick, Alfred Kazin, Saul Bellow, Philip Roth, Bernard Malamud, Avram Sutzkever, Zafer ?enocak. prereq: No knowledge of German required; some work in German must be done in order to count this course toward a German minor or a German, Scandinavian, Dutch major.

GER 3633. The Holocaust: Memory, Narrative, History. (GP,HIS; 3 cr. ; Student Option; Periodic Fall & Spring)

Decades after the end of the second world war, the Holocaust continues to play a formative

role in public discourse about the past in Germany and Austria. As the event itself recedes into the past, our knowledge about the Holocaust has become increasingly shaped by literary and filmic representations of it. This course has several objectives: first, to deepen students' historical knowledge of the events and experiences of the Holocaust, and at the same time to introduce critical models for examining the relationship between personal experience, historical events, and forms of representation. This class will introduce students to the debates about the politics of memory and the artistic representation of the Holocaust, with special focus on public debates about the complex ways in which Holocaust memory surfaces in contemporary Germany and Austria, and by the accrual of layers of text and discourse about the Holocaust. We will explore the controversies and debates about public Holocaust memorialization in Germany, Austria, and the U.S. We will also explore the complex interplay between documentary and fictional accounts of the Holocaust, with attention paid to literary and film texts that challenge and "remediate" the limits of Holocaust representation. Additional topics will include Holocaust testimony; Holocaust memoirs, and 2nd?and 3rd?generation Holocaust literature, the Historians' Debate of the 1980s. No knowledge of German required.

GER 3634. Women & Nonbinary German Authors: Cultural History & Constructing Selves through Narrative & Media. (; 3 cr. ; Student Option; Periodic Fall)

Examination of narrative texts and media by women and nonbinary German writers against a background of the cultural history of Germany spanning the 18th through the 20th century. Focus on personal narrative texts, both written and visual, and readings in literary and cultural theory and history. All readings in English.

GER 3641. German Folklore. (GP,LITR; 3 cr. ; Student Option; Fall Even, Spring Odd Year)

Literary and cultural investigation of the main folklore genres: charms, legends, folktales, and ballads; their composition, origin, and role in society with a strong emphasis on their international character. Readings in English. Majors required to write a paper with use of secondary sources in English and German. prereq: No knowledge of German required; cr for major or minor by arrangement with instructor

GER 3651. Thinking Environment: Green Culture, German Literature and Global Debates. (ENV,LITR; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

How environmental thinking became social-political force through German literature/culture, with comparisons to global or U.S. developments. Authors include Goethe, Christa Wolf, Enzensberger.

GER 3655. Cultures of Control and Surveillance in Germany and the US. (CIV,HIS; 3 cr. ; Student Option; Fall Odd Year)

Discourses and practices of social control and surveillance in comparative/historical perspective. Explores the central conceptual

condition for modern ethics: the relationship between individual and society. Paintings, manuals, scholarly and philosophical essays, and literary texts including writings by Franz Kafka.

GER 3701. History of the German Language. (; 3 cr. ; Student Option; Periodic Fall)
Change in grammar and lexicon, 750 A.D. to present. prereq: 1004

GER 3702. Beginning Middle High German. (; 3 cr. ; Student Option; Periodic Fall)
Middle High German grammar. Selected literary texts. prereq: 1004

GER 3704. German Dialects. (; 3 cr. ; Student Option; Periodic Fall)
Contemporary regional dialects recorded on tape and written in texts. Synchronic and diachronic analysis. prereq: 1004

GER 3993. Directed Studies. (1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Guided individual reading or study. Prereq instr consent, dept consent, college consent.

GER 4001. Beginning German for Graduate Research. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)
Emphasis on working toward novice-intermediate low proficiency in all four language modalities (listening, reading, speaking, writing). Topics include everyday subjects (shopping, directions, family, food, housing, etc.). Meets concurrently with 1001. prereq: Grad student

GER 4002. Beginning German for Graduate Research. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)
Listening, reading, speaking, writing. Emphasizes proficiency. Topics include free-time activities, careers, and culture of German-speaking areas. Meets concurrently with 1002. prereq: Grad student

GER 4003. Intermediate German for Graduate Research. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)
Listening, reading, speaking, writing. Contextualized grammar/vocabulary. Authentic readings. Essay assignments. Meets concurrently with 1003. prereq: Grad student

GER 4004. Intermediate German for Graduate Research. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)
Listening, reading, speaking, writing. Contextualized grammar/vocabulary. Authentic readings. Essay assignments. Meets concurrently with 1004. prereq: Grad student

GER 5011. Advanced Conversation and Composition. (; 3 cr. ; Student Option; Fall Odd Year)
Achieving high proficiency in writing/speaking professional/academic German. prereq: 3012, [grad student or adv undergrad]

GER 5410. Topics in German Literature. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)
Topic may focus on a specific author, group of authors, genre, period, or subject matter. Topics specified in Class Schedule.

GER 5510. Topics in Contemporary German Culture. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)
A topic of contemporary German culture explored in depth. prereq: 3011

GER 5610. German Literature in Translation. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)
Study in depth of authors or topics from various periods in German literature. Requires no knowledge of German. prereq: No knowledge of German required; cr toward major or minor requires reading in German

GER 5630. Topics in German Cinema. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Spring)
Topics chosen may focus on specific directors, genres, film production or reception, and/or other formal, theoretical, historical, or political issues. prereq: 3xxx film course or instr consent

GER 5651. Thinking Environment: Green Culture, German Literature and Global Debates. (ENV,LITR; 3 cr. ; Student Option; Fall Odd, Spring Even Year)
How environmental thinking became social-political force through German literature/culture, with comparisons to global or U.S. developments. Authors include Goethe, Christa Wolf, Enzensberger.

GER 5711. History of the German Language I. (; 3 cr. ; Student Option; Fall Even Year)
Historical development of German, from beginnings to 1450. prereq: 3011

GER 5721. Introduction to Middle High German. (; 3 cr. ; Student Option; Fall Odd Year)
Introduction to Middle High German language and literature. Study of grammar through formal description of Middle High German phonology, morphology, and syntax. Normalized MHG texts read.

GER 5734. Old Saxon. (; 3 cr. ; Student Option; Periodic Fall)
Study of the poetry of Old Saxon. Detailed investigation of Old Saxon in comparison with the other Old Germanic languages.

GER 5993. Directed Studies. (1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Guided individual reading or study. Prereq instr consent, dept consent, college consent.

German, Scandinavian, and Dutch (GSD)

GSD 3451V. Honors Major Project Seminar. (WI; 3 cr. ; A-F or Audit; Every Fall)
Major project under supervision of faculty member. Oral exam based on project. prereq: Honors student

GSD 3451W. Major Project Seminar. (WI; 3 cr. ; A-F or Audit; Every Fall)
Students prepare major project under supervision of faculty member.

GSD 3511W. Vikings, Knights, and Reformers: German and European Culture

and Controversies to 1700. (WI; 3 cr. ; Student Option; Every Fall)
Survey of representative cultural-historical events in Europe (German-speaking countries, Scandinavian, the Netherlands) from early Germanic times to 1700.

GSD 3512W. Imagined Communities: German and European Culture and Controversies, 1700 to Present. (WI; 3 cr. ; Student Option; Every Spring)
Survey of representative cultural-historical events in Europe (German-speaking countries, Scandinavian, the Netherlands) from 1700 to present.

GSD 5103. Teaching of Germanic Languages. (; 3 cr. ; Student Option; Every Fall)
Second language acquisition theory, methods, testing, and technology applicable to teaching of modern Germanic languages.

Gerontology (GERO)

GERO 5100. Topics in Gerontology. (; 0.5-4 cr. [max 10 cr.] ; Student Option; Periodic Fall, Spring & Summer)
Timely topics related to the biology, sociology, and psychology of aging and applied aging services.

GERO 5102. Hot Topics in the Biology of Aging. (1 cr. ; S-N only; Fall Even Year)
The goals of the course include providing the students with an essential understanding of the contemporary issues in biogerontology, including analysis of ethics issues in the field. This course is open to graduate students and post-doctoral fellows involved in the NIA training grant Functional Proteomics of Aging. others may enroll with instr permission.

GERO 5103. Aging and Society. (2 cr. ; Student Option; Every Fall)
Examines the broad range of topics and issues related to aging, and how the process of aging is shaped by social context and relationships in connection with individual factors, including family, the economy, health care, and the political system. Students in Master's or doctoral programs most likely to benefit. Students new to the field of aging studies are recommended to begin with GERO 5105/PubH 6883: Multidisciplinary Perspectives in Aging.

GERO 5105. Multidisciplinary Perspectives on Aging. (; 2 cr. [max 3 cr.] ; Student Option; Every Fall)
Obtain a broad understanding of the multidisciplinary perspectives, theoretical underpinnings, and advancements in the study of aging ("gerontology"), in the inter-related domains of clinical geriatrics, psychology, sociology, and policy as related to aging.

GERO 5111. Studying Aging and Chronic Illness. (; 2 cr. ; Student Option; Every Fall)
Methodological issues unique to studies of older populations. Focuses on measurement of epidemiological characteristics. Health conditions/disorders of older Americans. prereq: Introductory course in epidemiology or instr consent

GERO 5117. Adult Development and Aging. (2 cr. ; Student Option; Every Spring)

This course examines the dynamic interaction of individual development and aging. Students will review the principal theories applied to understand individual development and aging, and explore methodological issues in adult development and aging; cognitive aging; social and health factors that influence developmental trajectories in aging and vice versa; and psychopathological issues in aging. It is recommended that those new to the field of aging students take PubH 6883/GERO 5105: Multidisciplinary Perspectives in Aging prior to taking this course. This course fulfills the Behavioral and Social Sciences concentration area requirement of the Gerontology Minor.

GERO 5125. Gerontology Service Learning. (; 1-3 cr. ; Student Option; Every Fall, Spring & Summer)

At least 100 hours of service to seniors or organizations serving seniors required. Longitudinal one-on-one relationship with at least two seniors. Service activities may include: friendly visiting, escorting seniors to medical appointments, chore services, teaching health education to groups of seniors and staff, participating in social or recreational activities with seniors, assisting with immunization and screening programs, assisting seniors with selection of health plans, or providing volunteer home health aide or nursing assistant services or emergency non-medical response under the supervision of a nurse. Students may use up to 25 percent of their service time for project that benefits the campus as a whole. Reading, monthly class discussions, a term paper and weekly self-reflection

GERO 5191. Independent Study:

Gerontology. (1-4 cr. [max 16 cr.] ; Student Option No Audit; Periodic Fall, Spring & Summer)

Independent study: gerontology. prereq: Approval of [adviser, DGS] for gerontology minor

GERO 5518. Equity and Long-Term Care Quality. (2 cr. ; A-F only; Periodic Spring)

The objective of this course is to help students gain a deeper understanding of long-term care quality with a focus on equity. We will pay particular attention to post-acute care settings, care integration across settings, the role of the workforce, and equity considerations across all these topics. Post-acute care settings reviewed will include home care, assisted living, alternative care arrangements, nursing homes, and hospice. There are no required prerequisites but students are encouraged to take a course on U.S. health care (e.g., PubH 6556, Health and Health Systems) prior to taking the course. Cross-listed with: PubH 6518

Global Studies (GLOS)**GLOS 1015W. Globalization: Issues and Challenges.** (GP,WI; 4 cr. ; Student Option; Every Fall & Spring)

Increased global interconnections over past 50 years. Impact of information revolution on human rights, economic inequality, ecological

challenges, and decolonization. Comparative cases from Asia, Africa, Latin America, or Middle East.

GLOS 1112. Social Justice and Globalization. (GP; 3 cr. ; A-F only; Periodic Fall)

This course focuses on the relationship between two highly charged terms: globalization and social justice. We will explore questions such as: What is social justice, and how is it different from political justice or economic justice? When does the free flow of capital and commodities involved in globalizing processes endanger possibilities for social justice, and how might we check this danger? What about the mass migrations occurring now to Europe and elsewhere? To what extent are these the result of historic injustices, what new social injustices might they create, what new possibilities for social justice might they enable? How and when does the emergence of social media, network technologies and the like assist in the fight for human rights and equality, and thus enable social justice? And under what circumstances do these technologies empower phenomena like authoritarian populism, thus undermining social justice? This course will examine theoretical texts, literature, and empirical studies from the social sciences to investigate these questions.

GLOS 1916. Do the Right Thing: Ethics and You. (; 3 cr. ; A-F only; Periodic Fall & Spring)

This class will examine the struggles we all have in everyday life to "do the right thing." Almost every area of life confronts us with the question, "What should I do here?" "What is the right thing to do?" "What is the good thing to do?" To this extent our class is about ethics, that sphere of philosophy that inquires into the conduct of human beings as they encounter the world. Using different kinds of material--newspaper columns, film, and academic studies--we will examine the dilemmas that people have in making ethical decisions. Our goal is not to define a fixed guide to ethics as much as it is to acquaint students with questions about conduct as they appear in a variety of contexts of everyday life. We will ask what makes some situations clear and others ethically complex. We will also consider what happens when different scales of values confront each other in everyday life. Students will conclude the class able to notice and analyze ethical dilemmas and empowered to sort through them.

GLOS 3105. Exploring the World: The Practice of Interdisciplinary Research. (3 cr. ; Student Option; Every Fall)

This class introduces Global Studies students to some of the major disciplines and methods used to make knowledge about the social world. The course first addresses fascinating philosophical questions, such as how is knowledge a social product? How are knowing and understanding different? How might we think of ignorance, too, as something constructed? We then turn from theory to practice, and to the question, how can we frame our questions, and enact our research in humble and ethically principled ways?

Students will respond to this task by designing collaborative research projects. They will first identify and define a real world issue; they will review different disciplines' methods for defining and approaching the issue, and then they will jointly create a collaborative research design. The course will help Global Studies students understand the interdisciplinary nature of the Global Studies major, and it will help them begin to think about the goals, interests, and methods of their senior projects.

GLOS 3143. Place, Community, Culture. (CIV; 3 cr. ; A-F only; Every Spring)

Students in the Global Studies program study not only the powerful political institutions and economic processes that shape our world, they also acquire the skills to perceive and investigate their own place and identities, and to interpret creative work that express different ways of being. In GLOS 3143 'Place, Community, Culture' students will explore their own locations, identities, and experiences in the context of our fraught and ethically complex times. The emphasis is on practice, on seeing one's own life as something to be enriched by seeing and feeling the world in new ways. Students will encounter a mix of philosophical works, artistic texts (novels, films, poetry, painting, music, and other forms of media) and scholarly texts that together will help students expand their ingrained and conditioned ways of seeing the world. Class themes might include self and other, community and alienation, place and placelessness, home and homelessness. Students will examine the place of ethics and politics in the negotiation of their identities and experiences. Assignments might include essays that ask students to interpret artistic works that present different avenues of insight, or creative assignments that ask you to reflect on your own experiences in relation to course readings and themes. Students will conclude the class more confident of their ability to notice and negotiate the dilemmas they will encounter in their personal and professional lives.

GLOS 3144. Knowledge, Power, and the Politics of Representation in Global Studies. (3 cr. [max 4 cr.] ; A-F only; Every Fall)

This course provides an introductory overview of core theories and concepts that prepare students for successful completion of the Global Studies curriculum. In this half of the Global Studies core course sequence, students will investigate questions pertaining to how representations of the modern world in popular media and academic writing contribute to, reaffirm, and often challenge relations of inequality and division tied to such categories as ethnicity, gender, and race. Drawing on a wide range of interdisciplinary sources including magazines, novels, films, and digital media, these questions may include: How do cultural representations of the Global South reinforce European imperial and colonial projects? What role do mass-market magazines and newspapers have in constructing difference and producing stereotypes that justify imperialist attitudes? How does the development of technologies, from railroads to the internet, affect collective experiences of time and space? How is 'fake

news' and intentional misrepresentation a threat to democracy and to the ecological security of the Earth? Students will meet twice a week for lecture and attend a weekly recitation section, with assignments that include short writing exercises and/or weekly Canvas posts and a midterm and final examination. This course will show how the politics of representation and knowledge production relate to changing formations of power, while giving students the conceptual vocabulary and critical skills to prepare for subsequent Global Studies courses. Prereq: soph, jr, or sr

GLOS 3144H. Honors: Knowledge, Power, and the Politics of Representation in Global Studies. (; 3 cr. ; A-F only; Every Fall)

This course provides an introductory overview of core theories and concepts that prepare students for successful completion of the Global Studies curriculum. In this half of the Global Studies core course sequence, students will investigate questions pertaining to how representations of the modern world in popular media and academic writing contribute to, reaffirm, and often challenge relations of inequality and division tied to such categories as ethnicity, gender, and race. Drawing on a wide range of interdisciplinary sources including magazines, novels, films, and digital media, these questions may include: How do cultural representations of the Global South reinforce European imperial and colonial projects? What role do mass-market magazines and newspapers have in constructing difference and producing stereotypes that justify imperialist attitudes? How does the development of technologies, from railroads to the internet, affect collective experiences of time and space? How is 'fake news' and intentional misrepresentation a threat to democracy and to the ecological security of the Earth? Students will meet twice a week for lecture and attend a weekly recitation section with assignments that include short writing exercises and/or weekly Canvas posts and a midterm and final examination. This course will show how the politics of representation and knowledge production relate to changing formations of power, while giving students the conceptual vocabulary and critical skills to prepare for subsequent Global Studies courses. Prereq: Honors soph, jr, or sr

GLOS 3145. Global Modernity, the Nation-State, and Capitalism. (3 cr. ; A-F only; Every Spring)

This course provides an introductory overview of core theories and concepts that prepare students for successful completion of the Global Studies curriculum. In this half of the Global Studies core course sequence, students will investigate questions pertaining to the emergence of global modernity, capitalism, and the nation-state, with particular focus on theoretical concepts and institutional forms. Drawing on a wide range of interdisciplinary sources including critical theory, philosophy, and texts from the social sciences, these questions may include: How did reason and culture emerge as key concepts in modernity, and how were they associated with

transformations in time and space? How did the nation-state become a dominant political unit in the West, and how do postcolonial African states challenge its structure? What is the relationship between the Western liberal tradition, secularity, and violence? What are the histories and internal dynamics of the capitalist economy? Students will meet twice a week for lecture and attend a weekly recitation section, with assignments that include short writing exercises, a group project, and midterm and final examinations. This course will contextualize and trouble aspects of the global that are easily abstracted and taken for granted, while giving students the conceptual vocabulary and critical skills to prepare for subsequent Global Studies courses. Prereq: soph, jr, or sr Units: 3.00

GLOS 3145H. Honors: Global Modernity, the Nation-State, and Capitalism. (; 3 cr. ; A-F only; Every Spring)

This course provides an introductory overview of core theories and concepts that prepare students for successful completion of the Global Studies curriculum. In this half of the Global Studies core course sequence, students will investigate questions pertaining to the emergence of global modernity, capitalism, and the nation-state, with particular focus on theoretical concepts and institutional forms. Drawing on a wide range of interdisciplinary sources including critical theory, philosophy, and texts from the social sciences, these questions may include: How did reason and culture emerge as key concepts in modernity, and how were they associated with transformations in time and space? How did the nation-state become a dominant political unit in the West, and how do postcolonial African states challenge its structure? What is the relationship between the Western liberal tradition, secularity, and violence? What are the histories and internal dynamics of the capitalist economy? Students will meet twice a week for lecture and attend a weekly recitation section with assignments that include short writing exercises, a group project, and midterm and final examinations. This course will contextualize and trouble aspects of the global that are easily abstracted and taken for granted, while giving students the conceptual vocabulary and critical skills to prepare for subsequent Global Studies courses. Prereq: Honors soph, jr, or sr Units: 3.00

GLOS 3215. Supercapitalism: Labor, Consumption & the Environment in the New Global Economy. (3 cr. ; A-F only; Every Fall)

From the jeans you buy online to the place mats you purchase at Target, most of the items we consume are made somewhere else. Global production networks link consumers of fresh green beans in Britain with growers, pickers, and packers in Zambia. And it isn't only products that move around the globe; so do people. Thanks to immense economic inequalities, wealthy families in the global North enjoy the cheap labor of Eastern European, Filipino, and Honduran nannies, house cleaners, and gardeners. How did this global economy come to be, how has it impacted workers, consumers, and ecosystems, and

what are its ethical and political implications? This course focuses on the changes that have occurred over the last 70 years in the realms of labor, consumption, and the environment. We'll examine the movement away from regulated national economies to an integrated global economy; changing patterns and organization of production, distribution, consumption, and waste disposal; and new forms of capital-labor-state relations. Some of the topics we explore include the global trade in body parts; the rise of shareholder capitalism; the new "platform" economy; the growing insecurity of work; and the environmental changes global capitalism has wrought. We end by considering alternatives to the "business-as-usual" (BAU) economy.

GLOS 3219. History of Capitalism: Uneven Development Since 1500. (; 3 cr. ; Student Option; Fall Odd Year)

Causes of economic inequities in contemporary world. Long-term economic developments in cases taken from Africa, Asia, Europe, and North/South America. Various theoretical approaches to study of economic development. Introduction to key concepts.

GLOS 3225. The Power of the 1%: Global Philanthropy and the Making of a New World. (3 cr. ; Student Option; Periodic Fall & Spring)

Philanthropy has come to play an increasingly important role in the economy and society, on both a national and global level. Americans gave away \$450 billion in 2019, or a little over 2 percent of our country's GDP (Giving USA 2020). A few mega-philanthropists, such as Bill Gates, Warren Buffett, Michael Bloomberg and others donated mind-boggling sums of money. These individuals and their foundations are having a significant impact around the world, changing the way public education is carried out in many countries, how global health priorities are defined, how public policies are made, and how African agricultural systems are organized. Forbes magazine reports that there are 1,645 billionaires in the world today, 80% more than a decade ago. While some observers look positively on this philanthropic outpouring, others suggest it may be eroding democracy. In this course, we study philanthropy from a variety of perspectives, exploring who gives away money and why, how this "gift" impacts givers, receivers, and taxpayers, and what the relationship is between global philanthropy and power. Specific topics include the history of foundations; religion and charity; philanthropy and politics; consumption-based giving (or "brand aid"), and philanthropy and social policy. We'll examine case studies such as the Gates Foundation's role in African agriculture. Students will do "participant observation" in a local charity, and a research project on the philanthropic foundation or giving practice of their choice.

GLOS 3231. Geography of the World Economy. (GP,SOCS; 3 cr. ; Student Option; Every Fall)

Geographical distribution of resources affecting development. Location of agriculture, industry, services. Agglomeration of economic activities, urbanization, regional growth. International

trade. Changing global development inequalities. Impact on nations, regions, cities.

GLOS 3278. Tigers and Dragons: The Rise of the East Asian Economies, 1930-Present. (3 cr. ; Student Option; Spring Odd Year)
Rise of East Asian Economies, 1930-Present.

GLOS 3303. Environment and Development in the Third World. (ENV,SOCS; 3 cr. ; A-F or Audit; Every Spring)

Concepts for analyzing relations between capitalist development and environment in Third World. Historical geography of capitalist development. Case studies. Likelihood of social/environmental sustainability. prereq: Soph or jr or sr

GLOS 3305. Science for Sale: Environment, Capital, and Medicine. (; 3 cr. ; A-F only; Every Fall)

This class uses a social justice lens to explore the interrelations of scientific discoveries, unequal global economies, and commodification. We will look at practices, new technologies, and policies that are trenchant for the negative impacts they have on environments broadly defined, and for human and non-human populations. We will ask how these practices, technologies, and policies - and the social and economic contexts that produce them - variably impact the health, well being, and valuation of particular populations. In a series of interconnected themes, we will examine what factors produce food insecurity and for whom; where and why pollution of resources such as water happens; the history and current state of antibiotic resistance; climate change and its various effects; and how new technologies can be life-saving and life-denying according to the ways national and global policies determine who gains access and who does not. We will also look at the innovative ways grassroots movements tackle issues confronting particular groups, what constitutes positive social change and by whose definition, and potential ways forward. Final projects focus on website construction or policy documents that have application beyond the classroom. Prereq: soph or jr or sr

GLOS 3401W. International Human Rights Law. (GP,WI; 3 cr. ; A-F or Audit; Every Fall)
This course presents an introductory overview of the idea of human rights, its social and legal foundations and contemporary global issues. In the class, students will learn about the laws and procedures designed to protect the human rights of individuals and groups, with a special focus on the United Nations system. The course explores the conceptual underpinnings of human rights such as who is eligible to have rights, where those rights come from and who is responsible for guaranteeing them. Students will learn about how international laws are made and interpreted, and will consider the geo-political context which shapes human rights laws and procedures. Because of the evolving nature of the laws and issues in this field, students are encouraged to think analytically and ethically about how to address the many human rights challenges in the world today. The course will cover current human rights issues, including the right to

health care, housing and other economic and social rights; and the right to life, freedom from torture and other civil and political rights. The course is writing intensive. The required paper for the class is a model complaint to the United Nations about a country and issue of the student's choosing. The class invites discussion and uses class exercises to engage students in the course material by shaping arguments for various legal fora.

GLOS 3407. Global Islamophobia. (3 cr. ; A-F only; Periodic Spring)

Throughout the world, anti-Muslim activists and politicians have been increasingly attacking Muslims and Islam. And, international organizations have reported human rights violations against Muslims worldwide. Recently, in the United States, there have been calls to ban Muslims, as well as register American Muslims. In France, Muslim women are prohibited to wear a headscarf in high school. And in Myanmar, a genocide against Muslim minorities is currently underway. While anti-Islamic discourses have a long history in many societies worldwide (including Muslim-majority countries), the course seeks to explore the global rise of these discourses since September 11, 2001. The course examines the cultural, political, and historical origins of Islamophobic discourses that cast Muslims as "violent," "hateful," and "uncivilized." Class sessions will include some lecture but will be largely discussion based. Assignments will ask students to think and write critically about course concepts, debate and participate in simulation exercises, and reflect on personal thoughts and feelings about course content.

GLOS 3412. What is Equality?. (CIV; 3 cr. ; A-F only; Every Spring)

Course explores debates about equality. Equality has many dimensions--e.g.: economic, social, political. These forms cannot be reconciled. Liberal democracies affirm the principle of political equality but defend, even in principle, social and economic inequalities. Animal rights add another wrinkle: very few of those who fight for these rights would claim political equality for animals.

GLOS 3415W. Global Institutions of Power: World Bank, International Monetary Fund, and World Trade Organization. (GP,WI; 3 cr. ; A-F or Audit; Periodic Fall)

This course will introduce students to some of the world's most powerful global institutions -- such as the World Bank (IBRD), the International Monetary Fund (IMF), the World Trade Organization (WTO), the United Nations, and affiliated agencies such as UNHCR (for refugee support). We will follow their efforts to promote a style of global development practices -- large-scale capital lending and global expertise building -- that has crystallized into a common understanding of how global north-south dynamics should progress. Cases pursued in class may include their lending and debt policies, dam building and energy projects, climate resilience and water loans, and the ways they mediate free trade agreements among competing countries. We will also hear from the multitude of voices, theories, and practices that offer alternative

visions as to how peoples strive to produce a more just, socially equitable, and climate-safe world. We will use books, articles, films, in-class debates, case study exploration, small-group projects, and guest speakers to create a lively discussion-based classroom environment.

GLOS 3602. Other Worlds: Globalization and Culture. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

'Globalization' and 'Culture' are both terms that have been defined and understood in a variety of ways and the significance of which continues to be debated to the present, both inside and outside the academy. Globalization has been talked about both as an irresistible historical force, tending toward the creation of an increasingly interconnected, or, as is sometimes claimed, an increasingly homogeneous world, and as a set of processes, the outcome of which remains open-ended and uncertain, as likely to produce new kinds of differences as universal sameness. Culture meanwhile has been variously defined as that which distinguishes humans from other species (and which all humans therefore share) and as that which divides communities of humans from one another on the basis of different beliefs, customs, values etc. This course reflects on some of the possible meanings of both "Globalization" and "Culture" and asks what we can learn by considering them in relation to one another. How do the phenomena associated with globalization, such as increasing flows of people, capital, goods and information across increasing distances challenge our understandings of culture, including the idea that the world is composed of so many discrete and bounded "cultures"? At the same time, does culture and its associated expressive forms, including narrative fiction, poetry and film, furnish us with new possibilities for thinking about globalization? Does global interconnection produce a single, unified world, or multiple worlds? Are the movements of people, goods, ideas and information across distances associated with new developments caused by contemporary globalization, or have they been going on for centuries or even millennia? Might contemporary debates about climate change and environmental crisis compel us to consider these phenomena in new ways? The course addresses these questions as they have been discussed by scholars from a variety of disciplines and as they have been imagined by artists, poets, novelists and filmmakers. In doing so, it considers whether the distinctiveness of present day globalization is to be sought in part in the new forms of imagining and creative expression to which it has given rise.

GLOS 3609. Novels and Nations. (GP,LITR; 3 cr. ; Student Option; Periodic Fall)

How do emerging and postcolonial nations enlist fiction in their claims to sovereignty and autonomy? How do the novel's literary techniques and strategies perform a unique brand of political and social critique vis a vis nations and nationalisms? We will focus on novels from a variety of national contexts

from the Global North and South to show how literary analysis can be a companion to the social sciences in illuminating the historical and social contexts of the nation-state. In addition, we will consider the function of literature in allowing stateless nations to imagine a shared connection. We will also focus on the inner workings of the novel in order to understand the conventions and mechanisms of the genre and how it interconnects with related forms such as cinema, performance, and the visual arts.

GLOS 3611. Stories, Bodies, Movements. (6 cr. ; A-F only; Periodic Fall & Spring)
For most of us, stories seem to simply 'happen.' We listen to stories, we tell stories, we are moved by stories, and we retell stories. However, every act of telling stories involves making decisions or moves, and each re-telling of a familiar story may either give birth to new meanings, nuances, and affects, or, it may erase their possibility. Thus, each storyteller can be seen as a translator of stories with a responsibility to retell stories ethically. It is precisely through these translational acts that all politics become politics of storytelling. In this course, we will consider the ways in which the politics of the global and the intimate derive their meanings, effects, and affects from the circulation, transaction, and re-tellings of stories within and across borders. We will ask how a praxis of ethical engagement with politics can be imagined as a praxis of receiving and retelling stories. By immersing ourselves in the process of remembering, telling, listening, trimming, interweaving, distilling, and performing stories, we will consider how ethical receiving and retelling of stories involves continuous revising, repositioning, and re-theorizing of such vexed and entangled terrains and terminologies as identity, community, rights, and justice, as well as the contingent meanings of knowledge, truth, and ethics. This course engages this terrain through a mode of active learning in which all the participants will read and reflect, listen and discuss, tell and retell, watch and play, move and perform collectively. By becoming aware of the ways in which our minds-bodies-souls are inserted in the receiving and translation of stories, we will grapple together with the ways in which our bodies--as our embodiments--help to relationally shape not only our own performances but also our responses to the performances of other living and moving bodies around us. We will learn from writings, film, songs, and plays by writers, artists, activists, and thinkers from a range of historical and contemporary locations and struggles. These include: Marie Lily Cerat, W. E. B. Du Bois, Suheir Hamad, Sterlin Harjo, Naeem Inayatullah, June Jordan, AnaLouise Keating, Kauanui, J. Kehaulani, Audre Lorde, Viet Thanh Nguyen, Middle East Research and Information Project, Alok Rai, Nina Simone, Leanne Betasamosake Simpson, Sangtin Writers, Standing Rock Collective, Eve Tuck, Patrick Wolfe, and K. Wayne Yang. Many of the 'Acts' in this course will be co-facilitated with local or international artists and writers. Grading Basis: A/F. The course requires all

the participants to do sustained work and deep reflections, enjoy the process of imagining and creating with peers in a non-competitive environment. prereq: GLOS 3611 is for jr or sr only. People from all kinds of locations and journeys are invited to join us in this collective exploration. For further information, email: nagar@umn.edu.

GLOS 3612. Global Tourism, Ecology, and the Creative Arts in Indonesia. (3 cr. [max 6 cr.] ; Student Option; Periodic Summer)
Students in this course will study cultural traditions, the creative industry and tourism in Indonesia as an important part of the economy of the global south. The course will be held on the sites of dance performances, temples, heritage houses, and other cultural sites. Artists, cultural practitioners, cultural ministry officers, and policy makers for the tourism industry will serve as guest lecturers throughout. The course will be centered on creative intervention through the tourism industry and the arts and the particularity of creative impulse, gender difference, value of tradition, and modernity as a concept in Balinese culture.

GLOS 3613V. Honors: Stuffed and Starved: The Politics of Eating. (GP,WI,SOCS; 3 cr. ; A-F only; Periodic Fall & Spring)
The course takes a cross-cultural, historical, and transnational perspective to the study of the global food system. Themes explored include: different cultural and social meanings attached to food; social class and consumption; the global food economy; global food chains; work in the food sector; the alternative food movement; food justice; environmental consequences of food production. Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Students will also be expected to meet as a group and individually with the professor four times during the course semester. Examples of additional requirements may include: - Sign up and prepare 3-4 discussion questions in advance of at least one class session. - Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). - Write two brief (1-page) reflection papers on current news or a two-page critique of a class reading - Attend a presentation, workshop, or seminar on a related topic for this class and write a 2-page maximum reflective paper. - Interview a current Sociology/Global Studies graduate student and present briefly in class or write a reflective piece, not more than 2 pages in length, to be submitted to the Professor.

GLOS 3613W. Stuffed and Starved: The Politics of Eating. (GP,WI,SOCS; 3 cr. ; A-F or Audit; Periodic Fall & Spring)
This course takes a cross-cultural, historical, and transnational perspective to the study of the global food system. Themes explored include: different cultural and social meanings attached to food; social class and consumption; the global food economy; global food chains; work in the food sector; the alternative food movement; food justice; environmental consequences of food production.

GLOS 3643. Islam and the West. (; 3 cr. ; Student Option;)
Cultural/intellectual trends that have defined fundamental differences between Islam and the West. Development of historical, philosophical, and intellectual mindset of both spheres. Factors that have contributed and continue to contribute to tension, anxiety, and hatred between the Muslim world and Europe and the United States.

GLOS 3645. Islamic World. (GP,SOCS; 3 cr. ; Student Option; Every Fall)
Foundation of Islam in Arabian Peninsula, its spread to Asia and Africa. Islamic civilization, influence on Europe before rise of capitalism. Rise of Capitalist Europe, colonization of Islamic World Islamic resurgence and post-colonial World. State-society and development. Culture/conflict in Moslem societies. Gender and Islam. Islamic World and the West. Moslems in North America and Europe. Case studies.

GLOS 3681. Gender and the Family in the Islamic World. (; 3 cr. ; A-F only; Periodic Spring)
This course explores the experiences of Muslim women and Muslim families from a historical and comparative perspective. Expanding the discussion on Muslim women's lives and experiences beyond the Middle East, by also centralizing on the experiences of Muslim women and families outside of this geographical area highlights the complex and diverse everyday experiences of Muslim women around the world. This wider lens exposes the limitations intrinsic in the stereotypical representation of Muslims in general and Muslim women in particular. We will explore the intricate web of gender and family power relations, and how these are contested and negotiated in these societies. Some of the themes the course explores include the debates on Muslim women and colonial representations, sexual politics, family, education and health, women and paid work, gender and human rights, and Islamic feminisms debates. prereq: At least soph; 1001 recommended

GLOS 3705. Migrations: People in Motion. (GP; 3 cr. ; A-F or Audit; Periodic Fall & Spring)
Students in this course will tackle debates related to migration from a variety of disciplinary perspectives and will compare and connect diverse migration trends around the world (Asia, Africa, Latin America, and North America). Students will critically engage with various paradigms on the geopolitical, racial, and gender power dynamics that anchor migration processes and outcomes. Why would the movement of individuals from some parts of the world (often from the least developed regions to the highly developed Western nations) create such strong and highly charged debates? How are cross border social and economic relations of individuals and households maintained and perpetuated? What are particular governments doing to either encourage or hinder these movements? How are current migrations different from earlier eras? Is this gendered, and if so, how and

why? The objective of this course is to explore the above questions through academic and policy published literature. prereq: soph, jr, or sr

GLOS 3707. Disposable People?: Surplus Value, Surplus Humanity. (3 cr. ; A-F only; Periodic Fall & Spring)

The world today confronts a volatile scenario shaped by three intertwined political-economic processes: First, growth in surplus value or corporate profits fueled by monopoly capitalism, wage stagnation, and automation-driven improvements in productivity; second, growth in surplus or discarded matter fueled by rising consumerism and planned obsolescence in products and services; and finally, growth in surplus humanity or under-employed, unwanted populations fueled by structural transformations in the world economy with declining opportunities for good quality jobs. The combined result manifests as widening economic inequality between the 'haves' and 'have nots'; a politically volatile situation of racialized polarization in which huge numbers of people in entire regions, countries, or sectors of the globe, have little, declining, or no access to secure waged work; and an ecological crisis where the planet finds itself ill equipped to handle growing quantities of waste matter, including greenhouse gases. Our primary focus in the course will be to understand populations that are "cast out" of society, the forces that produce this condition, the mechanisms of rule by which surplus populations are managed, and the way people live and cope with their superfluity. Class sessions are a combination of lectures, debates, student-led discussions, and audio-visual materials. 60-70 pages of weekly reading, bi-weekly commentaries, take-home midterms, short presentation, and final paper.

GLOS 3896. Global Studies Internship. (; 3 cr. ; A-F or Audit; Every Spring)

Hands-on experience at Twin Cities organizations working at the nexus of the local and the global. Work 100 hours in non-governmental organization. Substantive coursework in Global Studies is required. prereq: dept consent

GLOS 3900. Topics in Global Studies. (; 1-5 cr. [max 15 cr.] ; Student Option; Every Fall & Spring)

Topics vary each semester. See Class Schedule.

GLOS 3961. Culture and Society of India.

(GP,SOCS; 3 cr. ; Student Option; Spring Even Year)

Contemporary society and culture in South Asia from an anthropological perspective with reference to nationalism; postcolonial identities; media and public culture; gender, kinship and politics; religion; ethnicity; and the Indian diaspora.

GLOS 3969. Democracy and popular politics in India. (; 3 cr. ; A-F or Audit; Periodic Fall)

Democracy is not only a political order; it is also a popular culture and politics. This course explores three tumultuous moments of this politics and culture in India: the pluralist nationalism which characterized Gandhian

nonviolence and the Indian constitution, the majoritarianism that was often this pluralism's undertow, and Hindutva or Hindu supremacism, the now dominant populist ideology.

GLOS 3981W. Capstone Seminar. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

In the Capstone Seminar, students will write a 25-30 page undergraduate thesis on a self-defined topic related to their thematic and/or regional concentration. The course is designed to support academic research and writing in an interdisciplinary field, and to provide students a space to synthesize what they have learned in the classroom, through study abroad, in internships, and from life experiences. Students can expect lecture, class discussion, small-group work and peer review, and one-on-one meetings with the instructor. Prereq: dept consent

GLOS 3985V. Honors Capstone Seminar. (WI; 3 cr. ; A-F only; Every Fall & Spring)

In the Honors Capstone Seminar, students will write a 25-30 page cum laude or magna cum laude honors thesis on a self-defined topic related to their thematic and/or regional concentration. The course is designed to support academic research and writing in an interdisciplinary field, and to provide students a space to synthesize what they have learned in the classroom, through study abroad, in internships, and from life experiences. Students can expect lecture, class discussion, small-group work and peer review, and one-on-one meetings with the instructor. Students interested in summa cum laude honors should not take this class; they should consult the Global Studies advisor. Prereq: dept consent

GLOS 3993. Directed Study. (1-5 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. Prereq instr consent, dept consent, college consent.

GLOS 4221. Globalize This! Understanding Globalization Through Sociology. (GP; 3 cr. ; A-F or Audit; Periodic Fall)

From the city streets of Bangalore to the high plateaus of La Paz to the trading floors of New York City, people from around the world are becoming increasingly interdependent, creating new and revitalizing old forms of power and opportunity, exploitation and politics, social organizing and social justice. This course offers an overview of the processes that are forcing and encouraging people's lives to intertwine economically, politically, and culturally. prereq: Soc majors/minors must register A-F

GLOS 4311. Power, Justice & the Environment. (DSJ; 3 cr. ; A-F or Audit; Periodic Spring)

This course introduces students to the theoretical and historical foundations of environmental racism and environmental inequality more broadly. We will examine and interrogate both the social scientific evidence concerning these phenomena and the efforts by community residents, activists, workers, and governments to combat it. We will consider the social forces that create environmental inequalities so that we may understand their

causes, consequences, and the possibilities for achieving environmental justice prereq: SOC 1001 recommended

GLOS 4315. Never Again! Memory & Politics after Genocide. (GP; 3 cr. ; A-F or Audit; Spring Odd Year)

Course focuses on the social repercussions and political consequences of large-scale political violence, such as genocide, war crimes and crimes against humanity. Students learn how communities and states balance the demands for justice and memory with the need for peace and reconciliation and addresses cases from around the globe and different historical settings. prereq: SOC 1001 or 1011V recommended, A-F required for Majors/Minors.

GLOS 4319. "Jews will not replace us!" Global Antisemitism from its Origins to the Present. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course will explore the topic of antisemitism, its history and cultural logic, and the relation to other forms of exclusion tied to race, religion, and citizenship in modern times. Starting with the history of Jewish emancipation in Europe and the subsequent debates about the "Jewish Question," students will learn to identify the key features of political antisemitism and the ways that antisemitism has been explained by different social theories, including Marxism, Functionalism, and Critical theory. The course will examine the differences and continuities between older theological forms of anti-Judaism and modern antisemitism, the connections between antisemitism, nativism, and xenophobia in the US and globally, and engage with current debates regarding the correlation between anti-Zionism and antisemitism. We will also explore Jewish social, political, and ideological responses to antisemitism in Europe and the US, from the Holocaust to the present. Pre-reqs: sophomore or above.

GLOS 4344. Europe and its Margins. (; 3 cr. ; A-F only; Every Fall)

This course explores some of the forms of human imagining (literary, artistic, political, social scientific) engendered by the notoriously hard to define entity known as "Europe." It does so by focusing on regions and populations that have been thought of at various times as marking Europe's inner and outer cultural and/or geographical limits. Topics addressed include: the relationship between physical geography, cultural memory, and the formation (or subversion) of identity claims; the reconfigured political landscapes of post-socialism and European integration; immigration, refugee flows, and the rise of far-right ethno-nationalisms; and the effects of pandemics past and present. prereq: One course in [ANTH or GLOS]

GLOS 5315. Never Again! Memory & Politics after Genocide. (GP; 3 cr. ; A-F or Audit; Spring Odd Year)

Course focuses on the social repercussions and political consequences of large-scale political violence, such as genocide, war crimes and crimes against humanity. Students learn how communities and states balance the

demands for justice and memory with the need for peace and reconciliation and addresses cases from around the globe and different historical settings. prereq: SOC 1001 or 1011V recommended, A-F required for Majors/Minors.

GLOS 5403. Human Rights Advocacy. (; 3 cr. ; Student Option; Every Fall)

Theoretical basis of human rights movement. Organizations, strategies, tactics, programs. Advocacy: fact-finding, documentation, campaigns, trial observations. Forensic science. Human rights education, medical/psychological treatment. Research project or background for case study. prereq: Grad student

GLOS 5611. Stories, Bodies, Movements. (6 cr. ; A-F only; Periodic Fall & Spring)

For most of us, stories seem to simply 'happen.' We listen to stories, we tell stories, we are moved by stories, and we retell stories. However, every act of telling stories involves making decisions or moves, and each re-telling of a familiar story may either give birth to new meanings, nuances, and affects, or, it may erase their possibility. Thus, each storyteller can be seen as a translator of stories with a responsibility to retell stories ethically. It is precisely through these translational acts that all politics become politics of storytelling. In this course, we will consider the ways in which the politics of the global and the intimate derive their meanings, effects, and affects from the circulation, transaction, and re-tellings of stories within and across borders. We will ask how a praxis of ethical engagement with politics can be imagined as a praxis of receiving and retelling stories. By immersing ourselves in the process of remembering, telling, listening, trimming, interweaving, distilling, and performing stories, we will consider how ethical receiving and retelling of stories involves continuous revising, repositioning, and re-theorizing of such vexed and entangled terrains and terminologies as identity, community, rights, and justice, as well as the contingent meanings of knowledge, truth, and ethics. This course engages this terrain through a mode of active learning in which all the participants will read and reflect, listen and discuss, tell and retell, watch and play, move and perform collectively. By becoming aware of the ways in which our minds-bodies-souls are inserted in the receiving and translation of stories, we will grapple together with the ways in which our bodies--as our embodiments--help to relationally shape not only our own performances but also our responses to the performances of other living and moving bodies around us. We will learn from writings, film, songs, and plays by writers, artists, activists, and thinkers from a range of historical and contemporary locations and struggles. These include: Marie Lily Cerat, W. E. B. Du Bois, Suheir Hammad, Sterlin Harjo, Naeem Inayatullah, June Jordan, AnaLouise Keating, Kauanui, J. Kehaulani, Audre Lorde, Viet Thanh Nguyen, Middle East Research and Information Project, Munshi Premchand, Alok Rai, Nina Simone, Leanne Betasamosake Simpson, Sangtin Writers, Standing Rock

Collective, Eve Tuck, PatriGLOSck Wolfe, and K. Wayne Yang. Many of the 'Acts' in this course will be co-facilitated with local or international artists and writers. Grading Basis: A/F. The course requires all the participants to do sustained work and deep reflections, enjoy the process of imagining and creating with peers in a non-competitive environment. Prereq: For graduate students only, or with instructor consent. People from all kinds of locations and journeys are invited to join us in this collective exploration. For further information, email: nagar@umn.edu.

GLOS 5900. Topics in Global Studies. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Proseminar. Selected issues in global studies. Topics specified in Class Schedule.

GLOS 5993. Directed Studies. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Guided individual reading or study. Open to qualified students for one or more semesters.

GLOS 5994. Directed Research. (1-4 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Qualified students work on a tutorial basis. Prereq instr consent, dept consent, college consent.

Graduate School (GRAD)

GRAD 5102. Preparation for University Teaching for Nonnative English Speakers.

(; 2 cr. ; S-N or Audit; Every Fall & Spring) Theory/practice of teaching in higher education in the United States. Emphasizes clear oral classroom communication and development of presentation skills. Students practice in a simulated instructional setting. prereq: English Language Proficiency Rating of 4; Contact cei@umn.edu for permission number.

GRAD 5105. Practicum in University Teaching for Nonnative English Speakers.

(; 1-2 cr. ; S-N or Audit; Every Fall & Spring) Theory, advanced practice in teaching in higher education for nonnative speakers of English. Emphasizes interactive teaching strategies, awareness of cross-cultural classroom issues, oral classroom presentation skills, and legal/policy issues. prereq: 5102 or English Language Proficiency Rating of 2; Contact cei@umn.edu for permission number.

Graduate Summer Research (GRD)

GRD 4999. Graduate Summer Research. (; 0 cr. ; No Grade Associated; Every Summer) Graduate Summer Research

Grand Challenge Curriculum (GCC)

GCC 1903. Sustainable Development with Environmental Justice. (ENV; 3 cr. ; A-F only; Periodic Fall & Spring)

This freshman seminar will provide a clear knowledge of the grand challenge - sustainable development with environmental justice via the nexus approach. The specific objectives are (1) Discuss sustainable development with environmental justice and an interacting

network. (2) Explain interrelationship among resource (especially water, food and energy ? WFE) utilization, sustainable development, and environmental justice and equity. (3) Compare the currently used ?solitary? approach and the recently developed nexus approach ? theoretical considerations, detection of (un)sustainability, natural and human-based pressures, governance practices and management issues. (4) Discuss application of the nexus approaches to achieve sustainable development with environmental justice. We hypothesize that a nexus approach promotes sustainable development with environmental justice via managing the interlinked resources, enhancing WFE security, increasing efficiency, reducing trade-offs, building synergies and improving governance across sectors.

GCC 1906. Rare Diseases: What it Takes to Be a Medical Orphan. (; 3 cr. ; A-F only; Periodic Fall & Spring)

What if you are born with a condition, which very few people know about and for which there are no cures? Or what if there is a cure, but it is very expensive and you have to take it throughout your life? How can you encourage pharmaceutical industry invest in such cures and have policy makers consider such conditions when they draft new regulations? Rare diseases are not rare. There are 7000 diseases, but in aggregate, these diseases affect 30 million (i.e. 1 in 10) Americans of all ages and additional millions of people globally. Most of these conditions are serious and life-altering and children account for more than 50% of those affected. However, only 5% of all rare diseases have FDA-approved treatments. Thus, there is a large unmet need in this area and one way to address this is to raise awareness about these conditions. In this highly interactive course comprising of weekly seminars and related readings on topics related to the understanding of rare diseases and the economics, regulatory and public policy aspects of development of drugs (orphan products) to treat these conditions in the US and across the globe. Students will learn from and network with researchers, healthcare professionals and business leaders and gain sufficient background to appreciate the scope of this multidisciplinary field. Students will work in teams with a patient advocacy organization to learn firsthand the challenges related to the diagnosis and treatment of a specific rare disease, barriers to research and development and deliver possible solutions to a specific challenge that they have identified.

GCC 1908. Ways of Knowing Science. (DSJ; 3 cr. ; A-F only; Periodic Fall)

Every human society codifies its own unique approach, understanding and experience of the world around it into systems of knowledge. However, until very recently, scientific researchers at large Western universities have paid little attention to this knowledge, in part because much is dismissed as ?unscientific? -- implying inferiority to Western science. In this seminar, we will take a more culturally sensitive ?inside look? at diverse ways of knowing. Experience is often the best teacher. By direct experience and involvement with

another culture, we come to better recognize their cultural worldview and its way of seeing and making sense of the world. In this way, learners will encounter different ways of knowing. Each week, experiential learning is supplemented through reading assignments that include published inquiry by indigenous and academic authors. This is a Grand Challenge Curriculum course.

GCC 1909. Introduction to Ecosystem

Health: Challenges at the Intersection of Human, Animal, and Environmental. (ENV; 3 cr. ; A-F only; Periodic Spring)

Many of the world's most "wicked" and urgent grand challenges occur at the interface of humans, animals, and the environment. For instance, in a given region of the world, how do we manage the effects of climate change, disease emergence, food and water security, gender, and conflict and poverty, to ensure the health of humans and animals? For many grand challenges like this, we observe a common theme: human health depends upon the environment, and the environment depends on the health and sustainability of human communities. These large-scale grand challenges can often become overwhelming, and a solution that considers only one aspect of health often seems daunting and difficult to implement in policy. How can we usefully understand the interactions between these challenges to contribute to solutions? How can one's own discipline and career path relate to these complex grand challenges? How do we build teams and partnerships across disciplines to engage at the scale of the problem? This course introduces Ecosystem Health (ESH) as a framework and practice for developing complex solutions for grand challenges. In particular, the course will: ? focus on the emerging discipline of Ecosystem Health, and associated approaches and technologies that support solutions to grand challenges of health at the interface of humans, animals, and the environment. ? introduce a toolset for approaching, defining, and responding to these grand challenges, including systems thinking, complexity science, and integrative leadership. ? interrogate the conflicts that exist between differing conceptions of health, through the study of several complex cases.

GCC 3003. Seeking Solutions to Global Health Issues. (GP; 3 cr. ; A-F only; Periodic Fall)

Often, the most progress on challenging issues such as health and equity is made when you apply an interdisciplinary perspective. The same is true for global health issues. Whether responding to emerging pandemics, food insecurity, maternal mortality, or civil society collapse during conflict, solutions often lie at the intersection of animal, environmental, and human health. In this course, students will work in teams to examine the fundamental challenges to addressing complex global health problems in East Africa and East African refugee communities here in the Twin Cities. Together we will seek practical solutions that take culture, equity, and sustainability into account. In-field professionals and experts will be available to mentor each team, including

professionals based in Uganda and Somalia. This exploration will help students propose realistic actions that could be taken to resolve these issues. This course will help students gain the understanding and skills necessary for beginning to develop solutions to global health issues. This is a Grand Challenge Curriculum course. GCC courses are open to all students and fulfill an honors experience for University Honors Program students.

GCC 3005. Innovation for Changemakers: Design for a Disrupted World. (GP; 3 cr. ; A-F only; Periodic Fall & Summer)

Do you want to make a difference? We live in a world full of complex challenges, such as COVID-19, racism, economic recession, and environmental collapse, to name a few. Now is the time to use your own skills and passion to make a positive impact in the world. In this project-based course, you will learn how to develop effective and sustainable responses to current social and environmental problems. You'll study a variety of tools, mindsets, and skills that will help you to address any complex grand challenge, as well as engage with case studies of successful grand challenge projects in the past. Your project may address food insecurity, unemployment, housing, environmental impacts, equity, or other issues. Proposed designs for how you might have an impact may take many forms- such as a student group, program intervention with an existing organization, public policy strategy, or for-profit or non-profit venture. but this class will focus on how to make ideas financially sustainable. The primary focus of this (GCC 3005) course is how to identify an appropriate challenge to address. You will use a discovery process, design thinking, and input from field research to develop the scope and scale of the challenge you choose. You will build a model for your idea around input from primary and secondary research, as well as the affected community's culture, needs, and wants. Community members, locally and globally, may serve as mentors and research consultants to teams. External speakers will be brought in to share their stories to serve the common good. Students enrolled will work in interdisciplinary teams of 4-5 on projects developed within the class. This is a Grand Challenge Curriculum course. GCC courses are open to second year undergraduate students and above and graduate students and fulfill an honors experience for University Honors Program students.

GCC 3007. Toward Conquest of Disease.

(ENV; 3 cr. ; A-F only; Every Spring)

Since the rise of civilization, the large predators of humans have been subdued and the most dangerous predators remaining are those unseen--vastly smaller than our bodies. They are the microbial predators that cause disease. Infectious disease has devastated human populations and even caused global population declines. Subduing and managing disease is one of the grand challenges of our time. Through an enormous global effort, we have driven smallpox in humans and Rinderpest in livestock extinct from the natural world, and guinea worm is expected to follow. Other

infectious diseases are in continual decline. In this course we will combine ecological thought and ecological models with historical and future perspectives to understand the fundamental dynamics of our miniscule predators, and relate this to similar miniscule predators of wild and domestic animals, to crops, and to other plants. This is a Grand Challenge Curriculum course. prereq: sophomore, junior, senior

GCC 3011. Pathways to Renewable Energy.

(TS; 3 cr. ; A-F only; Periodic Spring)

This interdisciplinary course will examine obstacles to energy transitions at different scales. It will explore the role of energy in society, the physics of energy, how energy systems were created and how they function, and how the markets, policies, and regulatory frameworks for energy systems in the US developed. The course will closely examine the Realpolitik of energy and the technical, legal, regulatory, and policy underpinnings of renewable energy in the US and Minnesota. Students will learn the drivers that can lead global systems to change despite powerful constraints and how local and institutional action enables broader reform. Students will put their learning into action by developing a proposal and then working on a project to accelerate the energy transition and to ensure that the energy transition benefits people in a just and equitable way. This is a Grand Challenge Curriculum course. prereq: sophomore, junior, senior

GCC 3013. Making Sense of Climate Change - Science, Art, and Agency. (CIV; 3 cr. ; A-F only; Periodic Spring)

The overarching theme of the course is the role of artistic/humanistic ways of knowing as tools for making sense and meaning in the face of "grand challenges." Our culture tends to privilege science, and to isolate it from the "purposive" disciplines--arts and humanities--that help humanity ask and answer difficult questions about what should be done about our grand challenges. In this course, we will examine climate change science, with a particular focus on how climate change is expected to affect key ecological systems such as forests and farms and resources for vital biodiversity such as pollinators. We will study the work of artists who have responded to climate change science through their artistic practice to make sense and meaning of climate change. Finally, students create collaborative public art projects that will become part of local community festivals/events late in the semester.

GCC 3014. The Future of Work and Life in the 21st Century. (TS; 3 cr. ; A-F only; Periodic Fall)

This course seeks solutions to the technological, demographic, and economic forces that challenge taken-for-granted mindsets and existing policies around work, careers, and life. Students will consider positive and negative impacts of the forces that render the conventional education/work/retirement lockstep obsolete. What do these changes mean for men and women of different ages and backgrounds? What are alternative,

sustainable ways of working and living in the 21st century? These questions reflect global challenges that touch the lives of people everywhere. Students will work in teams to begin to address these realities and formulate innovative solutions to better transform learning, working, caring, and community-building in the 21st century. This is a Grand Challenge Curriculum course.

GCC 3016. Science and Society: Working Together to Avoid the Antibiotic Resistance Apocalypse. (TS; 3 cr. ; A-F only; Periodic Spring)

Before the discovery of antibiotics, even a simple thorn prick could lead to life threatening infection. Antibiotics are truly miracle drugs, making most bacterial infections relatively easy to cure. However, this landscape is rapidly changing with the advent of microbes that are resistant to antibiotics. This course will provide an overview of how antibiotic use invoked antibiotic resistance, including in depth discussions of antibiotic resistant microorganisms and the impact of globalization on this exploding problem. Societal and ethical implications associated with antibiotic use and restriction in humans and animals will be discussed, along with global issues of antibiotic regulation and population surveillance.

The class will conclude with discussions of alternative therapeutic approaches that are essential to avoid "antibiotic apocalypse." The course will include lectures by world-renowned experts in various topics, and students will leverage this knowledge with their own presentations on important topics related to issues of personal freedom versus societal needs. This is a Grand Challenge Curriculum course.

GCC 3017. World Food Problems: Agronomics, Economics and Hunger. (GP; 3 cr. ; A-F only; Periodic Fall)

This course provides a multi-disciplinary look at problems (and some of the possible solutions) affecting food production, distribution, and requirements for the seven plus billion inhabitants of this planet. It is co-taught by a plant geneticist (Morrell) and an economist (Runge) who together have worked on international food production and policy issues for the past 40 years. Historical context, the present situation and future scenarios related to the human population and food production are examined. Presentations and discussions cover sometimes conflicting views from multiple perspectives on population growth, use of technology, as well as the ethical and cultural values of people in various parts of the world. The global challenge perspective is reflected in attention to issues of poverty, inequality, gender, the legacy of colonialism, and racial and ethnic prejudice. Emphasis is placed on the need for governments, international assistance agencies, international research and extension centers, as well as the private sector to assist in solving the complex problems associated with malnutrition, undernutrition, obesity, and sustainable food production. Through a better understanding of world food problems, this course enables students to reflect on the shared sense of

responsibility by nations, the international community and ourselves to build and maintain a stronger sense of our roles as historical agents. Throughout the semester students are exposed to issues related to world food problems through the lenses of two instructors from different disciplinary backgrounds.

The core issues of malnutrition and food production are approached simultaneously from a production perspective as well as an economic and policy perspective throughout the semester. This is a Grand Challenge Curriculum course. GCC courses are open to all students and fulfill an honors experience for University Honors Program students.

GCC 3018. What American Dream? Children of the Social Class Divide. (DSJ; 3 cr. ; A-F only; Periodic Fall)

As a result of the increasing and widening social class divide present in the early 21st century, American families and their children are facing more challenges than ever before. In this course, students will identify and confront the barriers to opportunities created by the divide and seek solutions that can be pursued with families, schools, and communities, and public policy to redress these inequities. Because of the complexity of this grand challenge, an interdisciplinary approach to intervention and policy is required. From course instructors' respective vantage points in prevention science, developmental and educational psychology, and family social science, and with the perspectives provided by faculty contributors from economics, law, and pediatrics, students engage with diverse modes of inquiry, epistemologies, and critical lenses by which possible solutions can be generated and implemented. This is a Grand Challenge Curriculum course.

GCC 3021. The Achievement Gap: Who is to Blame?. (DSJ; 3 cr. ; A-F only; Periodic Fall & Spring)

Students in GCC 3021 will start the semester with a review of what unequal schooling looks like in the United States. The course uses the history of Detroit to examine how underinvestment and discrimination positioned minoritized communities to receive inadequate education. School structures--including resources, climate and discipline, academic tracks, and community engagement--will be explored. Students will consider what it means to say that there are "achievement gaps" in our society's schools. Mainstream assumptions and meanings will be questioned and criticized, and alternatives, such as the notion of an "education debt," will be explored. This is a Grand Challenge Curriculum course.

GCC 3025. Seeking the Good Life at the End of the World: Sustainability in the 21st Century. (CIV; 3 cr. ; A-F only; Periodic Fall & Spring)

What does it mean to live "the good life" in a time of rapid climate changes, mass extinction of plant and animal species, and the increasing pollution of our oceans, atmosphere, and soils? Is it possible to live sustainably, as individuals and societies, in what scientists are calling the Anthropocene, or this new epoch of human influence over the planet? Will sustainability

require that we sacrifice the gains humanity has made in our quality of life? Or can we find a way to create a good Anthropocene? This course will attempt to answer these questions in four ways: 1. By providing an overview of sustainability science, both what it says about human and natural systems and how it comes to make these claims 2. By examining various conceptions of the good life, both individual and social, and how they intersect with the findings of sustainability science 3. By exploring the conflicts that exist within and between differing visions of sustainability and the good life through case studies in energy, water, and food 4. By pursuing collaborative research projects that will help students apply their knowledge and skills to current problems in sustainability studies We will read widely in the sciences, social sciences, and humanities to understand a range of historical and contemporary perspectives on these questions, and in doing so we will put abstract ethical principles into conversation with a diversity of specific cultures and environments. By the end of the course, students will have examined their own assumptions about personal and professional happiness, considered how these align with and diverge from societal visions and values, and explored innovative solutions to help sustain our productive economy and our planet. This is a Grand Challenge Curriculum course.

GCC 3026. Stepping Into the Gap: How can you support diversity in STEM?. (DSJ; 3 cr. ; A-F only; Periodic Fall)

The goal of this class is to empower students to alter the cognitive, social, and emotional factors that have led to the underrepresentation of many groups in STEM fields (Science, Technology, Engineering, and Mathematics). In addition to studying research on the psychology of learning and diversity, we will survey literature about scientific communication and learn about the impact of disparities in educational opportunities. We will also engage in discussions about the persistent problems related to equity and access in STEM education. In October, November, and December, the class meets at a local middle school (easily accessible by public transportation). University students lead introductory science demos, stage a science fair so the middle school students have a chance to play judge, and then partner with the middle school students as they invent, execute and present their own science fair projects. During September, and on school holidays in October and November, the class will discuss theories and research that explains the crisis being experienced across America and in particular, in the Twin Cities. They will design evidence-based curriculum materials to address key issues and have hands-on experiences as peer mentor-teachers. Overall, this class will provide experiences that are likely to be transformative in relation to students' views of education, opportunity, and the power of their involvement. This class builds on a partnership between the University of Minnesota and a local middle school. The overarching goal is to support students from groups typically underrepresented in

science as they participate in an advanced science learning opportunity: the science fair. Our engagement with the school science fair process should result in an experience that motivates future participation in STEM opportunities. This is a grand challenge curriculum course.

GCC 3027. Power Systems Journey: Making the Invisible Visible and Actionable. (TS; 3 cr. ; A-F only; Periodic Fall)

An energy revolution is underway, and needs to accelerate to support climate and economic goals. But the general citizenry does not understand our current energy systems, particularly the seemingly invisible phenomena of electricity, and its generation, distribution, and use. Technical knowledge is only half the solution, however. It is through human decisions and behaviors that technical solutions get applied and adopted, and the importance of communication and storytelling is being recognized for its relevance to making change. How can science literacy and behavior-motivating engagement and storytelling be combined to help make systemic change? This course explores the integration of science-based environmental education, with art-led, place-based exploration of landscapes and creative map-making to address this challenge. How do we make electricity visible, understandable, and interesting -- so we can engage citizens in energy conservation with basic literacy about the electric power system so that they can be informed voters, policy advocates, and consumers. In this class, you will take on this challenge, first learning about the electric power systems you use, their cultural and technical history, systems thinking, design thinking, and prior examples of communication and education efforts. With this foundation, you will then apply your learning to create a public education project delivered via online GIS Story maps that use a combination of data, art, and story to help others understand, and act on the power journey we are all on. All will share the common exploration of power systems through field trips, and contribute to a multi-faceted story of power, presented in a group map and individual GIS Story maps. No prior knowledge of GIS story maps or electricity issues is needed. The study of power systems can be a model for learning and communicating about other topics that explore the interaction of technology and society toward sustainability. This is a Grand Challenge Curriculum course. GCC courses are open to all students and fulfill an honors experience for University Honors Program students.

GCC 3028. Harnessing the power of research, community, clinic and policy to build a culture of health. (DSJ; 3 cr. ; A-F only; Periodic Fall & Spring)

Imagine a world where factors such as race, ethnicity, and socioeconomic status had no bearing on a person's health status, quality of life, or longevity--a world where everyone had an equal opportunity to live a long and healthy life. Unfortunately, this is not the case. Despite decades of focused public health efforts, health inequities remain; individuals

from low income and diverse racial/ethnic backgrounds are far more likely to, (1) struggle with chronic health conditions, (2) report lower quality of life, and (3) have a lower life expectancy, than others. Bold and innovative solutions are needed to address this grand challenge. Integration is one such method that can potentially increase the success and sustainability of approaches to reduce health disparities and create a culture of health for all. Integration is an approach to solving complex public health problems that merges academic research, clinical practice, policy and community resources in new ways. This interactive course will challenge students to identify root causes of health, including access to food, housing, transportation and education. Students will also focus on health disparities and barriers to eliminating these existing, disparate, negative outcomes. Students will be introduced to the concept of integration science and practice; will learn about the importance of integration across research, practice, community, and policy domains to address health disparities; and will cultivate the communication skills needed to intentionally and successfully facilitate integration practice. Course instructors with unique vantage points as concerned scientists, health practitioners, and policy wonks will engage students in class discussions and activities, individual writing assignments and small-group work aimed at unveiling the reasons health disparities persist globally--challenging them to consider opportunities for integration to alleviate existing disparities. The semester will culminate in students working in groups to create their own integrated projects aimed at addressing a health disparity.

GCC 3029. Agents of Change: scientific and philosophical perspectives. (CIV; 3 cr. ; A-F only; Periodic Spring)

Grand challenges like structural racism, climate change, gender oppression, and global poverty have to be solved by individual people, acting together, often through institutions. This means that we need good agents of change to address the challenges we face. What does it mean to be a "good agent"? What are the best ways to think about this kind of agency? And how can we foster more of it in ourselves, our friends, our children, and our fellow citizens? This course is taught by a philosopher and a psychologist, and we approach questions like these from both perspectives. Traditionally, many philosophers have thought that we need to cultivate virtues such as compassion and open-mindedness in order to be good people. Some recent psychological work casts doubt on this picture: the social and environmental forces that influence our behavior cannot be overcome with virtuous character! On the other hand, psychological research also shows that some of the good traits we have are ones that develop reliably, from early childhood. Which perspective offers more opportunities for progress? Should we foster good agency by working on individual character or by changing social circumstances? Or, if both are important, what would a combined approach look like? The ultimate goal of the course is to encourage students to apply the

theoretical and scientific ideas about improving agency to specific grand challenges. How do philosophy and psychology help us to define and resolve the challenges that confront people who want to make a difference? To provide a model for this kind of research, we focus on structural racism and white supremacy to expose the ways in which individual and structural forces can impede epistemic and moral agency. Course requirements include active class participation, group projects, and writing assignments designed to foster creative engagement across different fields.

GCC 3031. The Global Climate Challenge: Creating an Empowered Movement for Change. (CIV; 3 cr. ; A-F only; Periodic Spring)

Students will explore ecological and human health consequences of climate change, the psychology of climate inaction, and will be invited to join us in the radical work of discovering not only their own leadership potential but that of others. We will unpack the old story of domination and hierarchy and invite the class to become part of a vibrant new story of human partnership that will not only help humanity deal with the physical threat of climate change but will help us create a world where we have the necessary skills and attitudes to engage the many other grand challenges facing us. Using a strategy of grassroots empowerment, the course will be organized to help us connect to the heart of what we really value; to understand the threat of climate change; to examine how we feel in the light of that threat; and to take powerful action together. Students will work in groups throughout the course to assess the global ecological threat posed by climate change, and they will be part of designing and executing an activity where they empower a community to take action. This is a Grand Challenge Curriculum course. prereq: soph, jr, sr

GCC 3032. Ecosystem Health: Leadership at the Intersection of Humans, Animals, and the Environment. (ENV; 3 cr. ; A-F only; Periodic Fall & Spring)

What are the effects of climate change, disease emergence, food and water security, gender, conflict and poverty, and sustainability of ecosystem services on health, and how do we lead across boundaries for positive change? Unfortunately, these large-scale problems often become overwhelming, making single solution-based progress seem daunting and difficult to implement in policy. Fortunately, the emerging discipline of ecosystem health provides an approach to these problems grounded in trans-disciplinary science. Ecosystem health recognizes the interdependence of human, animal and environmental health, and merges theories and methods of ecological, health and political sciences. It poses that health threats can be prevented, monitored and controlled via a variety of approaches and technologies that guide management action as well as policy. Thus, balancing human and animal health with the management of our ecosystems. In this class, we will focus on the emerging discipline of ecosystem health, and how these theories, methods, and shared leadership approaches

set the stage for solutions to grand challenges of health at the interface of humans, animals, and the environment. We will focus not only on the creation and evaluation of solutions but on their feasibility and implementation in the real world through policy and real-time decision making. This will be taught in the active learning style classroom, requiring pre-class readings to support didactic theory and case-based learning in class. Participation and both individual and group projects (written and oral presentation) will comprise most of the student evaluation. These projects may reflect innovative solutions, discoveries about unknowns, or development of methods useful for ecosystem health challenges. We envision that some of them will lead to peer-review publications, technical reports, or other forms of publication. This is a Grand Challenge Curriculum course.

GCC 3035. Child Labor: Work, Education, and Human Rights in Global Historical Perspective. (GP; 3 cr. ; A-F only; Periodic Spring)

It seems obvious that we should oppose child labor. Or should we? This course challenges students to think critically about the many angles that need to be considered in deciding whether any particular type of children's work should be opposed or permitted. Drawing on contemporary and historical scholarship in the interdisciplinary arena of childhood and youth studies, this course takes on ethical as well as economic analyses; it reflects upon child development and legal perspectives; it examines cases ranging across the globe and across recent centuries. It may very well change the way you think about kids, forever. Historians find evidence of many different kinds of "childhoods," as well as changing notions of what work is appropriate for children. Coming from social-scientific and policy studies approaches, analysts and critics of contemporary global policies affecting child labor argue that the presumed superiority of modern Western childhood? needs rethinking. This course will also look at tensions between the presumption that schooling should be the only or primary occupation of childhood years and competing ideas child labor can be valuable and justifiable in many settings including, for example, American farm families. Looking at child labor from comparative global and historical perspectives will encourage and enable students to address some important questions: What types of work? have children done in various modern historical and contemporary settings? When and how is work arguably bad, or good, for children and their families? Under what conditions is schooling better than work, or vice-versa? Who gets to decide what's best for children?? How should governments intervene, and how does intervention differ when children work for their family as opposed to other employers? What forms of regulatory measures or political activism have changed policies and practices regarding child labor in the past and present? This is a Grand Challenge Curriculum course.

GCC 3036. Seeking Connection through Decolonization: The Power of Indigenous

Lands and Languages. (DSJ; 3 cr. ; A-F only; Periodic Fall & Spring)

Seeking Connection through Decolonization: The Power of Indigenous Languages and Place-Based Knowledge in the Face of Racism How has unequal distribution of power resulted in the decline in Indigenous language and the loss of societal connections to the land? How might we all, from different positionalities, revitalize our relationships to indigenous land and languages, in the face of racism and attempts to perpetuate colonization? In this course students will grapple with ideological roots of the ongoing decline in Indigenous language and place-based knowledge and how their decline has implications for all peoples. To understand the connections, students will participate in Indigenous language learning (Dakota and Ojibwe) as acts of cultural production. Discussion and reading will be supplemented with visits to local sites, for example, Medicine Gardens, Bell Museum, Gibbs Farm, and Bdote to directly interact with the land as pedagogy. Through the course themes, students will experience the interconnectedness of place-based knowledge, language, and human identity, while also seeing the importance of understanding the lands on which one resides and the power of indigenous languages in re-imagining those relationships. This is a Grand Challenge Curriculum course. GCC courses are open to all students and fulfill an honors experience for University Honors Program students.

GCC 3037. Wealth & Inequality: Past, Present, Future. (DSJ; 3 cr. ; A-F only; Periodic Fall)

Fostering just and equitable communities is a grand challenge of our time. The global wealth gap between a handful of elites and the rest of the world's population is increasingly unsustainable. Across the last generation, wealth inequality has spiked more sharply than ever before, and even the elite have come to recognize how concerning rising inequality has become with the World Economic Forum ranking wealth disparity? among the top five risks facing the planet right now. In this course, we will explore how our society came to produce such a severe concentration of wealth in the hands of a privileged few. Our focus is on wealth--the total amount of accumulated assets, broadly defined, in individuals, households, communities, and beyond--because it is precisely these starkly uneven stores of value, reproduced through inheritances across generations, that have accelerated contemporary inequality. We will work to understand the social structures, historical conjunctures, and global processes that perpetuate the inequitable distribution of wealth in our current moment. We will then envision social changes that promise to reduce wealth disparities and create a more just and equitable world. Throughout, we will explore how culture, identity, institutions, economic and political systems, and other social forces are entangled with and constitute the global flows of money and assets. The purview of this course is global, as our attention will focus on the large global and structural processes and historical conjunctures that have long

shaped global wealth inequality. It makes little sense to limit the inquiry to national borders given the unequal distribution of wealth was produced on a global scale. At the same time, we are mindful of the importance to act (and think) locally; as such, many of our examples and readings will focus on the United States. Given that wealth inequality in the U.S. is one of the worst in the world--the richest 1 percent have captured nearly 60 percent of all income gains from 1977 to 2000, and in 2010, the top 20 percent of households owned almost 90 percent of all privately held wealth in the US, while the net worth of the bottom 40 percent was negative-- it will serve as an important case study. Instead of addressing the key causes of inequality, the powerful across the world have seized on these conditions to mobilize an avalanche of discontent among sectors of the downwardly mobile in a way that often obscures the key reasons for their predicament and scapegoats those at the social margins. Given this context, it is imperative to better understand and analyze the histories, cultural assumptions, and hierarchies that have produced contemporary inequalities, locally, regionally, and globally. Developing this shared understanding--as we will do in this course--is critical for our potential to address this and the other interrelated grand challenges facing us. This is a Grand Challenge Curriculum course.

GCC 3038. Human Threats to Ocean Health. (ENV; 3 cr. ; A-F only; Periodic Spring)

Human Threats to Ocean Health This grand challenge course addresses the scope of the anthropogenic alterations in natural biogeochemical cycling (BGCC) of oceans that will help the students to develop strategies to intervene, advocate, and sustain planetary health for all of humanity. The following grand challenge questions will be addressed: (1) How does Ocean Biogeochemical Cycling (BGCC) of nutrients support global ecosystems and biodiversity? (2) What human (anthropogenic) activities disrupt ocean BGCC of nutrients, resulting in depletion of biodiversity, ecosystem health, ecosystem services, and environmental justice for humans? (3) What do humans have to do to protect the future of ocean health and all of humanity? Global recycling of nutrients and metals within the environment (geosphere, hydrosphere and atmosphere) and the biosphere are essential for maintaining biodiversity and ecosystem services on which all of humanity depends. Living organisms extract and transform nutrients for their metabolism, growth, and reproduction, ultimately releasing these nutrients (often in a transformed state) back to the inanimate sphere via biogeochemical cycling (BGCC) driven by energy transformations. In natural environments, BGCC maintains a dynamic equilibrium/homeostasis between abiotic and biotic spheres, a process essential for survival of life on Earth. However, the current human practices have caused massive changes in the BGCC of nutrients, thus disrupting the natural cycling and (i) threatening the biosphere's nutrient availability and (ii) precipitating many of the current environmental problems such as climate change, nitrogen

pollution, ocean acidification, acid rain, mercury deposition, etc. At the current scale of human development, these alterations to the BGCC in the oceans may seriously damage the environment and biodiversity, thus threatening the entire Planet's future. Further, the adverse effects of the loss of ecosystem services may not be shared equally amongst society, whereby access to a healthy environment is increasingly distributed by power, class, and race. An understanding of these inequities and incorporation of environmental justice in eco-centric environmental advocacy will be essential for sustaining the health of our planet. Therefore, the students registering for this course will develop an understanding and the scope of the anthropogenic alterations in natural biogeochemical cycling of oceans that will help them develop strategies to intervene, advocate, and sustain planetary health for all of humanity. The specific aims are following: (1) Describe global and local mechanisms of natural BGCC on Earth and connection to the oceans; (2) Explain human impacts on BGCC, and relationships between abnormal BGCC and nutrient distribution in water, sediment, and air; (3) Determine impact of human-altered ocean nutrient cycling on society, including members disproportionately impacted by environmental issues and underrepresented in environmental movements; (4) Strategize sustainable strategies to mitigate the health and environmental problems associated with abnormal biogeochemical nutrient cycling, bringing environmental justice perspectives to the forefront; and (5) Convince students that positive actions made now can and will impact the future. This course will focus on multiple vectors of inquiry (i.e., chemistry, toxicology, environment science and justice, sustainability and biodiversity), and students' progress through the course will give them powerful tools to confront the Grand Challenges of our age, global change in biogeochemical cycles. This is a Grand Challenge Curriculum course.

GCC 3041. Transition to a Sustainable World: Can Behavior Modification Help Facilitate Global Sustainability?. (ENV; 3 cr. ; A-F only; Periodic Fall)

Despite understanding the consequences of not acting to curb unsustainability, why do people fail to act? Human's behavioral apathy toward sustainability may be due to an inaccurate characterization of sustainability and/or a lack of understanding of cultural diversity and behavior. Therefore, an understanding of the human behavior will contribute greatly to (i) decipher human actions that negatively impact global ecosystems, (ii) slowdown or stop human ecologically destructive trajectory, and (iii) promote sustainable alternatives. The problem is that environmental issues are not generally included in psychology programs, and psychology is not often represented in environmental programs. In the United Nations (UN) Sustainable Development goals 2030 (UN SDG 2030), psychological indices have been conspicuously absent (except for mental health in general terms) even though environmental degradation, social or economic inequity, all are implicated by human behavior.

The UN SDG 2030 is based on the unproven concept that sustainability is an intersection of social, economic and environmental factors, the key pillars of sustainability. Since economic activity and society are subsets of human behavior, psychology should be considered central to unsustainability and/or sustainability. Therefore, we hypothesize that behavioral psychology has a critical role to play in creating a sustainable society. The aim of the proposed GCC is to discuss (un)sustainability using this new paradigm that will allow new approaches to achieve transition from unsustainability to sustainability worldwide. The specific aims of the proposed GCC are following: (i) Describe interaction between sustainability and behavioral psychology as the 4th pillar of sustainability. (ii) Explain the behavioral correlates of cultural differences in terms of transition to sustainability. (iii) Explain the consumption (related to unsustainability) and conservation (related to sustainability) behavior. (iv) Determine the place of Psychology in the UN's Sustainable Development Goals (SDGs) that are mostly based on Sociology, Economy and Environment. (v) Describe humanity's transition from unsustainable to sustainable development. This is a Grand Challenge Curriculum Course. GCC courses are open to all students and fulfill an honors experience for University Honors Program students.

GCC 3042. Just Education: The Role of Higher Education in Disrupting Mass Incarceration. (DSJ; 3 cr. ; A-F only; Periodic Spring)

The United States has the highest incarceration rate in the world. We have just 5% of the world's population, but 25% of its prisoners. Since 1970, the number of incarcerated persons in this country has increased by 700%. Of the 2.3 million people currently in prison or jail, however, just 6 percent have access to higher education. Indeed, contemporary higher education policy and infrastructure disregards incarcerated individuals as potential postsecondary students. Even as colleges and universities across the country champion diversity-driven and inclusivity-oriented mission statements, and look to create viable postsecondary pathways for systemically underserved students, only a handful include incarcerated and justice-impacted individuals in these efforts. The University of Minnesota is not currently among them. This course will explore the intersection of higher education and mass incarceration in the United States with a focus on the role of higher education in disrupting the collateral consequences of incarceration and justice involvement. In particular, we will examine the potential for the University of Minnesota to play a pivotal role in disrupting what we call the 'ripple effect' of incarceration and justice involvement on individuals and communities in Minnesota. Students will have an opportunity to tour local correctional facilities and both hear from and present to experts in the field, including formerly incarcerated people. In addition, students' ideas will directly inform a 'college in prisons' program that is being developed by Professors Moriearty and

Shlafer, in collaboration with other University scholars and administrators, and the Minnesota Department of Corrections. In this way, students' work in this class and their projects will directly and meaningfully inform the real world and the development of the college in prisons program in 'real time.' As a teaching team with expertise in law, juvenile justice, criminal justice, child welfare, psychology, and public health, Professors Moriearty and Shlafer will highlight examples of successful interdisciplinary collaborations from their own research and practice experience. In addition, students will hear from guest lecturers from multiple disciplines and affiliations (including an Assistant Commissioner and educational expert at the Minnesota Department of Corrections and law, public health, arts, information technology, and sociology instructors from the University) and panels of stakeholders, policy-makers and formerly incarcerated/justice impacted individuals. This is a Grand Challenge Curriculum course.

GCC 3043. Regenerative Game Studio: Playing For the Future. (ENV; 3 cr. ; A-F only; Periodic Spring)

Meeting the interrelated UN Sustainable development goals facing humanity will require imagination and emotional labor of unprecedented scale. We must collectively learn to overhaul our extractive systems with regenerative approaches in which humans are in a mutually beneficial relationship with the earth's systems. The task of working across SDGs is a grand challenge in itself. Games are an effective way to engage people in understanding complex problems and collaborating toward solutions. Designing games challenges students to examine systems, identify leverage points, confront trade-offs, and be creative. In doing so, it prepares them to become system teachers, leveraging organizations and networks for change. We invite students from a range of backgrounds to apply their disciplinary expertise and interests in new ways. No prior sustainability knowledge or game design experience is needed. This is a Grand Challenge Curriculum course.

GCC 5003. Seeking Solutions to Global Health Issues. (GP; 3 cr. ; A-F only; Periodic Fall)

Often, the most progress on challenging issues such as health and equity is made when you apply an interdisciplinary perspective. The same is true for global health issues. Whether responding to emerging pandemics, food insecurity, maternal mortality, or civil society collapse during conflict, solutions often lie at the intersection of animal, environmental, and human health. In this course, students will work in teams to examine the fundamental challenges to addressing complex global health problems in East Africa and East African refugee communities here in the Twin Cities. Together we will seek practical solutions that take culture, equity, and sustainability into account. In-field professionals and experts will be available to mentor each team, including professionals based in Uganda and Somalia. This exploration will help students propose

realistic actions that could be taken to resolve these issues. This course will help students gain the understanding and skills necessary for beginning to develop solutions to global health issues. This is a Grand Challenge Curriculum course. GCC courses are open to all students and fulfill an honors experience for University Honors Program students.

GCC 5005. Innovation for Changemakers: Design for a Disrupted World. (GP; 3 cr. ; A-F only; Periodic Fall & Summer)

Do you want to make a difference? We live in a world full of complex challenges, such as COVID-19, racism, economic recession, and environmental collapse, to name a few. Now is the time to use your own skills and passion to make a positive impact in the world. In this project-based course, you will learn how to develop effective and sustainable responses to current social and environmental problems. You'll study a variety of tools, mindsets, and skills that will help you to address any complex grand challenge, as well as engage with case studies of successful grand challenge projects in the past. Your project may address food insecurity, unemployment, housing, environmental impacts, equity, or other issues. Proposed designs for how you might have an impact may take many forms (student group, program intervention with an existing organization, public policy strategy, or for-profit or non-profit venture) but this class will focus on how to make ideas financially sustainable. The primary focus of this (GCC 5005) course is how to develop a pilot project plan that addresses a grand challenge. You will learn business modeling, financial projections, and pitching to potential investors and funders. You will build a model for your idea around input from primary and secondary research, as well as the affected community's culture, needs, and wants. Community members, locally and globally, may serve as mentors and research consultants to teams. External speakers will be brought in to share their stories of how to build and scale innovative efforts to serve the common good. Students enrolled will work either independently, or in small teams, on a project of their own choosing. Ideally, students will apply to take this class with a project in mind. By the end of the class, students will have a well-designed plan to turn their project into an actionable solution if that is of interest. This is a Grand Challenge Curriculum course. GCC courses are open to all students and fulfill an honors experience for University Honors Program students.

GCC 5007. Toward Conquest of Disease. (ENV; 3 cr. ; A-F only; Every Spring)

Since the rise of civilization, the large predators of humans have been subdued and the most dangerous predators remaining are those unseen--vastly smaller than our bodies. They are the microbial predators that cause disease. Infectious disease has devastated human populations and even caused global population declines. Subduing and managing disease is one of the grand challenges of our time. Through an enormous global effort, we have driven smallpox in humans and Rinderpest in livestock extinct from the natural world,

and guinea worm is expected to follow. Other infectious diseases are in continual decline. In this course we will combine ecological thought and ecological models with historical and future perspectives to understand the fundamental dynamics of our minuscule predators, and relate this to similar minuscule predators of wild and domestic animals, to crops, and to other plants. This is a Grand Challenge Curriculum course. prereq: sophomore, junior, senior, graduate student

GCC 5008. Policy and Science of Global Environmental Change. (ENV; 3 cr. ; A-F only; Periodic Spring)

Through readings, lectures, discussions, written assignments, and presentations this course introduces the critical issues underpinning global change and its environmental and social implications. The course examines current literature in exploring evidence for human-induced global change and its potential effects on a wide range of biological processes and examines the social and economic drivers, social and economic consequences, and political processes at local, national, and international scales related to global change. This is a Grand Challenge Curriculum course.

GCC 5011. Pathways to Renewable Energy. (TS; 3 cr. ; A-F only; Periodic Spring)

This interdisciplinary course will examine obstacles to energy transitions at different scales. It will explore the role of energy in society, the physics of energy, how energy systems were created and how they function, and how the markets, policies, and regulatory frameworks for energy systems in the US developed. The course will closely examine the Realpolitik of energy and the technical, legal, regulatory, and policy underpinnings of renewable energy in the US and Minnesota. Students will learn the drivers that can lead global systems to change despite powerful constraints and how local and institutional action enables broader reform. Students will put their learning into action by developing a proposal and then working on a project to accelerate the energy transition and to ensure that the energy transition benefits people in a just and equitable way. This is a Grand Challenge Curriculum course.

GCC 5013. Making Sense of Climate Change - Science, Art, and Agency. (CIV; 3 cr. ; A-F only; Periodic Fall & Spring)

The overarching theme of the course is the role of artistic/humanistic ways of knowing as tools for making sense and meaning in the face of "grand challenges." Our culture tends to privilege science, and to isolate it from the "purposive" disciplines--arts and humanities--that help humanity ask and answer difficult questions about what should be done about our grand challenges. In this course, we will examine climate change science, with a particular focus on how climate change is expected to affect key ecological systems such as forests and farms and resources for vital biodiversity such as pollinators. We will study the work of artists who have responded to climate change science through their artistic

practice to make sense and meaning of climate change. Finally, students create collaborative public art projects that will become part of local community festivals/events late in the semester. This is a Grand Challenge Curriculum course.

GCC 5014. The Future of Work and Life in the 21st Century. (TS; 3 cr. ; A-F only; Periodic Fall)

This course seeks solutions to the technological, demographic, and economic forces that challenge taken-for-granted mindsets and existing policies around work, careers, and life. Students will consider positive and negative impacts of the forces that render the conventional education/work/retirement lockstep obsolete. What do these changes mean for men and women of different ages and backgrounds? What are alternative, sustainable ways of working and living in the 21st century? These questions reflect global challenges that touch the lives of people everywhere. Students will work in teams to begin to address these realities and formulate innovative solutions to better transform learning, working, caring, and community-building in the 21st century. This is a Grand Challenge Curriculum course.

GCC 5016. Science and Society: Working Together to Avoid the Antibiotic Resistance Apocalypse. (TS; 3 cr. ; A-F only; Periodic Spring)

Before the discovery of antibiotics, even a simple thorn prick could lead to life threatening infection. Antibiotics are truly miracle drugs, making most bacterial infections relatively easy to cure. However, this landscape is rapidly changing with the advent of microbes that are resistant to antibiotics. This course will provide an overview of how antibiotic use invoked antibiotic resistance, including in depth discussions of antibiotic resistant microorganisms and the impact of globalization on this exploding problem. Societal and ethical implications associated with antibiotic use and restriction in humans and animals will be discussed, along with global issues of antibiotic regulation and population surveillance. The class will conclude with discussions of alternative therapeutic approaches that are essential to avoid "antibiotic apocalypse." The course will include lectures by world-renowned experts in various topics, and students will leverage this knowledge with their own presentations on important topics related to issues of personal freedom versus societal needs. This is a Grand Challenge Curriculum course.

GCC 5017. World Food Problems: Agronomics, Economics and Hunger. (GP; 3 cr. ; A-F only; Periodic Fall)

This course provides a multi-disciplinary look at problems (and some of the possible solutions) affecting food production, distribution, and requirements for the seven plus billion inhabitants of this planet. It is co-taught by a plant geneticist (Morrell) and an economist (Runge) who together have worked on international food production and policy issues for the past 40 years. Historical context, the

present situation and future scenarios related to the human population and food production are examined. Presentations and discussions cover sometimes conflicting views from multiple perspectives on population growth, use of technology, as well as the ethical and cultural values of people in various parts of the world. The global challenge perspective is reflected in attention to issues of poverty, inequality, gender, the legacy of colonialism, and racial and ethnic prejudice. Emphasis is placed on the need for governments, international assistance agencies, international research and extension centers, as well as the private sector to assist in solving the complex problems associated with malnutrition, undernutrition, obesity, and sustainable food production. Through a better understanding of world food problems, this course enables students to reflect on the shared sense of responsibility by nations, the international community and ourselves to build and maintain a stronger sense of our roles as historical agents. Throughout the semester students are exposed to issues related to world food problems through the lenses of two instructors from different disciplinary backgrounds. The core issues of malnutrition and food production are approached simultaneously from a production perspective as well as an economic and policy perspective throughout the semester. This is a Grand Challenge Curriculum course. GCC courses are open to all students and fulfill an honors experience for University Honors Program students.

GCC 5022. The Human Experience of Sensory Loss: Seeking Equitable and Effective Solutions. (TS; 3 cr. ; A-F only; Periodic Fall & Spring)

This course focuses on the visual, auditory, and other sensory pathways that convey information about the world to mind and brain. Millions of people worldwide experience deficits in sensory function that affect their quality of life. We will focus on the characteristics of healthy sensory functioning as well as how sensory disorders can affect personal identity, impede information processing, and alter brain structure and function. The course will address the demographics and risk factors for sensory disabilities, the implications of these disabilities for activities of daily living, the history of society's response to sensory disability, as well as societal, ethical, and personal attitudes toward sensory disabilities. The course will also explore translational and applied approaches for addressing sensory disabilities. Each class session will be co-taught by a pair of instructors, representing multiple scientific and social perspectives. A major goal of the course is to view sensory function and impairment from multiple perspectives cognitive science, neuroscience, medicine, engineering, society, consumers, ethics and social justice. The course will combine lectures, discussions, and student-led presentations of research papers. The course will include hands-on demonstrations of assistive technology and panel discussions with people with visual and hearing disabilities. During the semester, each student (or pairs of students) will develop a mini research proposal to address a real-

world issue related to sensory impairment. The proposal must be translational in nature, and must include consultation with consumers of the proposed project. The final class session will be devoted to poster presentations of the mini proposals. The proposal report must include consideration of potentially opposing viewpoints about the proposed research. This course addresses two of our University's grand challenges: Advancing Health Through Tailored Solutions, and Just and Equitable Communities. This is a Grand Challenge Curriculum course.

GCC 5027. Power Systems Journey: Making the Invisible Visible and Actionable. (TS; 3 cr. ; A-F only; Periodic Fall)

An energy revolution is underway, and needs to accelerate to support climate and economic goals. But the general citizenry does not understand our current energy systems, particularly the seemingly invisible phenomena of electricity, and its generation, distribution, and use. Technical knowledge is only half the solution, however. It is through human decisions and behaviors that technical solutions get applied and adopted, and the importance of communication and storytelling is being recognized for its relevance to making change. How can science literacy and behavior-motivating engagement and storytelling be combined to help make systemic change? This course explores the integration of science-based environmental education, with art-led, place-based exploration of landscapes and creative map-making to address this challenge. How do we make electricity visible, understandable, and interesting--so we can engage citizens in energy conservation with basic literacy about the electric power system so that they can be informed voters, policy advocates, and consumers. In this class, you will take on this challenge, first learning about the electric power systems you use, their cultural and technical history, systems thinking, design thinking, and prior examples of communication and education efforts. With this foundation, you will then apply your learning to create a public education project delivered via online GIS Story maps that use a combination of data, art, and story to help others understand, and act on the power journey we are all on. All will share the common exploration of power systems through field trips, and contribute to a multi-faceted story of power, presented in a group map and individual GIS Story maps. No prior knowledge of GIS story maps or electricity issues is needed. The study of power systems can be a model for learning and communicating about other topics that explore the interaction of technology and society toward sustainability. This is a Grand Challenge Curriculum course. GCC courses are open to all students and fulfill an honors experience for University Honors Program students.

GCC 5028. Harnessing the Power of Research, Community, Clinic and Policy to Build a Culture of Health. (DSJ; 3 cr. ; A-F only; Periodic Fall)

Imagine a world where factors such as race, ethnicity, and socioeconomic status had no

bearing on a person's health status, quality of life, or longevity--a world where everyone had an equal opportunity to live a long and healthy life. Unfortunately, this is not the case. Despite decades of focused public health efforts, health inequities remain; individuals from low income and diverse racial/ethnic backgrounds are far more likely to, (1) struggle with chronic health conditions, (2) report lower quality of life, and (3) have a lower life expectancy, than others. Bold and innovative solutions are needed to address this grand challenge. Integration is one such method that can potentially increase the success and sustainability of approaches to reduce health disparities and create a culture of health for all. Integration is an approach to solving complex public health problems that merges academic research, clinical practice, policy and community resources in new ways. This interactive course will challenge students to identify root causes of health, including access to food, housing, transportation and education. Students will also focus on health disparities and barriers to eliminating these existing, disparate, negative outcomes. Students will be introduced to the concept of integration science and practice; will learn about the importance of integration across research, practice, community, and policy domains to address health disparities; and will cultivate the communication skills needed to intentionally and successfully facilitate integration practice. Course instructors with unique vantage points as concerned scientists, health practitioners, and policy wonks will engage students in class discussions and activities, individual writing assignments and small-group work aimed at unveiling the reasons health disparities persist globally--challenging them to consider opportunities for integration to alleviate existing disparities. The semester will culminate in students working in groups to create their own integrated projects aimed at addressing a health disparity.

GCC 5029. Agents of Change: scientific and philosophical perspectives. (CIV; 3 cr. ; A-F only; Every Fall)

Grand challenges like structural racism, climate change, gender oppression, and global poverty have to be solved by individual people, acting together, often through institutions. This means that we need good agents of change to address the challenges we face. What does it mean to be a "good agent"? What are the best ways to think about this kind of agency? And how can we foster more of it in ourselves, our friends, our children, and our fellow citizens? This course is taught by a philosopher and a psychologist, and we approach questions like these from both perspectives. Traditionally, many philosophers have thought that we need to cultivate virtues such as compassion and open-mindedness in order to be good people. Some recent psychological work casts doubt on this picture: the social and environmental forces that influence our behavior cannot be overcome with virtuous character! On the other hand, psychological research also shows that some of the good traits we have are ones that develop reliably, from early childhood. Which perspective offers more

opportunities for progress? Should we foster good agency by working on individual character or by changing social circumstances? Or, if both are important, what would a combined approach look like? The ultimate goal of the course is to encourage students to apply the theoretical and scientific ideas about improving agency to specific grand challenges. How do philosophy and psychology help us to define and resolve the challenges that confront people who want to make a difference? To provide a model for this kind of research, we focus on structural racism and white supremacy to expose the ways in which individual and structural forces can impede epistemic and moral agency. Course requirements include active class participation, group projects, and writing assignments designed to foster creative engagement across different fields.

GCC 5031. The Global Climate Challenge: Creating an Empowered Movement for Change. (CIV; 3 cr. ; A-F only; Periodic Spring)

Students will explore ecological and human health consequences of climate change, the psychology of climate inaction, and will be invited to join us in the radical work of discovering not only their own leadership potential but that of others. We will unpack the old story of domination and hierarchy and invite the class to become part of a vibrant new story of human partnership that will not only help humanity deal with the physical threat of climate change but will help us create a world where we have the necessary skills and attitudes to engage the many other grand challenges facing us. Using a strategy of grassroots empowerment, the course will be organized to help us connect to the heart of what we really value; to understand the threat of climate change; to examine how we feel in the light of that threat; and to take powerful action together. Students will work in groups throughout the course to assess the global ecological threat posed by climate change, and they will be part of designing and executing an activity where they empower a community to take action. This is a Grand Challenge Curriculum course. For: so, jr, sr, grad

GCC 5032. Ecosystem Health: Leadership at the intersection of humans, animals and the environment. (ENV; 3 cr. ; A-F only; Periodic Spring)

What are the effects of climate change, disease emergence, food and water security, gender, conflict and poverty, and sustainability of ecosystem services on health? Unfortunately, these large-scale problems often become overwhelming, making single solution-based progress seem daunting and difficult to implement in policy. Fortunately, the emerging discipline of ecosystem health provides an approach to these problems grounded in trans-disciplinary science. Ecosystem health recognizes the interdependence of human, animal and environmental health, and merges theories and methods of ecological, health and political sciences. It poses that health threats can be prevented, monitored and controlled via a variety of approaches and technologies that guide management action as well as policy.

Thus, balancing human and animal health with management of our ecosystems. In this class, we will focus on the emerging discipline of ecosystem health, and how these theories, methods and computational technologies set the stage for solutions to grand challenges of health at the interface of humans, animals and the environment. We will focus not only on the creation and evaluation of solutions, but on their feasibility and implementation in the real world through policy and real time decision making. This will be taught in the active learning style classroom, requiring pre class readings to support didactic theory and case-based learning in class. Participation and both individual and group projects (written and oral presentation) will comprise most of the student evaluation. These projects may reflect innovative solutions, discoveries about unknowns, or development of methods useful for ecosystem health challenges. We envision that some of them will lead to peer-review publications, technical reports or other forms of publication. This is a Grand Challenge Curriculum course.

GCC 5035. Child Labor: Work, Education, and Human Rights in Global Historical Perspective. (GP; 3 cr. ; A-F only; Periodic Spring)

It seems obvious that we should oppose child labor. Or should we? This course challenges students to think critically about the many angles that need to be considered in deciding whether any particular type of children's work should be opposed or permitted. Drawing on contemporary and historical scholarship in the interdisciplinary arena of childhood and youth studies, this course takes on ethical as well as economic analyses; it reflects upon child development and legal perspectives; it examines cases ranging across the globe and across recent centuries. It may very well change the way you think about kids, forever. Historians find evidence of many different kinds of "childhoods," as well as changing notions of what work is appropriate for children. Coming from social-scientific and policy studies approaches, analysts and critics of contemporary global policies affecting child labor argue that the presumed superiority of "modern Western childhood" needs rethinking. This course will also look at tensions between the presumption that schooling should be the only or primary occupation of childhood years and competing ideas child labor can be valuable and justifiable in many settings including, for example, American farm families. Looking at child labor from comparative global and historical perspectives will encourage and enable students to address some important questions: What types of work? have children done in various modern historical and contemporary settings? When and how is work arguably bad, or good, for children and their families? Under what conditions is schooling better than work, or vice-versa? Who gets to decide what's best for children? How should governments intervene, and how does intervention differ when children work for their family as opposed to other employers? What forms of regulatory measures or political activism have changed policies and practices

regarding child labor in the past and present? This is a Grand Challenge Curriculum course.

GCC 5036. Seeking Connection through Decolonization: The Power of Indigenous Lands and Languages. (DSJ; 3 cr. ; A-F only; Periodic Fall & Spring)

Seeking Connection through Decolonization: The Power of Indigenous Languages and Place-Based Knowledge in the Face of Racism How has unequal distribution of power resulted in the decline in Indigenous language and the loss of societal connections to the land? How might we all, from different positionalities, revitalize our relationships to indigenous land and languages, in the face of racism and attempts to perpetuate colonization? In this course students will grapple with ideological roots of the ongoing decline in Indigenous language and place-based knowledge and how their decline has implications for all peoples. To understand the connections, students will participate in Indigenous language learning (Dakota and Ojibwe) as acts of cultural production. Discussion and reading will be supplemented with visits to local sites, for example, Medicine Gardens, Bell Museum, Gibbs Farm, and Bdote to directly interact with the land as pedagogy. Through the course themes, students will experience the interconnectedness of place-based knowledge, language, and human identity, while also seeing the importance of understanding the lands on which one resides and the power of indigenous languages in re-imagining those relationships. This is a Grand Challenge Curriculum (GCC) course. GCC courses are open to all students and fulfill an honors experience for University Honors Program students.

GCC 5041. Transition to a Sustainable World: Can Psychology Help Facilitate Global Sustainability?. (ENV; 3 cr. ; A-F only; Periodic Fall)

Despite understanding the consequences of not acting to curb unsustainability, why do people fail to act? Human's behavioral apathy toward sustainability may be due to an inaccurate characterization of sustainability and/or a lack of understanding of cultural diversity and behavior. Therefore, an understanding of the human behavior will contribute greatly to (i) decipher human actions that negatively impact global ecosystems, (ii) slowdown or stop human ecologically destructive trajectory, and (iii) promote sustainable alternatives. The problem is that environmental issues are not generally included in psychology programs, and psychology is not often represented in environmental programs. In the United Nations (UN) Sustainable Development goals 2030 (UN SDG 2030), psychological indices have been conspicuously absent (except for mental health in general terms) even though environmental degradation, social or economic inequity, all are implicated by human behavior. The UN SDG 2030 is based on the unproven concept that sustainability is an intersection of social, economic and environmental factors, the key pillars of sustainability. Since economic activity and society are subsets

of human behavior, psychology should be considered central to unsustainability and/or sustainability. Therefore, we hypothesize that behavioral psychology has a critical role to play in creating a sustainable society. The aim of the proposed GCC is to discuss (un)sustainability using this new paradigm that will allow new approaches to achieve transition from unsustainability to sustainability worldwide. The specific aims of the proposed GCC are following: (i) Describe interaction between sustainability and behavioral psychology as the 4th pillar of sustainability. (ii) Explain the behavioral correlates of cultural differences in terms of transition to sustainability. (iii) Explain the consumption (related to unsustainability) and conservation (related to sustainability) behavior. (iv) Determine the place of Psychology in the UN's Sustainable Development Goals (SDGs) that are mostly based on Sociology, Economy and Environment. (v) Describe humanity's transition from unsustainable to sustainable development. This is a Grand Challenge Curriculum Course. GCC courses are open to all students and fulfill an honors experience for University Honors Program students.

GCC 5042. Just Education: The Role of Higher Education in Disrupting Mass Incarceration. (DSJ; 3 cr. ; A-F only; Periodic Spring)

The United States has the highest incarceration rate in the world. We have just 5% of the world's population, but 25% of its prisoners. Since 1970, the number of incarcerated persons in this country has increased by 700%. Of the 2.3 million people currently in prison or jail, however, just 6 percent have access to higher education. Indeed, contemporary higher education policy and infrastructure disregards incarcerated individuals as potential postsecondary students. Even as colleges and universities across the country champion diversity-driven and inclusivity-oriented mission statements, and look to create viable postsecondary pathways for systemically underserved students, only a handful include incarcerated and justice-impacted individuals in these efforts. The University of Minnesota is not currently among them. This course will explore the intersection of higher education and mass incarceration in the United States with a focus on the role of higher education in disrupting the collateral consequences of incarceration and justice involvement. In particular, we will examine the potential for the University of Minnesota to play a pivotal role in disrupting what we call the "ripple effect" of incarceration and justice involvement on individuals and communities in Minnesota. Students will have an opportunity to tour local correctional facilities and both hear from and present to experts in the field, including formerly incarcerated people. In addition, students' ideas will directly inform a "college in prisons" program that is being developed by Professors Moriearty and Schlafer, in collaboration with other University scholars and administrators, and the Minnesota Department of Corrections. In this way, students' work in this class and their projects will directly and meaningfully inform the real

world and the development of the college in prisons program in "real time." As a teaching team with expertise in law, juvenile justice, criminal justice, child welfare, psychology, and public health, Professors Moriearty and Schlafer will highlight examples of successful interdisciplinary collaborations from their own research and practice experience. In addition, students will hear from guest lecturers from multiple disciplines and affiliations (including an Assistant Commissioner and educational expert at the Minnesota Department of Corrections and law, public health, arts, information technology and sociology instructors from the University) and panels of stakeholders, policy-makers and formerly incarcerated/justice impacted individuals. This is a Grand Challenge Curriculum course.

GCC 5043. Regenerative Game Studio: Playing For the Future. (ENV; 3 cr. ; A-F only; Periodic Spring)

Meeting the interrelated UN Sustainable development goals facing humanity will require imagination and emotional labor of unprecedented scale. We must collectively learn to overhaul our extractive systems with regenerative approaches in which humans are in a mutually beneficial relationship with the earth's systems. The task of working across SDGs is a grand challenge in itself. Games are an effective way to engage people in understanding complex problems and collaborating toward solutions. Designing games challenges students to examine systems, identify leverage points, confront trade-offs, and be creative. In doing so, it prepares them to become system teachers, leveraging organizations and networks for change. We invite students from a range of backgrounds to apply their disciplinary expertise and interests in new ways. No prior sustainability knowledge or game design experience is needed. This is a Grand Challenge Curriculum course.

GCC 5501. Knowledge to Impact: Creating Action with Your Grand Challenge Project Idea. (; 2 cr. [max 3 cr.] ; A-F only; Periodic Spring)

This course provides an intensive, hands-on experience designing and developing a sustainable intervention to an aspect of a Grand Challenge. In other words, converting knowledge to impact. The target audience is students and student teams who have identified and/or worked on a specific problem in a previous GCC course and wish to dig deeper in developing a project plan. Students should enter the class with a problem statement identifying the challenge they aim to address, a target location or community, and a proposed solution or intervention that they wish to develop. Student solutions should address a problem that is about a broadly defined Grand Challenge; examples of applicable areas include water, immigration and refugees, energy, housing, educational opportunity gap, public health, food and sustainable agriculture. Ideas outside this range are also acceptable. By the end of class, students will create a plausible design and implementation plan for a solution that addresses their self-created

Grand Challenge problem statement. This solution or intervention could take many forms, depending on student interest and problem statement. Business or nonprofit plans, policy and advocacy plans, media and awareness campaigns and activism plans are all possible. Determining the correct path(s) is part of the learning objectives for the course. Students will leave the course with a completed preliminary pitch deck for their plan in order to make the case for initial, or seed stage, support. Throughout this document (and course), the terms solution and intervention will be used somewhat interchangeably. This reflects the fact that different disciplines use different words to describe similar aspects of the overall process covered in this class. Understanding some of those differences is part of the learning objectives for the class. This is a Grand Challenge Curriculum course. GCC courses are open to second year undergraduate students and above and graduate students and fulfill an honors experience for University Honors Program students.

Graphic Design (GDES)

GDES 1311. Foundations: Drawing and Design in Two and Three Dimensions. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Design elements and principles in context of observational drawing. Integrative approach to two-dimensional design, three-dimensional design, and drawing. Broad conceptual framework for design exploration. Emphasizes perceptual aspects of visual forms.

GDES 1312. Foundations: Color and Design in Two and Three Dimensions. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Color theory, its application in two- and three-dimensional design. Emphasizes effective use of color by studying traditional color systems, perception, and interaction. Lectures, demonstrations, extensive studio work, and critiques.

GDES 1315. Foundations: The Graphic Studio. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Graphic design process of problem-solving. Visual communication of ideas and information. Use of design software to compose with words, images, and forms. prereq: Graphic design premajor design minor or instr consent

GDES 2196. Work Experience in Graphic Design. (; 1-4 cr. [max 8 cr.] ; S-N only; Every Fall, Spring & Summer)

Supervised work experience in business, industry, or government, related to student's area of study. Integrative paper or project. prereq: Plan submitted/approved by [adviser, internship supervisor], written approval of supervisor, instr consent

GDES 2342. Web Design. (; 3 cr. ; A-F only; Every Fall & Spring)

Graphic design elements/principles applied to website design. HTML, CSS. Working with interactive media and file formats.

GDES 2345. Typography. (; 4 cr. ; A-F only; Every Fall & Spring)

History of typographic forms, principles of composition, expressive potential of type. Design process from problem-solving through exploration, experimentation, selection, critique, and refinement. Readings, research, exercises, design production.

GDES 2361. Design Process: Photography. (; 3 cr. ; A-F only; Every Fall & Spring)
Photography for graphic designers: digital/film photographic developing/image manipulation, printing.

GDES 2399V. Design and its Discontents: Design, Society, Economy, and Culture. (WI; 3 cr. ; A-F only; Every Fall)

Secret history of modern, postmodern, and contemporary design. Principles and practices of designers who operate outside of main stream. Innovators, activists, cultural gadflies whose work challenges, provokes, and inspires. Context of economy, society, culture, and politics. Lecture, research, studio production. Written project proposals/reflections/blogging.

GDES 2399W. Design and its Discontents: Design, Society, Economy, and Culture. (WI; 3 cr. ; A-F only; Every Fall)

Secret history of modern, postmodern, and contemporary design. Principles and practices of designers who operate outside of main stream. Innovators, activists, cultural gadflies whose work challenges, provokes, and inspires. Context of economy, society, culture, and politics. Lecture, research, studio production. Written project proposals/reflections/blogging.

GDES 3170. Topics in Graphic Design. (; 1-4 cr. [max 32 cr.]; A-F or Audit; Every Fall, Spring & Summer)
In-depth investigation of specific topic.

GDES 3311. Illustration. (3 cr. ; A-F only; Every Spring)

Two aspects of illustration for contemporary graphic designer. Image making, by hand or digitally, for use in design projects. Design development. Mapping ideas/expressing thoughts visually. Not observational drawing course. prereq: GDes 1311 or ArtS 1101 or PDES 3702 or LA 1301 or Arch 3250 or Arch 2301 or instructor permission

GDES 3312. Color and Form in Surface Design. (; 4 cr. ; A-F only; Every Fall & Spring)
Use of color/form representation in two-dimensional surface applications. Historical use of color and of spatial representation in visual communication.

GDES 3351. Text and Image. (; 3 cr. ; A-F or Audit; Every Fall & Spring)
Composition of visual information using grid structures to integrate text/image. Informational/expressive aspects of graphic design, hierarchical relationships of visual elements. Methods of text layout that enhance communication. prereq: [2345 or DHA 2345], graphic design major, pass portfolio review

GDES 3352. Identity and Symbols. (; 3 cr. ; A-F only; Every Fall & Spring)
Representation of abstract ideas through symbols. Development of visual identity

systems. prereq: pass portfolio review, graphic design major

GDES 3352H. Honors: Identity and Symbols. (; 3 cr. ; A-F only; Every Fall & Spring)
Representation of abstract ideas through symbols. Development of visual identity systems.

GDES 3353. Packaging and Display. (; 3 cr. ; A-F only; Every Fall & Spring)
Application of graphic design principles to three-dimensional projects. Principles of three-dimensional design/space applied to labeling, packaging, and display.

GDES 4131W. History of Graphic Design. (WI; 4 cr. ; A-F or Audit; Every Fall & Spring)
Historical analysis of visual communication. Technological, cultural, and aesthetic influences. How historical events are communicated/perceived through graphic presentation/imagery.

GDES 4160H. Honors Capstone Project. (; 2 cr. [max 4 cr.]; A-F only; Every Fall & Spring)
Individualizes honors experience by connecting aspects of major program with special academic interests. prereq: Graphic design honors

GDES 4193. Directed Study in Graphic Design. (; 1-4 cr. [max 8 cr.]; Student Option No Audit; Every Fall, Spring & Summer)
Independent study in Graphic Design under tutorial guidance. prereq: Undergrad, instr consent

GDES 4196. Internship in Graphic Design. (; 1-3 cr. ; S-N or Audit; Every Fall, Spring & Summer)
Supervised work experience relating activity in business, industry, or government to the student's area of study. Integrative paper or project may be required. prereq: Completion of at least one-half of professional sequence, plan submitted/approved in advance by [adviser, internship supervisor], written consent of faculty supervisor, instr consent

GDES 4312. Advanced Graphic Design Print Projects. (3 cr. ; A-F or Audit; Every Fall)
Advanced Graphic Design Print Projects offers an opportunity for students to propose, design, and produce printed graphic design products while expanding upon their experience in surface design and printing. Students will explore graphic design communication through group and individualized projects in a cohort, and under the supervision of graphic design faculty.

GDES 4345. Advanced Typography. (; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Expressive visual communication of words. Fundamental legibility of "invisible art," overt expression through type. Students complete extended typographic project. prereq: [[2345 or DHA 2345], 3351, graphic design major] or design grad student or instr consent

GDES 4361V. Honors Thesis Studio and Writing. (WI; 3 cr. ; A-F only; Every Fall & Spring)
Research/design of comprehensive graphic design thesis project. prereq: [Graphic design

major, 2399W or 2399V, 3352 or 3352H, 3353], honors student, or instr consent

GDES 4361W. Thesis Studio and Writing. (WI; 3 cr. [max 4 cr.]; A-F only; Every Fall & Spring)
Research/design of comprehensive graphic design thesis project. prereq: [Graphic design major, 2399W, 3352, 3353] or instr consent

GDES 4362. Senior Thesis and Exhibition. (3 cr. [max 4 cr.]; A-F only; Every Fall & Spring)
Design, production, and exhibition of comprehensive graphic design thesis project.

GDES 4362H. Senior Thesis and Exhibition. (; 3 cr. ; A-F only; Every Fall & Spring)
Design, production, and exhibition of comprehensive graphic design thesis project.

GDES 4363. Graphic Design Portfolio. (3 cr. ; S-N only; Every Fall & Spring)
Preparation of professional portfolio. Graphic design thesis exhibition. Professional issues.

GDES 4371. Data & Information Visualization. (3 cr. ; A-F only; Every Spring)
Visual articulation of data. Expansive research, meticulous gathering of data, analysis. Develop cohesive graphical narratives/build solid foundation in craft of presenting data.

GDES 5193. Directed Study in Graphic Design. (; 1-4 cr. [max 8 cr.]; A-F or Audit; Every Fall, Spring & Summer)
Independent study in graphic design under tutorial guidance. prereq: Jr or sr or grad student

GDES 5311. Illustration. (3 cr. ; A-F only; Every Spring)
Image making by hand or digitally for use in design projects. Design development. Mapping out ideas/expressing thoughts visually. Not observational drawing course. prereq: 1311 or ArtS 1101 or PDes 3702 or LA 1301 or Arch 3250 or Arch 2301 or instr consent

GDES 5341. Interaction Design. (; 3 cr. ; A-F or Audit; Every Fall & Spring)
Design of interactive multimedia projects. Interactive presentations and electronic publishing. Software includes hypermedia, scripting, digital output. prereq: [[2334 or 2342], design minor] or graphic design major or grad student or instr consent

GDES 5342. Advanced Web Design. (3 cr. ; A-F or Audit; Every Spring)
Internet-based design. Static web pages, embedded media, cascading style sheets. Design and usability of interface between humans and technology. Evaluation of visual elements that control and organize dealings with computers to direct work. Students develop designs, do usability testing. prereq: [[2334 or 2342], design minor] or graphic design major or grad student or instr consent

GDES 5371. Data & Information Visualization. (3 cr. ; A-F only; Every Spring)
Visual articulation of data. Expansive research, meticulous gathering of data, analysis. Develop cohesive graphical narratives/build solid foundation in craft of presenting data.

GDES 5383. Digital Illustration and Animation. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Advanced computer design. Integration of design knowledge with Macintosh computer applications. Students use software to create digital illustration and animations. Adobe Illustrator, After Effects, Flash. prereq: [[2334 or 2342], design minor], [graphic design major or [grad student, experience with computer illustration]]] or instr consent

GDES 5386. Fundamentals of Game Design.

(; 3 cr. ; A-F or Audit; Periodic Fall & Spring) Games of all kinds. Theoretical/practical aspects of making games. Investigation of design process. Rules, strategies, methodologies. Interactivity, choice, action, outcome, rules in game design. Social interaction, story telling, meaning/ideology, semiotics. Signs, cultural meaning. prereq: [[2334 or 2342], design minor] or [[4384 or DHA 4384 or 5341 or DHA 5341], [graphic design major or sr or grad student]]] or instr consent

GDES 5388. Graphic Design Research. (; 3 cr. ; A-F or Audit; Periodic Spring)

Experience in Graphic Design research strategies and methods. Applied, theoretical, and human-centered aspects directed at project development. Design prototyping, testing, analysis. prereq: Graphic design major or grad student or instr consent

Greek (GRK)**GRK 1001. Beginning Classical Greek I.** (5 cr. ; Student Option; Every Fall)

Introduction to grammar/vocabulary of classical Greek as written in Athens in 5th/4th centuries BCE. Forms/simple constructions. Some reading of simple, heavily adapted passages from ancient texts.

GRK 1002. Beginning Classical Greek II. (5 cr. ; Student Option; Every Spring)

Continuation of Greek 1001. More complex constructions, including particles, clauses, indirect discourse. Some reading of adapted passages from ancient texts. prereq: Grade of at least C- or S in 1001 or dept consent

GRK 3003. Intermediate Greek Prose. (4 cr. ; Student Option; Every Fall)

Introduction to Athenian prose authors of 5th/4th centuries BCE. Readings of continuous passages of unadapted Greek texts (history, speeches). Review of grammar/vocabulary. Some discussion of major themes/issues in Greek culture as illustrated by texts. prereq: Grade of at least C- or S in 1002 or 5001 or instr consent

GRK 3004. Intermediate Greek Poetry. (4 cr. ; Student Option; Every Spring)

Introduction to Greek epic poetry. Readings of selections from Homer's Iliad and Odyssey. Quantitative meter and poetic devices. Discussion of major themes and issues as developed in Homer's poetry. prereq: dept consent

GRK 3993. Directed Studies. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. prereq: instr consent

GRK 3994. Directed Research. (; 1-4 cr. ; A-F only; Every Fall & Spring)

Research project pertaining to ancient world, using documents or primary sources along with secondary sources. Students select project in consultation with faculty member. prereq: Course is open to second semester juniors and seniors, major in CNRC, or ReIS Students enrolling in this directed research course will complete the University's common Directed Research contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: - the work proposed is at the appropriate level for the course, academic in nature, and the student will be involved intellectually in the project. - the project scope is reasonable for one semester and the number of credits specified (42 hours of work per credit) - the faculty mentor is qualified to serve in this role - assessment of student learning and grading criteria are clear and appropriate - the student will be working in a respectful, inclusive environment The contract will include the learning objectives for the course, the methods that will be employed, and how assessment will be conducted by the faculty mentor. The contract must be approved by the DUGS/academic approver of the major before the student can register.

GRK 5003. Intermediate Greek Prose for Graduate Student Research. (; 4 cr. ; Student Option; Every Fall)

Introduction to Athenian prose authors of 5th/4th centuries BCE. Readings of continuous passages of unadapted Greek texts (history, speeches). Review of grammar/vocabulary. Some discussion of major themes/issues in Greek culture as illustrated by texts. prereq: Grade of at least [C- or S] in [1002 or 5001] or [instr consent, grad student]

GRK 5004. Intermediate Greek Poetry for Graduate Student Research. (; 4 cr. ; Student Option; Every Spring)

Introduction to Greek epic poetry. Readings of selections from Homer's Iliad and Odyssey. Quantitative meter and poetic devices. Discussion of major themes and issues as developed in Homer's poetry. prereq: dept consent

GRK 5100. Advanced Reading. (; 3 cr. [max 18 cr.] ; Student Option; Every Fall & Spring)

Reading in Greek texts/authors. Texts/authors vary. prereq: [GRK 3004 or equiv], at least two yrs of college level Greek. Must contact Classical and Near Eastern Studies department for permission to register.

GRK 5200. Advanced Readings in Greek Prose. (; 3 cr. [max 6 cr.] ; Student Option; Fall Even Year)

The primary material for this course will be a selection of readings from three or more different Greek prose authors connected by genre (e.g. historical writing, philosophy, oratory, novel), theme (e.g. medicine, Athenian politics of the 5th /4th centuries, religious innovation), period (e.g. classical period,

Second Sophistic), or the like. Primary readings and critical approach will vary from year to year, making the course repeatable. Some modern secondary reading will be assigned to provide a basis for discussion and a model for student written work. prereq: [GRK 3004 or equiv], at least two yrs of college level Greek. Contact the Classical & Near Eastern Religions & Cultures Department (CNRC) with any questions.

GRK 5701. Prose Composition. (; 3 cr. ; Student Option; Spring Odd Year)

Moving step by step through Ancient Greek grammar, starting with simple sentences and progressing to complex ones. Course ends with students translating short passages of modern English prose into Greek. prereq: Grad student or instr consent

GRK 5705. Introduction to the Historical-Comparative Grammar of Greek and Latin. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Historical/comparative grammar of Greek and Latin from their Proto-Indo-European origins to classical norms.

GRK 5993. Directed Studies. (1-4 cr. [max 18 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. Prereq: Grad student or instr consent.

GRK 5994. Directed Research. (1-12 cr. [max 18 cr.] ; Student Option; Every Fall & Spring)

Supervised original research on topic chosen by student. Prereq: Grad student or instr consent.

GRK 5996. Directed Instruction. (1-12 cr. [max 20 cr.] ; Student Option; Every Fall & Spring)

Supervised teaching internship. Prereq: Grad student or instr consent.

Health Informatics (HINF)**HINF 5115. Interprofessional Healthcare Informatics.** (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Implications of informatics for practice, including nursing, public health, and healthcare in general. Electronic health record issues. Relates ethical, legislative and political issues informatics. Global and future informatics issues. prereq: Grad student or professional student or instr consent

HINF 5394. Directed Research. (; 1-6 cr. [max 18 cr.] ; Student Option No Audit; Periodic Fall, Spring & Summer)

Directed research arranged with faculty member.

HINF 5430. Foundations of Health Informatics I. (; 3 cr. ; Student Option; Every Fall & Spring)

An introductory survey of health informatics, focusing on foundational concepts. Topics covered include: conceptualizations of data, information, and knowledge; current terminologies, coding, and classification systems for medical information; ethics, privacy, and security; systems analysis,

process and data modeling; human-computer interaction and data visualization. Lectures, readings, and exercises highlight the intersections of these topics with electronic health record systems and other health information technology. prereq: Junior, senior, grad student, professional student, or instr consent

HINF 5431. Foundations of Health Informatics II. (3 cr. ; Student Option; Every Spring)

An introductory survey of health informatics, focusing on applications of informatics concepts and technologies. Topics covered include: health informatics research, literature, and evaluation; precision medicine; decision models; computerized decision support systems; data mining, natural language processing, social media, rule-based system, and other emerging technologies for supporting 'Big Data' applications; security for health care information handling. Lectures, readings, and exercises highlight the intersections of these topics with current information technology for clinical care and research. prereq: Junior, senior, grad student, professional student, or instr consent

HINF 5436. AHC Informatics Grand Rounds. (1 cr. [max 10 cr.] ; A-F or Audit; Every Fall) Presentation/discussion of research problems, current literature/topics of interest in Health Informatics.

HINF 5440. Foundations of Translational Bioinformatics. (3 cr. ; A-F or Audit; Every Spring)

Translational bioinformatics deals with the assaying, computational analysis and knowledge-based interpretation of complex molecular data to better understand, prevent, diagnose and treat disease. This course emphasizes deep DNA sequencing methods that have persistent impact on research related to disease diagnosis and treatment. The course covers sequence analysis, applications to genome sequences, and sequence-function analysis, analysis of modern genomic data, sequence analysis for gene expression/functional genomics analysis, and gene mapping/applied population genetics. Prerequisites: MS, PhD, or MD/PhD student interested in translational bioinformatics

HINF 5450. Foundations of Precision Medicine Informatics. (3 cr. ; Student Option; Periodic Fall)

The course will provide an introduction into the fundamental concepts of Precision Medicine with a focus on informatics-focused applications for clinical data representation, acquisition, decision making and outcomes evaluation. The student will gain an appreciation of fundamental biomedical data representation and its application to genomic, clinical, and population problems.

HINF 5494. Topics in Health Informatics. (1-3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Topics in health informatics. prereq: Professional student or grad student or instr consent

HINF 5496. Internship in Health Informatics. (1-6 cr. [max 18 cr.] ; S-N or Audit; Every Fall, Spring & Summer)

Practical industrial experience not directly related to student's normal academic experience. prereq: HINF student or instr consent

HINF 5499. Capstone Project for the Masters of Health Informatics. (3 cr. ; S-N only; Every Fall, Spring & Summer)

Final opportunity to apply newly acquired knowledge/skills to project involving practical problem in health informatics. Submit written project report in lieu of final examination. prereq: second semester MHI student or instr consent

HINF 5501. US Health Care System: Information Challenges in Clinical Care. (1 cr. ; S-N or Audit; Every Fall & Spring)

Health care system/its unique interaction between key health system stakeholders. Relationship between patients, providers, payers, regulatory bodies. Role of information management/challenges of information standardization/exchange. prereq: Junior or senior or professional student or grad student or instr consent

HINF 5502. Python Programming Essentials for the Health Sciences. (1 cr. ; S-N or Audit; Every Fall & Spring)

Computer programming essentials for health sciences/health care applications using Python 3. Intended for students with limited programming background, or students wishing to obtain proficiency in Python programming language. prereq: Junior or senior or grad student or professional student or instr consent

HINF 5510. Applied Health Care Databases: Database Principles and Data Evaluation. (3 cr. ; A-F or Audit; Every Fall)

Principles of database theory, modeling, design, and manipulation of databases will be introduced, taught with a healthcare applications emphasis. Students will gain experience using a relational database management system (RDBMS), and database manipulation will be explored using Structured Query Language (SQL) to compose and execute queries. Students will be able to critically evaluate database query methods and results, and understand their implications for health care. prereq: Junior or senior or grad student or professional student or instr consent

HINF 5520. Informatics Methods for Health Care Quality, Outcomes, and Patient Safety. (2 cr. ; Student Option; Every Spring)

Application/operation of clinical information systems, electronic health records, decision support/application in health care system. Use of clinical information systems/association with health care delivery, payment, quality, outcomes. prereq: Junior or senior or grad student or professional student or instr consent

HINF 5530. Health Care Software Management. (2 cr. ; A-F or Audit; Every Spring)

Health care software and unique interaction between key stakeholders in health care

software development and implementation. Systems analysis, software development, and software life cycle management for health care applications. prereq: HINF student or instr consent

HINF 5531. Health Data Analytics and Data Science. (3 cr. ; A-F or Audit; Every Spring)

Data science methods and techniques for the extraction, preparation, and use of health data in decision making. prereq: Junior or senior or professional student or grad student or instr consent

HINF 5540. Interprofessional Health Informatics. (2 cr. ; A-F only; Every Spring)

Informatics applications in various healthcare professions. Clinical specialties. Informatics tools to improve healthcare services/outcomes through lectures/presentations.

HINF 5610. Foundations of Biomedical Natural Language Processing. (3 cr. ; Student Option; Periodic Fall)

The course will provide a systematic introduction to basic knowledge and methods used in natural language processing (NLP) research. It will introduce biomedical NLP tasks and methods as well as their resources and applications in the biomedical domain. The course will also provide hands-on experience with existing NLP tools and systems. Students will gain basic knowledge and skills in handling with main biomedical NLP tasks. Prerequisites graduate student or instructor consent; Experience with at least one programming language (Python or Perl preferred) Recommended: basic understanding of data mining concepts, basic knowledge of computational linguistics

HINF 5620. Data Visualization for the Health Sciences. (3 cr. ; A-F or Audit; Periodic Spring)

An advanced health informatics course, focusing on theoretical and practical aspects of data and information visualization for health care and the health sciences. Topics include classic and novel visualization types; models of human visual perception and cognition; color, text and typography; maps and diagrams; evaluation and testing; and the aesthetic and cultural aspects of visualization. Examples emphasize health sciences applications for clinicians, patients, researchers, and analysts. Modern programming and commercial tools are discussed, including D3, ggplot2, and Tableau. Students will report on and discuss visualization methods, published studies and books, culminating in a final visualization project of the student's choosing.

HINF 5630. Clinical Data Mining. (3 cr. ; Student Option No Audit; Periodic Fall)

This is a hands-on introductory data mining course specifically focusing on health care applications. Analogously to the relationship between biostatistics and statistics, the data and computational challenges, the experiment design and the model performance requirements towards data mining in the clinical domain differ from those in general applications. This course aims to teach the students the most common data mining

techniques and elaborate on the differences between general and clinical data mining. Specifically, the course will focus on (i) clinical data challenges and preprocessing; (ii) survey of the most common techniques in the clinical domain; (iii) clinical application touching up on experimental design and collaborations with physicians. The class will meet twice a week, one day dedicated to lectures and one day to a hands-on lab component, where students are expected to apply the techniques to health-related data. Some of the models will be evaluated with the involvement of a physician collaborator. Prerequisites: Basic linear algebra (matrix notation), basic optimization (gradient descent) Graduate level introductory statistics (e.g. STAT 5101-5102) or equivalent or instructor consent

HINF 5640. Advanced Translational Bioinformatics Methods. (3 cr. ; A-F or Audit; Every Fall)

This course is designed to introduce the high throughput platforms to students who are interested in the genomics research and genomics data analysis in the basic and clinical medical science field. The course covers history of the genomics platforms, its revolution and the specifics of the data generated by all existing different platforms. The course will also introduce all existing sequencing platforms and applications to biological science, as well the current trends in this field.

HINF 5650. Integrative Genomics and Computational Methods. (3 cr. ; A-F or Audit; Periodic Spring)

Genome-scale high throughput data sets are a central feature of modern biological research and translational clinical study. Experimental, computational biologists and clinical researchers who want to get the most from their data sets need to have a firm grasp and understanding of genomic data structure characteristics, analytical methodology and the intrinsic connection to integrate. This course is designed to build competence in quantitative methods for the analysis of high-throughput genomic data and data integration.

HINF 5660. Applied Causal Discovery. (; 3 cr. ; Student Option; Every Spring)

Which genes cause cancer? Does cholesterol cause heart attacks? Computational causal discovery (especially from observational data) is a recently developed and developing field at the intersection of statistics and machine learning, with numerous and important untapped applications in scientific and medical research. This course provides a foundation for students to go on to apply causal discovery methods to their own data sets. The focus of this course is on developing the students' ability to identify when and why to use computational causal discovery methods, how to determine what methods are appropriate to use in a given context, and how to interpret and report the results. Students in this course will gain hands-on experience applying causal discovery algorithms, develop an understanding of the computational challenges one faces when using causal discovery algorithms, and learn

the best practices for using causal discovery algorithms.

Health Services Management (HSM)

HSM 3040. Dying and Death in Contemporary Society: Implications for Intervention. (; 2 cr. ; Student Option; Every Fall & Spring)

This course provides basic background information on concepts, attitudes, ethics, and lifestyle management related to dying, death, grief, and bereavement. The emphasis is on preparing teachers, community health professionals, and other helping professionals for educational activities in this area. Prerequisite: sophomore

HSM 3051. Career and Internship Skills in Health Services Management. (2 cr. ; A-F or Audit; Every Fall & Spring)

This course is a requirement in the Bachelor of Applied Science major in Health Services Management. It can also be an elective for HSM minor and certificate students, with adviser permission. Its overall goal is to enable students to apply concepts and skills gained in the Health Services Management program and contribute their knowledge of best practices to make a positive impact on the health services management workplace and industry. To successfully complete this class, students will create a career interest statement, resume, cover letter, and LinkedIn profile. They will also apply to at least one health services-related internship or work position, participate in networking opportunities, and create an action plan to successfully obtain an HSM internship and enroll in HSM 4596. Prerequisites: HSM major or premajor; WRIT 1301 or 1401 or equivalent; HSM 3521; HSM 4561.

HSM 3101. Applied Health Economics. (3 cr. ; A-F only; Every Fall & Spring)

Provides a pragmatic, applied understanding of health economics with the specific aim of increasing the effectiveness of management in the health care industry. As effective management requires understanding and application of the economic incentives and choices of the various agents in that industry, this course reviews the health economic principles that drive the behavior of providers, insurers, and patients. It provides an overview of the structure of the hospital, provider, and pharmaceutical and medical device industries and their responses to economic forces given the incentives faced by the various economic agents--patients, providers, payers, and health care manufacturers (i.e., the pharmaceutical and medical device industries). This includes both an examination of private and government insurers and the ways health system actions are influenced by the policies of private and government insurance. Health equity is an issue that applies broadly in the health care industry, and as such, it has implications for its management. Similarly, health care management must prepare for the potential impact of health care reform on the health care industry so that it is positioned to thrive

in a dynamic environment. Accordingly, this course reviews various reform approaches and their implications for the health care industry. Prerequisites: None, but successful completion of a course in introductory microeconomics is strongly recommended.

HSM 3350. Special Topics in Health Services Management. (; 1-3 cr. [max 9 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Timely issues and themes in health services management.

HSM 3521. Health Care Delivery Systems. (; 3 cr. ; A-F or Audit; Every Fall)

Health care (HC) delivery systems, health economics, third-party/public reimbursement, current trends in HC organizations/management/administration. Regulations, standards, quality assurance, accreditation, current ethical issues. Implications for HC providers/professionals, patients/families, communities, international health. prereq: 30 cr

HSM 3621. Health Care Leadership in a Crisis. (; 1 cr. ; A-F or Audit; Every Fall & Spring)

Developing and activating an emergency management plan during a health care crisis takes leadership and management expertise. It's often said, "Leaders are identified in times of crisis." You will learn how to execute many important crisis leadership actions: Detect issues before they reach an emergency level. Apply strategic thinking and decision-making skills in crisis situations through a well-organized, executable plan. Mitigate the safety, financial, and operational effects of a health care emergency. Find opportunities amid the crisis to improve the organization and prevent future crises. Throughout the course, you will hear from experts on how they have led internal and external stakeholders through a crisis, including COVID-19. Prerequisites: None.

HSM 4041. Leadership in Health Services Management. (3 cr. ; A-F or Audit; Every Fall & Spring)

Learning about health care leadership will occur in three ways: exploration of foundational leadership theory with strategies, values, characteristics, and styles (the context); analysis of personal perspectives and beliefs about leadership (interpretation of the context); and examination of evolving health care industry trends. The course will assist students in understanding the most serious challenges facing the health care services market, presenting ways to address these challenges through emerging best practices and tapping existing relevant theories of leadership in health care. Each student will learn about their personal leadership style, and emphasis will be placed on self-awareness, critical thinking skills, culture development, and management of conflict. Case studies will be used to explore up-to-date examples concerning the external environment leaders face as they attempt to deal with what seems like daily change in their redesigned health care organizations. It is a hybrid course with live lectures, group projects, and leadership simulation.

HSM 4043. Project and Program Management in Health Services**Management.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

This is a hands-on course aimed at providing a practical, holistic perspective on the complexities of evidence-based project and program management within the health care organization. It describes the nature of health care projects, characteristics of project teams, and relevant trends in health care. You will become familiar with multiple project management tools, including Microsoft Project, as well as the necessary leadership, facilitation, and team skills. You will be exposed to case studies, examples, discussions, and readings on the disciplines and tools that professional health care project managers use. Upon completion of this course, you will have experienced the activities required to initiate, plan, execute, monitor, control, and close a successful health care project. Prerequisites: None

HSM 4065. Information Privacy and Security in Health Services Management. (TS; 3 cr. ; A-F or Audit; Every Fall & Spring)

Developing and implementing a security and privacy program in a health care environment. Privacy and security from societal, health care operations, and regulatory perspectives. Final project uses resources in the public domain to design a security and privacy program that supports regulatory compliance requirements and that considers customer/patient concerns and experience, health care provider experience and workflows, operational workflows, and regulatory compliance. Topics include importance of security in health care; risk concepts and value of health information, usability, and security/privacy; federal and state regulations; impact of technology on security; health care operations; what can be learned from other industries; security certifications; and breach response.

HSM 4193. Directed Study. (1-4 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Independent project. Topic arranged with and supervised by Health Services Management faculty member. prereq: admitted to HSM major, minor, or certificate; department consent.

HSM 4301. Health Care Quality & Patient Safety Management. (3 cr. ; A-F or Audit; Every Spring)

Principles of health care improvement, quality, and patient safety management from the role of the manager and project leadership in health services management. Overall the course is designed to provide an understanding of the concepts and principles of quality management and tools, patient safety, and related quality and safety management accreditation and regulatory requirements. The course will use an applied, real-world approach to ensure understanding of these important issues in health services management.

HSM 4521. Inclusion and Equity in Health Care Management. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Knowledge and skills needed to create ethical and just health care access, delivery, and outcomes within racially and culturally diverse populations. Through reflection and discussion, the course explores equity, bias, racial disparities, and culture as they relate to health care delivery, outcomes, and leadership. Analysis of case studies, organizational models, and social justice programs will create a foundation to ethically and strategically plan, actively engage in, and promote transformative change that will enable health care managers and leaders to create more inclusive health care delivery models. Prerequisites: None

HSM 4531. Human Resources in Health Care Settings. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Basic understanding of human resources issues within health care organizations--management of human capital to meet organizational objectives, and building and motivating an engaged workforce. Legal principles; labor supply and demand; sourcing, recruitment, selection and orientation; compensation; benefits; diversity; performance management. prereq: 45 cr

HSM 4541. Health Care Finance. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

General principles of financial management for health care industry. Operational knowledge of financial management theory, esp., how hospitals and their departments develop/balance operating/capital budget for business growth/development. Governmental policies, procedures, and ethical issues controlling the health care industry. prereq: Basic accounting knowledge, a course such as ACCT 2050, and knowledge of Microsoft Excel are strongly recommended. HSM pre-majors should wait for major status to take this course.

HSM 4561W. Health Care Administration and Management. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

Knowledge and skills in the organizational and managerial aspects of health care. Applications of behavioral and organizational theory to health care settings. Topics will include organization models, supervision, employee evaluation, problem solving, productivity management, group leadership, and case studies. As a Writing Intensive course, it will provide management-level communication skills to develop a thoughtful and reflective understanding of the writing (and rewriting) process.

HSM 4572. Gerontology and Geriatrics for Health Services Executives. (3 cr. ; A-F or Audit; Every Spring)

This course helps students understand aging as well as nursing facility operations and functions, administrative structures and responsibilities, and roles of professional and nonprofessional staff. It is designed to meet the National Association of Long Term Care Administrator Boards (NAB) accreditation standards for Health Services Executive (HSE) certification. The NAB has set forth domains of practice for HSEs, which have been adopted by the Minnesota Board of Examiners for nursing home administrators. This course

covers the following NAB domains of practice: resident-centered care and quality of life, environment, leadership and management, and core skills across all domains. Prerequisite: Students must have some basic knowledge of the long term care field. Those without it are encouraged to meet with the instructor prior to registering to explore learning strategies.

HSM 4573. Long Term Care Regulatory Management and Law. (3 cr. ; A-F or Audit; Every Spring)

This course helps students understand policies and laws that dictate the minimum standards for nursing facility operations. It is designed to meet the National Association of Long Term Care Administrator Boards (NAB) accreditation standards for the Health Services Executive (HSE) certification. The NAB set forth domains of practice for Health Services Executives. These domains of practice have been adopted by the Minnesota Board of Examiners for nursing home administrators. This course covers the domains involving regulatory and legal aspects of long term care. Prerequisite: Students must have some basic knowledge of the long term care field. Those without it are encouraged to meet with the instructor prior to registering to explore learning strategies.

HSM 4575. Innovation in Health Services. (3 cr. ; A-F or Audit; Every Fall)

This interactive course will help you understand the theory and practical application of innovation to solve big challenges in the health care system. You will learn and apply multiple approaches and tools for innovation and human-centered design to reshape organizational culture, strategy, structures, and systems.

HSM 4582. Practicum in Long Term Care. (; 1 cr. [max 4 cr.]; A-F or Audit; Every Fall, Spring & Summer)

The Practicum course is the final component of the long term care administrator's education. A broad range of performance parameters are affected by management practices (e.g., employee morale, clinical processes, financial performance, regulatory compliance, quality of life for residents, customer satisfaction, and community/public relations). The course is a transition between the classroom and this executive level of management. Students will undertake a formal practicum project that must be coordinated with 1) the practicum site, 2) a preceptor who is a licensed nursing home administrator at the sponsoring organization, and 3) the course instructor. The intern is expected to make positive contributions to the sponsoring organization. The preceptor functions as a mentor, coach, and tutor. The intern identifies learning objectives and opportunities to meet both short-range goals for gaining work experience and long-range goals for career development through the development of a learning agreement. prereq: Most prelicensure courses completed--at a minimum, HSM 4583/6583-LTC Supports and Services; HSM 4585/6585 -LTC Organizational Management; HSM 4589/6589-LTC Human Resource Management; HSM 4593/6593-Gerontology for Health Care Managers.

HSM 4583. Long Term Care Supports and Services. (2 cr. ; A-F or Audit; Every Spring)

The Minnesota Board of Examiners for Nursing Home Administrators (BENHA) requires applicants for initial licensure to complete accredited postsecondary academic courses covering key competencies. This course covers the organization, operations, functions, services, and programs of long-term care supports and services, including the following: governing and oversight bodies and their relationship to the administrator; administrative responsibilities and structures; operations and functions of each facility department; functions and roles of professional and nonprofessional staff and consulting personnel. Prerequisites: Some basic knowledge of the long-term care field. Students without this knowledge are encouraged to meet with the instructor to explore preparation strategies.

HSM 4584. Long Term Care Health and Medical Needs. (1 cr. ; A-F or Audit; Every Fall)

The Minnesota Board of Examiners for Nursing Home Administrators (BENHA) requires applicants for initial licensure (and those who are licensed in other states but do not meet Minnesota's regulatory requirements for experience or certification) to complete accredited post-secondary academic courses covering key competencies. This course covers the medical and health needs of nursing facility residents and persons living in community-based settings. Topics include: How anatomic and physiologic changes associated with the aging process affect disease processes and clinical needs. Impact and management of common syndromes associated with aging, including vision/hearing impairment, nutrition/malnutrition, and balance and mobility impairment. Prevention and management of common conditions such as pressure ulcers and delirium. Common psychiatric and neurodegenerative disorders such as dementias (including Alzheimer's), depression, anxiety, psychotic disorders, and alcohol and drug abuse. Advance care planning and the role of palliative care and end-of-life care. Basic medical and pharmacological terminology. Innovative medical trends and emergent technologies used in long-term care settings. Prerequisite: Basic knowledge of the long-term care field. Students who do not have this knowledge are encouraged to meet with the instructor to discuss strategies for obtaining it prior to registering for this course.

HSM 4585. Long Term Care Organizational Management. (1 cr. ; A-F or Audit; Every Fall)

The Minnesota Board of Examiners for Nursing Home Administrators (BENHA) requires applicants for initial licensure (and those who are licensed in other states but do not meet Minnesota's regulatory requirements for experience or certification) to complete accredited postsecondary academic courses covering key competencies. HSM 4585 covers the following basic management functions: planning and objective setting; organizing and delegating; and observing, monitoring, and evaluating outcomes. prereq: Basic knowledge of the long term care field. Students without

this knowledge are encouraged to consult with the instructor prior to registering to explore preparatory strategies.

HSM 4586. Management in Assisted Living and Senior Care Settings. (; 3 cr. ; A-F or Audit; Every Spring)

Assisted living directors increasingly lead complex organizations that provide many different types of services to residents and their families. This course helps students understand aging as well as the operations and functions of assisted living communities, governance and leadership, administrative structures and responsibilities, and the roles of professional and nonprofessional staff. In 2019, the Minnesota State Legislature passed historic regulatory reform in assisted living, culminating in a new facility license and a new director license. State statute sets forth domains of practice for assisted living directors. Education in these domains is required prior to licensure. This course is designed to meet the Assisted Living Director license requirements of the State of Minnesota Board of Examiners for Long Term Services and Supports. Prerequisites: While there are no formal prerequisites, the successful student must have some basic knowledge of aging services and/or the long term care field. Students who are unfamiliar with this field are encouraged to meet with the instructor prior to registering for this course.

HSM 4587. Long Term Care Regulatory Management. (1 cr. ; A-F or Audit; Every Fall)

The Minnesota Board of Examiners for Nursing Home Administrators (BENHA) requires applicants for initial licensure (and those who are licensed in other states but do not meet Minnesota's regulatory requirements for experience or certification) to complete accredited post-secondary academic courses covering key competencies. This course is one of those areas. It covers regulatory and funding provisions and requirements governing operation of long-term care services and related health care programs. Topics include Resident rights, resident choice/ resident risk and protection from maltreatment; Guardianship and conservatorship; Health and safety codes including OSHA and National Life Safety Code; Medicare and Medicaid, standards for managed care and sub-acute care, and third-party payer requirements and reimbursement; Federal and state nursing home survey and compliance regulations and processes; Requirements affecting the quality of care and life of residents; Resident acuity and assessment methodology; Quality assurance and performance improvement. prereq: Basic knowledge of the long term care field. Students without this knowledge are encouraged to meet with the instructor prior to registering to discuss options.

HSM 4588. Long Term Care Quality Management and Performance Improvement. (2 cr. ; A-F or Audit; Every Fall)

This course integrates competencies, knowledge, and skills from three interrelated areas to support evidence-based management decision making in long term care. These

areas include 1) problem-solving skills, 2) quality management and quality improvement practices, and 3) data analytics. Classwork consists of preclass readings, online preclass discussion, face-to-face one-day seminar, one-day comprehensive Excel homework assignment, and homework assignments. Prerequisites: Basic knowledge of the long term care field. Students without this knowledge are encouraged to meet with the instructor prior to registering to discuss ways of acquiring it. Skill with Excel is strongly recommended.

HSM 4589. Long Term Care Human Resources Management. (; 2 cr. ; A-F or Audit; Every Fall)

Long term care organizations operate within a dynamic environment of changing care demands, regulatory requirements, and financial constraints. This course is designed to provide students with an overview of leadership principles; organizational governance and change management; advocacy and public relations; and strategic business planning within the context of nursing homes. This course meets national and state requirements for licensure as a nursing home administrator. Prerequisites: None, but knowledge of the long-term care field is very helpful. Students without this knowledge are encouraged to meet with the director of the LTC program prior to registering to discuss strategies for acquiring it.

HSM 4591. Health Care Law and Ethics. (3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to the major legal and ethical aspects and principles as applied in health services management. Topics include organization and governance of healthcare organizations; regulation; healthcare fraud and abuse; professional licensing and credentialing; compliance, quality and risk management; privacy and security of individually identifiable health information; healthcare decision-making; professional liability and malpractice. Other topics include legal and ethical issues surrounding healthcare technologies, medical research, and medical breakthroughs.

HSM 4592. Long Term Care Health Care Law. (1 cr. ; A-F or Audit; Every Fall)

The Minnesota Board of Examiners for Nursing Home Administrators (BENHA) requires applicants for initial licensure (and those who are licensed in other states but do not meet Minnesota's regulatory requirements for experience or certification) to complete accredited post-secondary academic courses covering key competencies. HSM 4592 covers legal and regulatory issues, ethical perspectives, public policy advocacy and professional reporting requirements related to the operation of long-term care service delivery organizations. The following topics are covered: Professional and biomedical ethics; Liability, negligence, and malpractice; Data confidentiality, privacy and practices; Professional licensing, certification and reporting for staff and consulting personnel; and Advocacy for public policies. Prerequisites: Knowledge of the long-term care field. Students who do not have this knowledge are

encouraged to meet with the instructor prior to registering to discuss strategies for gaining this knowledge.

HSM 4593. Gerontology for Health Care Managers. (1 cr. ; A-F or Audit; Every Fall)
The Minnesota Board of Examiners for Nursing Home Administrators (BENHA) requires applicants for initial licensure (and those who are licensed in other states but do not meet Minnesota's regulatory requirements for experience or certification) to complete accredited post-secondary academic courses covering key competencies. This course covers the requirement related to Gerontology. HSM 4593 covers the following: Issues of cultural diversity and human relationships between and among employees and residents of nursing facilities and their family members. Physical, biological, social and psychological aspects of the aging process. Policies and programs designed to meet the needs of a rapidly aging population. Therapeutic programs for individuals with cognitive impairments. Services to support the needs of family caregivers. Prerequisites: Knowledge of the long-term care field. Students without this knowledge are encouraged to meet with the instructor prior to registering to discuss strategies for acquiring it.

HSM 4596. Health Services Management Internship. (; 1 cr. [max 3 cr.] ; A-F only; Every Fall, Spring & Summer)
This course serves as a requirement in the Bachelor of Applied Science degree in Health Services Management. Students will apply coursework in the health services management area and contribute knowledge of best practices to make a positive impact on the health services management workplace and industry. Students will participate in career development activities, a challenge project, and networking. prereq: HSM major; dept. consent. Permission to enroll will be granted only upon completion of HSM 3051, 3521, 4531, 4541, 4561W, & 4591. Highly recommended: HSM 4043 & 4301 (and HINF 5430 for HSM technology internships).

HSM 4682. Long Term Care, Services, and Supports. (; 3 cr. ; A-F or Audit; Every Fall & Spring)
Long term care organizations provide housing, services, and supports to older adults and others with complex medical and health care needs. Part health care facility and part home, skilled nursing facilities need administrators with a core understanding of gerontology and geriatrics. This course is designed to provide an overview of the biological, psychological, and sociological aspects of aging and, in turn, how long term care responds to needs through services and supports. This course meets national and state requirements for licensure as a nursing home administrator. Prerequisites: None.

HSM 4683. Long Term Care Environment and Quality. (; 3 cr. ; A-F or Audit; Every Fall & Spring)
Long term care organizations must continue to evolve based on consumer demand and regulatory frameworks. To achieve continuous quality improvement, administrators must

understand the fundamentals of quality as well as how the regulatory environment impacts quality. This course is designed to explore the regulatory framework in which skilled nursing facilities operate as well as the concept of quality. It meets national and state requirements for licensure as a nursing home administrator. Prerequisites: None.

HSM 4684. Long Term Care Leadership and Strategy. (; 2 cr. [max 3 cr.] ; A-F or Audit; Every Fall & Spring)
Long term care organizations operate within a dynamic environment of changing care demands, regulatory requirements, and financial constraints. This course is designed to provide students with an overview of leadership principles, organizational governance and change management, advocacy and public relations, and strategic business planning within the context of nursing homes. This course meets national and state requirements for licensure as a nursing home administrator. Prerequisites: None.

HSM 4861. Leadership and Business Planning in Health Care: Capstone. (3 cr. ; A-F only; Every Fall & Spring)
The course is a core requirement in the HSM major and allows students to synthesize and integrate lessons from previous courses. It covers theory and practice of leadership skills needed for high-performing health care organizations in changing and turbulent times. It emphasizes a four-phase approach: environmental assessment, planning, strategy and innovation, and implementation/measurement. Students will be prepared to embrace innovation and lead business plans through to successful implementation. They will learn to integrate a wide range of management tools through collaborative development of a strategic business plan. prereq: HSM 3521, 4531, 4541, 4561, 4591. HSM major. Final year status required.

Hebrew (HEBR)

HEBR 1001. Beginning Hebrew I. (; 5 cr. ; Student Option; Every Fall)
For beginners whose goal is biblical or post-biblical Jewish studies or modern Israeli Hebrew. Leads to speaking, listening comprehension, and reading and writing Hebrew. Emphasizes communication proficiency. Cultural materials are incorporated.

HEBR 1002. Beginning Hebrew II. (; 5 cr. ; Student Option; Periodic Fall & Spring)
Continuation of 1001. Leads to speaking, listening comprehension, reading, and writing Hebrew. Emphasizes communication proficiency. Cultural materials. prereq: Grade of at least [C- or S] in [1001 or 4001] or instr consent

HEBR 1101. Beginning Biblical Hebrew I. (; 5 cr. ; Student Option; Periodic Fall)
The Hebrew Bible is one of the most important literary texts in world history, and one of the most culturally and morally influential in the development of western civilization. Most of this influence, however, has been via translation. Have you ever wondered if you

can trust the translation? Does the Adam and Eve story really say what you think it does? Does the Hebrew Bible really include all the strict moral pronouncements and prohibitions that are attributed to it? This course offers the tools you need to read simple narrative texts in the Bible for yourself, while also introducing you to multiple approaches in biblical scholarship. Biblical Hebrew also satisfies the CLA Language requirement.

HEBR 1102. Beginning Biblical Hebrew II. (; 5 cr. ; Student Option; Spring Even Year)
Progression to more sophisticated reading of narrative, prophetic, and legal texts. Presentation/discussion of multiple approaches to problems/issues in biblical scholarship. prereq: Grade of at least [C- or S] in [1101 or 4104] or instr consent

HEBR 3011. Intermediate Hebrew I. (; 5 cr. ; Student Option; Every Fall)
Prepares students for CLA language requirement. Speaking, reading, writing, and comprehension of modern Hebrew. Students read/discuss prose, poetry, news, and film. Important features of biblical/classical Hebrew. Taught primarily in Hebrew. prereq: Grade of at least [C- or S] in [1002 or 4002] or instr consent

HEBR 3012. Intermediate Hebrew II. (; 5 cr. ; Student Option; Every Spring)
Extensive reading of simplified modern Hebrew prose selections. Students discuss poetry, newspaper, film, and TV in Hebrew. Israeli cultural experiences. Hone composition, listening comprehension, and speaking skills to prepare for proficiency exams. Biblical prose, simple poetic texts. Taught in Hebrew. Meets with 4012. prereq: Grade of at least [C- or S] in in 3011 or instr consent

HEBR 3090. Advanced Modern Hebrew. (; 3 cr. [max 18 cr.] ; Student Option; Every Fall)
Preparation to read various kinds of authentic Hebrew texts and to develop higher levels of comprehension/speaking. Conducted entirely in Hebrew. Emphasizes Modern Israeli Hebrew. Introduction to earlier genres. Grammar, widening vocabulary. Contemporary short fiction, essays, articles on cultural topics, films, Hebrew Internet sites, TV. prereq: 3012 or instr consent

HEBR 3101. Intermediate Biblical Hebrew I. (; 4 cr. ; Student Option; Fall Odd Year)
Text of Hebrew Bible. Basic research tools/commentaries. Close reading of narrative biblical texts. Reading fluency, methods of research in biblical studies. prereq: Grade of at least [C- or S] in [1102 or 4105] or instr consent

HEBR 3102. Intermediate Biblical Hebrew II. (; 4 cr. ; Student Option; Spring Odd Year)
Text of Hebrew Bible, basic research tools and commentaries. Close reading of narrative biblical texts. Reading fluency, methods of research in biblical studies. Meets with 4107. prereq: Grade of at least [C- or S] in 3101 or instr consent

HEBR 3951W. Major Project. (WI; 4 cr. ; Student Option; Every Fall & Spring)
Research project using primary and secondary sources. Students select project in consultation with a faculty member, who directs the

research/writing. prereq: [Hebr major, three 3xxx Hebrew courses], instr consent, dept consent

HEBR 3980. Directed Instruction. (1-4 cr. ; Student Option; Every Fall & Spring)
Students observe/discuss classes. Gradually increased participation in preparing/presenting instructional materials to a beginning Hebrew class. Evaluation of materials, teaching techniques. Seminars on language teaching issues. Prereq college consent.

HEBR 3993. Directed Studies. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)
Guided individual reading or study. prereq: instr consent

HEBR 4001. Beginning Hebrew I for Graduate Student Research. (; 5 cr. ; Student Option; Every Fall)
For beginners whose goal is biblical or post-biblical Jewish studies or modern Israeli Hebrew. Leads to speaking, listening comprehension, and reading and writing Hebrew. Emphasizes communication proficiency. Cultural materials are incorporated. Meets concurrently with 1001. prereq: grad student

HEBR 4002. Beginning Hebrew II for Graduate Student Research. (; 5 cr. ; Student Option; Periodic Fall & Spring)
Continuation of 4001. Leads to speaking, listening comprehension, reading, and writing Hebrew. Emphasizes communication proficiency. Cultural materials. Meets with 1002. prereq: Grade of at least [C- or S] in [1001 or 4001] or instr consent

HEBR 4011. Intermediate Hebrew I. (; 5 cr. ; Student Option; Every Fall)
Prepares students for CLA language requirement. Speaking, reading, writing, and comprehension of modern Hebrew. Students read and discuss prose, poetry, news, and film. Taught primarily in Hebrew. prereq: Grade of at least [C- or S] in [1002 or 4002] or instr consent

HEBR 4012. Intermediate Hebrew II for Graduate Student Research. (; 5 cr. ; Student Option; Every Spring)
Extensive reading of simplified modern Hebrew prose selections. Students discuss poetry, newspaper, film, and TV in Hebrew. Israeli cultural experiences. Hone composition, listening comprehension, and speaking skills to prepare for proficiency exams. Biblical prose, simple poetic texts. Taught in Hebrew. Meets with 3012.

HEBR 4104. Beginning Biblical Hebrew I for Graduate Student Research. (; 5 cr. ; Student Option; Periodic Fall)
The Hebrew Bible is one of the most important literary texts in world history, and one of the most culturally and morally influential in the development of western civilization. Most of this influence, however, has been via translation. Have you ever wondered if you can trust the translation? Does the Adam and Eve story really say what you think it does? Does the Hebrew Bible really include all the strict moral pronouncements and prohibitions that are attributed to it? This course offers the tools you need to read simple narrative

texts in the Bible for yourself, while also introducing you to multiple approaches in biblical scholarship. Biblical Hebrew also satisfies the CLA Language requirement.

HEBR 4105. Beginning Biblical Hebrew II for Graduate Student Research. (; 5 cr. ; Student Option; Spring Even Year)
Progression to more sophisticated reading of narrative, prophetic, and legal texts. Presentation and discussion of multiple approaches to problems and issues in biblical scholarship. Meets with 1102. prereq: Grade of at least [C- or S] in [1101 or 4104] or instr consent

HEBR 4106. Intermediate Biblical Hebrew I. (; 3 cr. ; Student Option; Every Fall)
Text of Hebrew Bible. Basic research tools/commentaries. Close reading of narrative biblical texts. Reading fluency, methods of research in biblical studies. Meets with 3101. prereq: Grade of at least [C- or S] in [1102 or 4105] or [instr consent, grad student]

HEBR 4107. Intermediate Biblical Hebrew II for Graduate Student Research. (; 4 cr. ; Student Option; Spring Odd Year)
Text of Hebrew Bible, basic research tools and commentaries. Close reading of narrative biblical texts. Reading fluency, methods of research in biblical studies. Meets with 3102. prereq: Grade of at least [C- or S] in 3101 or instr consent

HEBR 5090. Advanced Modern Hebrew. (; 3 cr. [max 18 cr.] ; Student Option; Every Fall)
Various authentic Hebrew texts. Comprehension/speaking. Conducted entirely in Hebrew. Emphasizes Modern Israeli Hebrew. Grammar, widening vocabulary. Contemporary short fiction, essays, articles on cultural topics, films, Hebrew Internet sites, TV.

HEBR 5200. Advanced Classical Hebrew. (; 3 cr. [max 12 cr.] ; Student Option; Periodic Fall & Spring)
In-depth reading, analysis, and discussion of classical Hebrew texts. Grammar, syntax. Introduction to text-criticism, history of scholarship, and scholarly tools. Format varies between survey of themes (e.g., law, wisdom, poetry) and extended concentration upon specific classical texts.

HEBR 5300. Post-Biblical Hebrew: Second Temple Period. (; 3 cr. [max 18 cr.] ; Student Option; Periodic Spring)
Readings in late-/post-biblical Hebrew literature of Persian, Hellenistic, and early Roman periods (e.g., Chronicles, Ezra-Nehemiah, Ecclesiastes, Daniel, Dead Sea Scrolls, apocrypha, pseudepigrapha). Focuses on historical development of Hebrew language and literature in relation to earlier biblical sources. prereq: Grad student or instr consent

HEBR 5992. Directed Readings. (1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Guided individual reading or study. Prereq instr consent, dept consent, college consent.

Heritage Studies & Public Hist (HSPH)

HSPH 5001. Disability Justice and Cultural Heritage. (; 3 cr. ; A-F or Audit; Periodic Fall)
This course is designed to prepare advanced undergraduates and graduate students to more effectively engage issues of disability in public history. This class is rooted in activism, taking an intersectional approach, which will push students to reflect on the numerous ways other forms of identity intersect and have been classified as disability. This class is organized as a workshop where students from multiple disciplines will focus on strategies for increasing public awareness and understanding of disability histories as expressed in American buildings and landscapes. The class will be grounded in scholarly and activist perspectives on disability justice connected with various aspects of public history: historic preservation, archival practices, community-engaged work, and exhibition design, among others.

Hindi (HNDI)

HNDI 1011. Beginning Hindi I. (; 5 cr. ; Student Option No Audit; Every Fall)
Basic listening, speaking, reading, and writing skills. Emphasis on the development of communicative competence.

HNDI 1012. Beginning Hindi II. (; 5 cr. ; Student Option No Audit; Every Spring)
Basic listening, speaking, reading, and writing skills. Emphasizes communicative competence.

HNDI 1015. Accelerated Beginning Hindi. (; 5 cr. ; Student Option No Audit; Periodic Fall)
Aspects of linguistic performance: speaking, reading, writing, listening. Cultural/linguistic literacy about South Asia and, in particular, India. Emphasizes individual learning styles/preferences for students to understand/retain information.

HNDI 3016. Accelerated Intermediate Hindi. (; 5 cr. ; Student Option No Audit; Every Spring)
Conversational aspect of Hindi. Interactive group activities, video/lab sessions. Engaging in reasonably fluent discourse. Formal grammar. Advanced reading, writing, and comprehension. Different genres/styles of spoken/written Hindi. Taught mainly in Hindi.

HNDI 3021. Intermediate Hindi I. (; 5 cr. ; Student Option No Audit; Every Fall)
Development of reading, writing, speaking, and listening skills. Grammar review, some basic compositions and oral presentations.

HNDI 3022. Intermediate Hindi II. (; 5 cr. ; Student Option No Audit; Every Spring)
Development of reading, writing speaking, and listening skills. Grammar review, some basic compositions and oral presentations.

HNDI 3031. Advanced Hindi I. (4 cr. ; Student Option No Audit; Every Fall)
Continued emphasis on development of communication skills, ability to comprehend both written/spoken texts. Speak, read, write in Hindi beyond intermediate level. prereq: 3022 or instr consent

HNDI 3032. Advanced Hindi II. (4 cr. ; Student Option No Audit; Every Spring)

This course is the second half of the Advanced Hindi course sequence. Continued emphasis on development of communication skills, ability to comprehend both written/spoken texts. Speak, read, write in Hindi beyond intermediate level. prereq: HNDI 3031 or instr consent

HNDI 4001. Beginning Hindi I for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Fall)

Basic listening, speaking, reading, and writing skills. Emphasis on the development of communicative competence. Meets with 1011.

HNDI 4002. Beginning Hindi II for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Spring)

Basic listening, speaking, reading, and writing skills. Emphasizes communicative competence. Meets with 1012.

HNDI 4003. Intermediate Hindi I for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Fall)

Development of reading, writing, speaking, and listening skills. Grammar review, some basic compositions and oral presentations. Meets concurrently with 3021.

HNDI 4004. Intermediate Hindi II for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Spring)

Development of reading, writing speaking, and listening skills. Grammar review, some basic compositions and oral presentations. Meets concurrently with 3022.

HNDI 4005. Advanced Hindi I for Graduate Research. (4 cr. ; Student Option No Audit; Every Fall)

Continued emphasis on development of communication skills, ability to comprehend both written/spoken texts. Speak, read, write in Hindi beyond intermediate level. Meets with HNDI 3031. prereq: 4004 or instr consent

HNDI 4006. Advanced Hindi II for Graduate Research. (4 cr. ; Student Option No Audit; Every Spring)

Continued emphasis on development of communication skills, ability to comprehend both written/spoken texts. Speak, read, write in Hindi beyond intermediate level. Meets with HNDI 3032. prereq: 4005 or instr consent

HNDI 4015. Accelerated Beginning Hindi for Graduate Research. (5 cr. ; Student Option No Audit; Periodic Fall)

Aspects of linguistic performance: speaking, reading, writing, listening. Cultural/linguistic literacy about South Asia and, in particular, India. Emphasizes individual learning styles/preferences for students to understand/retain information.

HNDI 4016. Accelerated Intermediate Hindi for Graduate Research. (5 cr. ; Student Option No Audit; Periodic Spring)

Conversational aspect of Hindi. Interactive group activities, video/lab sessions. Engaging in reasonably fluent discourse. Formal grammar. Advanced reading, writing, and comprehension. Different genres/styles of spoken/written Hindi. Taught mainly in Hindi.

HNDI 5040. Readings in Hindi Texts. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Read authentic materials of various types to improve reading/speaking ability.

HNDI 5993. Directed Study. (1-5 cr. [max 15 cr.] ; Student Option; Every Fall & Spring) Guided individual reading or study of modern Hindi-Urdu texts. Prereq instr consent, dept consent, college consent.

Hindi-Urdu (HNUR)

HNUR 1011. Beginning Hindi-Urdu I. (5 cr. ; Student Option No Audit; Every Fall) Listening, speaking, reading, writing. Development of communicative competence.

HNUR 3021. Intermediate Hindi-Urdu I. (5 cr. ; Student Option No Audit; Every Fall) Reading, writing, speaking, listening skills. Grammar review, basic compositions, oral presentations. prereq: 1012 or instr consent

HNUR 3290. Hindi-Urdu Language Teaching Tutorial. (; 1 cr. [max 2 cr.] ; S-N only; Every Fall & Spring)

Students tutor beginning students of Hindi-Urdu and are part of department's Hindi-Urdu language team. prereq: Grade of A in HNDI 4162

HNUR 4001. Beginning Hindi-Urdu I for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Fall) Listening, speaking, reading, writing. Development of communicative competence.

HNUR 4003. Intermediate Hindi-Urdu I for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Fall) Reading, writing, speaking, listening skills. Grammar review, basic compositions, oral presentations. prereq: 4002 or instr consent

HNUR 4005. Advanced Hindi-Urdu I for Graduate Student Research. (4 cr. ; Student Option No Audit; Every Fall) Continued emphasis on development of communication skills, ability to comprehend both written/spoken texts. speak, read, write in Hindi-Urdu beyond intermediate level. prereq: 4004 or instr consent

History (HIST)

HIST 1000. New Topics in History. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall & Spring)

Courses on new topics in history, historical topics related to current events, and other special subjects. Contact the History department for current listings.

HIST 1011W. Civilization and the Environment: World History to 1500.

(ENV,WI,HIS; 4 cr. ; Student Option; Every Fall, Spring & Summer) Sweep of history, from first prehistoric societies to dawn of modern world circa 1500. Forces that pushed humans to continually explore new environments and develop higher levels of social organization and cross-cultural interaction. prereq: Fr or soph or non-hist major

HIST 1012W. The Age of Global Contact. (GP,WI,HIS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Five centuries of globalization. How the modern, interconnected world came into being. Changing material life (food, clothes, petroleum) and ideologies/beliefs. Analysis of primary documents to show how historical knowledge is produced. prereq: Fr or soph or non-hist major

HIST 1015W. Globalization: Issues and Challenges. (GP,WI; 4 cr. ; A-F or Audit; Every Fall & Spring)

Increased global interconnections over past 50 years. Impact of information revolution on human rights, economic inequality, ecological challenges, and decolonization. Cases in Asia, Africa, Latin America, or Middle East. prereq: Fr or soph or non-hist major

HIST 1031W. Europe and the World: Expansion, Encounter, and Exchange to 1500. (GP,WI,HIS; 4 cr. ; Student Option; Every Fall)

Europe, from Hammurabi to Columbus. Heyday of ancient Near East, Late Middle Ages. Culture, European interactions with wider world through religion, conquest, and trade. Beginning of the age of discoveries. prereq: Fr or soph or non-hist major

HIST 1032W. Europe and the World: Expansion, Encounter, and Exchange from 1500 to Present. (GP,WI,HIS; 4 cr. ; Student Option; Every Spring)

Emergence of a Europe of nations/empires. Transformations through revolutions, wars, and encounters with world regions. prereq: Fr or soph or non-hist major

HIST 1081W. Martyrs, Monks, Crusaders: World Christianity, 100-1400. (GP,WI,HIS; 4 cr. ; Student Option; Fall Odd, Spring Even Year)

This course surveys the history of Christianity from its status as a persecuted minority religion of the Roman Empire to its dominant role in medieval Europe and Byzantium. We study Christian traditions in Asia and Africa as well as Europe with special attention to the relationship between Christianity and culture in the ancient and medieval world.

HIST 1082. Jesus in History, Art & Culture. (HIS; 3 cr. ; Student Option; Every Spring)

Who was Jesus? While there has been some basic consistency in the depictions of Jesus throughout history, there has also been lots of variety. We will look at the stories and writings of the New Testament. We will look at ancient and medieval art and music. We will look at modern literature, film, and music. We will learn about how cultures and social groups from around the world have portrayed Jesus in their own contexts and for their own purposes. Students will leave the course with a sense of the diversity of depictions of Jesus and how this diversity correlates with the peoples that portray him and with the cultural and historical moments in which he is portrayed. Come and grapple with the question of who Jesus really was for ancient peoples and who he is for many today. Intended as a course of interest to undergraduates in all colleges of the TC campus. Students of any, all, or no religious background are welcome.

HIST 1102. Medieval Tales and their Modern Echoes. (GP,LITR; 3 cr. ; Student Option; Every Spring)

Knights of Round Table, dragon-slayers, magic djinn, pilgrims in Hell. How stories have been retold in modern fiction, film, arts. Texts from Europe/other regions of globe.

HIST 1301W. Authority and Rebellion: American History to 1865. (DSJ,WI,HIS; 4 cr. ; Student Option; Every Fall)

Conflict/change, from colonial era through Civil War. colonization/resistance, slavery, nation-building, westward expansion, gender roles, religion, reform, race/ethnicity, immigration, industrialization, class relations. Students use primary sources, historical scholarship. prereq: Fr or soph or non-hist major

HIST 1302W. Global America: U.S. History Since 1865. (DSJ,WI,HIS; 4 cr. ; Student Option; Every Spring)

U.S. history since Civil War, in global context. Emancipation. Forms of labor. Immigration. Citizenship. Conceptions of race/gender. Hot/cold wars. Reform/rights movements. Globalization. State power. Students use primary sources, historical scholarship. prereq: Fr or soph or non-hist major

HIST 1307. Authority and Rebellion: American History to 1865. (HIS; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

Conflict/change, from colonial era through Civil War. Colonization/resistance, slavery, nation-building, westward expansion, gender roles, religion, reform, race/ethnicity, immigration, industrialization, class relations. Students use primary sources, historical scholarship.

HIST 1308. Global America: U.S. History Since 1865. (HIS; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

U.S. history since Civil War, in global context. Emancipation. Forms of labor. Immigration. Citizenship. Changing conceptions of race/gender. Hot/cold wars. Reform/rights movements. Globalization. State power. Students use primary sources, historical scholarship.

HIST 1361W. World War I: A Global History. (HIS,WI,TS; 3 cr. ; A-F only; Every Fall)

This class takes a global approach to the examination of World War One's causes and consequences. We will look at how the war unfolded in Europe, Africa, and the Middle East. We will also explore the war's impact on North America and Australasia, areas drawn into the conflict because of their unique relationships with Britain and France. We will consider the special role played by the U.S. in restoring world peace and analyze the lasting social and political cleavages occasioned by the war. We will get at the heart of how the war was fought and how it is remembered for all of its triumphs and tragedies.

HIST 1362. Global History of World War II. (HIS; 3 cr. ; Student Option; Every Spring)

This course examines 1) how different countries remember WWII and how memories of the war have been shaped by domestic and international contexts of each country

and 2) how WWII changed the world in areas of human rights, the government-society relations, and ethical use of science and technology. Various faculty members with different geographical and thematic expertise come to the class as guest lecturers throughout the semester.

HIST 1364. Introduction to Global Environmental History. (ENV,HIS; 3 cr. ; Student Option; Fall Even Year)

This introductory course focuses on human environment interaction and the role of environmental factors in shaping of world history from the early medieval period, roughly 1000 C.E. to the present day. Beginning with the idea of environmental history and its broad themes, including climate, volcanic eruptions, landscape, plants, crops, animals, insects, disease, pestilence, energy, and technology, the course will enable students not only to understand the complex relationship between human societies and non-human species but also the changing nature and structure of this relationship throughout history.

HIST 1365. Global Tourism and the Environment from the late 18th Century to the Present. (ENV,HIS; 3 cr. ; Student Option; Every Fall)

This course focuses on tourism and travel. Spanning the period from the late 18th century to the present, it examines the ways in which these phenomena impact how we live, work, interact with our natural environment and other people, and conceive of the world and global forces

HIST 1534. Introduction to Jewish History and Cultures. (HIS; 3 cr. ; Student Option; Every Fall)

This course traces the development of Judaism and Jewish civilizations from their beginnings to the present. With over three millennia as its subject, the course must of necessity be a general survey. Together we will explore the mythic structures, significant documents, historical experiences, narratives, practices, beliefs, and worldviews of the Jewish people. The course begins by examining the roots of Judaism in the Hebrew Bible and the history of ancient Israel but quickly focuses on the creative forces that developed within Judaism as a national narrative confronted the forces of history, especially in the forms of the Persian, Greek, and Roman empires. Rabbinic Judaism becomes the most dominant creative force and will receive our greatest attention, both in its formative years and as it encounters the rise of Christianity and Islam. After studying the Jewish experience in the medieval world, we will turn to Judaism's encounter with the enlightenment and modernity. The historical survey concludes by attending to the transformations within Judaism and Jewish life of the last 150 years, including a confrontation with the experience of the Holocaust. Woven throughout this historical survey will be repeated engagements with core questions: ?Who is a Jew?? ?What do Jews believe?? ?What do Jews do?? ?What do we mean by ?religion??? ?How do Jews read texts within their tradition?? And perhaps most

importantly, ?How many answers are there to a Jewish question?? Students in this course can expect to come away with some knowledge of the Bible in Judaism, rabbinic literature and law, Jewish mysticism and philosophy, Jewish nationalism and Zionism, Jewish culture, ritual, and worship in the synagogue, the home, and the community, and Jewish celebrations of life cycle events and the festivals.

HIST 1809. The Presidency: Power, Politics, and Policy in the United States. (CIV,HIS; 3 cr. ; Student Option; Fall Even Year)

This course explores the emergence, meaning, and evolution of the American presidency. We will examine the nature of presidential power and ask how and why those powers have changed over time. We will explore the impact of politics and political parties on the American presidency. We will consider how presidents shape policy and analyze the relationship between power, politics, and policy.

HIST 1811. The Sixties: History & Memory. (DSJ,HIS; 3 cr. ; Student Option; Every Fall)

The Sixties was an incredibly dynamic decade in the United States and around the world. It was a decade of powerful social movements from the Civil Rights and Black, Brown, Yellow and Red Power movements to the countercultural, student/campus, anti-war, feminist, and environmental movements. It was also marked by the rise of a series of New Right movements from the rise of the Barry Goldwater to the election of Richard Nixon and the transformation of both the Democratic and Republican parties. Major immigration reform, transformations in the nation's educational and health care systems, along side new patterns of consumption and new forms of media were also products of the Sixties. From the Cold War to the Vietnam War, from anti-imperialism and anti-colonialism to third world revolutions, Americans transformed the world and the US was transformed by the world in the sixties. Fifty years removed from the sixties, the idea of the sixties remains alive in the American imagination. It remains alive and in tension with the new movements, like Black Lives Matters, and in political thought, as, for example, in Donald Trump's repeated invocation of the "silent majority." Students will explore a wealth of primary sources and be introduced to the dynamic historiography of the 1960s. As a class, we will also consider how the sixties continues to serve as a powerful trope that organizes political and social thought in the 21st century.

HIST 1911. A History of the Drug Wars. (; 3 cr. ; A-F only; Periodic Fall)

When and how did some drugs become a social problem? Why is cocaine illegal in the United States? Who is winning the war on drugs? These questions and others are at the heart of this seminar. We will examine the longer history of controlled substances throughout the Western Hemisphere, focusing in particular on the scope of the so-called war on drugs of the past 30 years. We will read books, articles, and websites dealing with illegal drugs, and we will watch documentary and full-length films dealing with drug use, drug

markets, and the violence surrounding drugs. Our study of the past is intended to help us understand the present context and to allow us to imagine a different future regarding these complicated issues.

HIST 1923. Politics of Hunger: Food, Aid, and Globalization after WWII. (; 3 cr. ; A-F only; Periodic Fall & Spring)

Food is a basic part of our everyday life, but it is difficult to see macro-level political economy behind food and hunger. This seminar gives a basic understanding of how "hunger" came to be understood and dealt with globally after WWII, how Cold-War geopolitics affected food shortage and surplus, how the global food system has gotten us where we are, and what new options are being pursued now. In all these stages, the US has played a central role in shaping the politics of food and hunger. The first part of the course exposes you to important concepts and issues related to politics around world hunger, American food aid, and multi-national agribusiness; students learn how to read texts closely and how to connect American food aid to global politics. The second part of the course helps you acquire research and communication skills; students learn how to conduct independent research and how to use a digital humanities tool called StoryMap. The course is composed of lectures, discussions, documentary film viewing, and research/StoryMap creation.

HIST 1927. Radical Ecology in the Early United States. (; 3 cr. ; A-F only; Periodic Fall)

Our current climate crisis calls for a rethinking of the way humans interact with the environment, but such efforts are not new: already in the nineteenth century, people warned about ecological destruction and called for a change in behavior toward the natural world. This first-year seminar explores how different groups of people have understood and responded to environmental degradation in North America. The focus will be on those who made urgent calls for a change in human behavior toward nature, from Indigenous peoples past and present to ecocentrist groups like Greenpeace and Earth First! Topics include protests against ecological damage and loss, experiments in minimalism, the call for preservation and national parks, environmental racism and the environmental justice movement, and various forms of environmental activism. Students will develop historically informed positions about an array of ecological options, experiments, viewpoints that preceded and shaped current forms of environmentalism.

HIST 1928. The Bright Ages: Reimagining the Middle Ages. (; 3 cr. ; A-F only; Periodic Fall)

There is no such thing as the Dark Ages. Medieval European history is a thousand years long and contains all the complexity, the mess, and the human capacity for good and evil as any other place and time. And yet this period of history remains haunted by the ghosts of the Renaissance, the age of Imperialism, and even today's TV shows like Vikings or Game of Thrones. How do historians craft new and more

persuasive narratives about the past? How do we shape what people remember? In this class, students will work on how we tell stories about big periods in the past, focusing first on the battle against the so-called Dark Ages, but then looking at the ways ongoing battles about how to tell our stories from antiquity to now play out in the classroom, our political arenas, in our entertainments, and beyond.

HIST 1929. History of and Through Board Games. (; 3 cr. ; A-F only; Periodic Fall)

When pandemic lockdowns and restrictions forced people to stay at home beginning in 2020, sales of board games soared in the United States; they are still having something of a "moment" in our zeitgeist. This course uses board games—from the medieval game of chess, beloved by shahs and emperors alike, to the "family game night" classics like Monopoly, to complex and intricate strategy games of the 21st century—as tools to view and study the past and to reflect on the present. The first third of the course engages with global and social history with a grounding in historical methods and theory. The second third plunges students directly into practical gameplaying and analysis, where they will learn the salient aspects of modern board gaming. They will also connect with a local board game company, one of the nation's leading game makers, to understand the burgeoning business and make connections with industry innovators. In the final part of class, students will culminate their learning by designing, testing, producing, a game of their own, based on a careful reading and understanding of primary and secondary source material.

HIST 1929. History of and Through Board Games. (; 3 cr. ; A-F only; Periodic Fall)

When pandemic lockdowns and restrictions forced people to stay at home beginning in 2020, sales of board games soared in the United States; they are still having something of a "moment" in our zeitgeist. This course uses board games—from the medieval game of chess, beloved by shahs and emperors alike, to the "family game night" classics like Monopoly, to complex and intricate strategy games of the 21st century—as tools to view and study the past and to reflect on the present. The first third of the course engages with global and social history with a grounding in historical methods and theory. The second third plunges students directly into practical gameplaying and analysis, where they will learn the salient aspects of modern board gaming. They will also connect with a local board game company, one of the nation's leading game makers, to understand the burgeoning business and make connections with industry innovators. In the final part of class, students will culminate their learning by designing, testing, producing, a game of their own, based on a careful reading and understanding of primary and secondary source material.

HIST 3000. New Topics in History. (; 3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring)

Courses on new topics in history, historical topics related to current events, and other

special subjects. Contact the History department for current listings.

HIST 3001. Public History. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Interpretations of collective past as produced in public venues, including museum exhibitions, films, theme parks, websites. Intellectual and political issues in history produced for public audiences. Career opportunities.

HIST 3020. Hands-On History Topics: Methods and Practices. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)

Selected topics for the practice of Methods and Practices in History not covered in regular courses.

HIST 3021. Hands-On History: Global Apartheid. (3 cr. ; A-F only; Periodic Fall & Spring)

The years 1989 and 1990 saw the fall of the Berlin Wall and the release of Nelson Mandela from prison, respectively. These events are emblematic of a changing world order which saw the dismantling of apartheid even as racialized separation, oppression, and exploitation went global. In a world increasingly characterized by separations and divisions (made visible in the proliferation of physical walls and the hardening of borders) between rich and poor, between the privileged and the disenfranchised, between those whose lives matter and those who are understood to be entirely expendable, this course asks students to think about historical constructions of difference (such as race and gender), and about the past and History in relationship to the challenges of the present and towards a future yet to come. This course will introduce history majors to the methods and practices of historical knowledge production and to the philosophy of history. While attending to the work of history, and historiography, this course will also ask what history is for and what the historian does in research (as the detective and the archivist), in writing (as the storyteller and the analyst), and in (critical) thought (as the teacher and the philosopher).

HIST 3022. Hands-On History: The 1960s: A Decade of Change. (3 cr. ; A-F only; Periodic Fall & Spring)

The 1960s was a decade of hope, fear and incredible change. These years witnessed the rise of race, youth, gender, and anti-war movements in the wake of a hot Cold War and a series of anticolonial revolutions. The course offers students a deep introduction to this fascinating decade in US history. This methods and skills course also fulfills a departmental requirement for all History majors. Through the study of the 1960s, students will be introduced to the methods and skills historians have used to write this history. This course also offers students an opportunity to think deeply about the purpose, meaning, significance, and work of history. Students will leave this course with a deeper understanding of a significant moment in US history and a fuller understanding of the exciting and powerful work of history.

HIST 3051. Ancient Civilization: Near East and Egypt. (HIS; 3-4 cr. ; Student Option; Periodic Fall)

A broad survey of ancient Near Eastern and Egyptian history and culture from the prehistoric to the rise of Persia around 550 B.C.

HIST 3052. Ancient Civilization: Greece. (GP,HIS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

A broad survey of ancient Greek culture and history from the third millennium B.C. to the death of Alexander the Great in 323 B.C.

HIST 3053. Ancient Civilization: Rome. (HIS; 3 cr. ; Student Option; Every Spring & Summer)
A broad survey of the culture and history of Rome from its origins to the decline and fall of the Roman Empire in the third and fourth centuries A.D.

HIST 3054. Ancient Egypt and its Neighbors. (; 3 cr. ; Student Option; Fall Even Year)

Ancient Egypt exerts fascination upon modern societies, as it did upon its ancient contemporaries. The decipherment of the hieroglyphic script, in the early 19th century CE, opened the way to recovering its history all the way back to the invention of the writing system more than 5,000 years ago. Ancient Egypt has meanwhile been a special focus of racialized interpretations of civilization, from the birth of modern Egyptology onward. Europeans of the colonial age saw Egyptian civilization as an anomaly in Africa, measured excavated skulls to prove its extraneous origins, and segregated it from its geographic context.

HIST 3061. "Bread and Circuses": Spectacles and Mass Culture in Antiquity. (CIV,HIS; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

Development of large-scale public entertainments in ancient Mediterranean world, from athletic contests of Olympia and dramatic festivals of Athens to chariot races and gladiatorial games of Roman Empire. Wider significance of these spectacles in their impact on political, social, and economic life of the societies that supported them.

HIST 3066. Prehistoric Pathways to World Civilization. (HIS; 3 cr. ; Student Option; Every Spring)

How did complex urban societies first develop? This course addresses this question in ten regions of the world, including Maya Mesoamerica, Inca South America, Sumerian Near East, Shang Civilization in East Asia and early Greece and Rome.

HIST 3067W. Archaeology of Prehistoric Europe. (HIS,WI; 3 cr. ; Student Option; Every Fall)

How archaeologists analyze/interpret artifacts to develop knowledge about formation of European society, from earliest evidence of human occupation to Roman period.

HIST 3081W. Martyrs, Monks, Crusaders: World Christianity, 100-1400. (GP,WI,HIS; 4 cr. ; Student Option; Fall Odd, Spring Even Year)

This course surveys the history of Christianity from its status as a persecuted minority religion of the Roman Empire to its dominant role in medieval Europe and Byzantium. We study Christian traditions in Asia and Africa as well as Europe with special attention to the relationship

between Christianity and culture in the ancient and medieval world.

HIST 3082. History of Christianity II: From the Middle Ages to the Enlightenment. (3 cr. ; Student Option; Spring Odd Year)

The course examines the history of Christianity from the 13th century to the end of the 18th century. It begins with the Latin church at the height of its power before moving on to a consideration of the disastrous 14th century, the revolts of the 15th and the Reformations of the 16th centuries. The course closes by considering new challenges facing the church in an age of Enlightenment and Revolution.

HIST 3092. Jesus in History, Art & Culture. (HIS; 3 cr. ; Student Option; Every Spring)

Who was Jesus? While there has been some basic consistency in the depictions of Jesus throughout history, there has also been lots of variety. We will look at the stories and writings of the New Testament. We will look at ancient and medieval art and music. We will look at modern literature, film, and music. We will learn about how cultures and social groups from around the world have portrayed Jesus in their own contexts and for their own purposes. Students will leave the course with a sense of the diversity of depictions of Jesus and how this diversity correlates with the peoples that portray him and with the cultural and historical moments in which he is portrayed. Come and grapple with the question of who Jesus really was for ancient peoples and who he is for many today. Intended as a course of interest to undergraduates in all colleges of the TC campus. Students of any, all, or no religious background are welcome.

HIST 3101. Introduction to Medieval History. (GP,HIS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Europe from decline of Rome to early Renaissance. Politics, institutions, society, economy, and culture of Middle Ages.

HIST 3102. Medieval Tales and their Modern Echoes. (GP,LITR; 3 cr. ; Student Option; Every Spring)

Knights of Round Table, dragon-slayers, magic djinn, pilgrims in Hell. How stories have been retold in modern fiction, film, arts. Texts from Europe/other regions of globe.

HIST 3151W. British History to the 17th Century. (GP,WI,HIS; 4 cr. ; Student Option; Every Fall)

The making of the English nation: Anglo-Saxons and Normans; development of English law and Parliament; Reformation and constitutional crisis; early Wales, Scotland, and Ireland.

HIST 3152. British History From the Seventeenth Century. (GP,HIS; 3 cr. ; Student Option; Every Spring)

Civil War, Revolution, and constitutional settlement. Industrialization and growth of democracy. Rise/decline of British Empire.

HIST 3211. History of Sexuality in Europe. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

History of sexuality in Europe, from ancient Greece to present. Plato's philosophy of love, St. Augustine's conception of sin,

prostitution in 15th century, sexual science of Enlightenment. Industrial revolution and homosexual subcultures. Rape scares and imperialism. Eugenics and Nazi Germany.

HIST 3212. Dissident Sexualities in U.S. History. (3 cr. ; A-F or Audit; Every Fall)

History of sexuality in United States. Emphasizes sexualities that have challenged dominant social/cultural norms. Development of transgender, bisexual, lesbian, gay identities/communities. Politics of sex across lines of race/ethnicity. Historical debates over controversial practices, including sex work.

HIST 3244. History of Eastern Europe. (GP,HIS; 3 cr. ; Student Option; Spring Odd Year)

History of the peoples of the region from their origins to modern times, culture and society in the Middle Ages; Golden Age of Eastern Europe; loss of independence; nationalism and formation of national states; fascism and World War II, Jews in Eastern Europe; communist and post-communist periods.

HIST 3264. Imperial Russia: Formation and Expansion of the Russian Empire in the 18th and 19th Centuries. (3 cr. ; Student Option; Every Fall)

Interaction with Europe/Asia. Attempts at modernization/ reform. Emancipation of serfs/ rise of revolutionary movements.

HIST 3265. 20th-Century Russia: The Collapse of Imperial Russia, the Revolutions, and the Soviet Regime. (3 cr. ; Student Option; Every Spring)

Analysis of factors that led to collapse of tsarist regime. 1917 revolution. Evolution of Soviet regime/collapse of Soviet communism. Emphasis on role of nationalities/rise of Commonwealth of independent states.

HIST 3271. The Viking World: Story, History, and Archaeology. (; 3 cr. ; Student Option;)

Viking society and expansion of Viking influence abroad. Viking impact on Western Europe; interactions with Slavic lands; settlement of North Atlantic islands; and Western Europe's impact on Scandinavian lands. Analyzes archaeological, historical, linguistic, and numismatic evidence.

HIST 3281. European Intellectual History: The Early Modern Period, Antiquity to 1750. (3 cr. ; Student Option; Periodic Fall)

First of a two-semester course. European thought in its historical/cultural context. Emphasizes development of philosophical/scientific thought, its relation to thinking about the individual and the community. Readings from original sources.

HIST 3282. European Intellectual History: The Modern Period, 1750-Present. (3 cr. ; Student Option; Periodic Spring)

Second of a two-semester course. European thought in its historical/cultural context. Emphasizes development of philosophical/scientific thought, its relation to thinking about the individual and the community. Readings are from original sources.

HIST 3283. Marx, Capital, and History: An Introduction to Marxist Theory and History. (3 cr. ; Student Option; Spring Even Year)

Explore Marx's understanding of capitalism/its history. Marx's argument regarding historical specificity of capitalism as economic/social condition.

HIST 3284W. History through Memoir.

(HIS,WI; 3 cr. ; A-F only; Every Fall)

Memoirs--non-fictional life stories--offer an intriguing lens into the past. Memoirs vividly portray a person's experiences, but they also raise questions about the reliability of the narrator. What kinds of histories are memoirs? We will read memoirs about experiences of race, class, gender in America. Students write their own short memoir.

HIST 3285. Magic and Medicine. (3 cr. ; Student Option; Spring Odd Year)

Course examines how the line between magic and medicine has changed over time. From accusations of witchcraft to proclamations of scientific breakthrough, we will examine the relationship between the supernatural and the natural from the early modern period to today. Specific topics include the practice of exorcism, the concept of the "four humors," the persecution of witches, the development of "voodoo," the effectiveness of placebos, and the professionalization of medicine. Throughout, we will ask how gender, class, and race have affected the construction of "magic" and "medicine."

HIST 3286. Galileo and the Beginnings of Modern Science. (3 cr. ; A-F or Audit; Periodic Fall)

The life and work of Galileo Galilei (1564-1642), often called the "founder of modern science." Topics: the Renaissance Italian context for Galileo's work; the arrangements of authoritative knowledge that prevailed in 16th-century Tuscany and Venice, the role that universities, the Catholic church, learned academies, and the state played in disciplining knowledge. We consider the episodes of Galileo's career and read his seminal texts with secondary commentaries upon them. Topics: his telescopic observations of 1609-10; his battles with Aristotelian natural philosophy; his experiments and arguments on behalf of experimental and mathematical physics; his defense of Copernican "heliocentric" cosmology and his trial and condemnation by the Roman Catholic Church for heresy; and his work in mathematics and mathematical physics that paved the way for Newton and Einstein. The goal will be to understand the achievements of Galileo in their specific historical and cultural context and to use these reflections for thinking about the nature of the modern science that he helped to initiate.

HIST 3287. Seeing History through Comics: New Perspectives on the Contentious Past. (CIV,HIS; 3 cr. ; Student Option; Periodic Spring)

Comic-form histories offer new perspectives on the past. Focusing on cases of contentious history, this course will examine how varying perspectives (shaped by class, gender, race, or geo-political position) appear in comic histories. We will compare comic accounts with more traditional forms of historical analysis of select

contentious events of modern U.S., European, African and East Asian history.

HIST 3348. Women and Gender in Modern America. (; 3-4 cr. ; Student Option; Every Spring)

This course covers how gender and gender inequality have mattered to the US economy, politics, and cultural life. Themes include: femininity and masculinity as disciplining people, the intersection of gender with whiteness and race, the significance of paid and unpaid labor in women's lives, and diversity within the category of women.

HIST 3349. U.S. Women's Legal History. (DSJ,HIS; 3 cr. ; A-F or Audit; Fall Odd Year)

Women's legal status, from colonial era through 20th century. Women's citizenship, civil rights. Marriage, divorce, and child custody. Reproductive/physical autonomy/integrity. Economic/educational equality. prereq: Soph or jr or sr

HIST 3361W. World War I: A Global History. (HIS,WI,TS; 3 cr. ; A-F only; Every Fall)

This class takes a global approach to the examination of the causes and consequences of World War I. We will look at how the war unfolded in Europe, Africa, and the Middle East. We will also explore the war's impact on North America and Australasia, areas drawn into the conflict because of their unique relationships with Britain and France. We will consider the special role played by the U.S. in restoring world peace and analyze the lasting social and political cleavages occasioned by the war. We will get at the heart of how the war was fought and how it is remembered for all of its triumphs and tragedies.

HIST 3362. Global History of World War II. (HIS; 3 cr. ; Student Option; Every Spring)

This course examines 1) how different countries remember World War II and how memories of the war have been shaped by domestic and international contexts of each country, and 2) how WWII changed the world in areas of human rights, the government-society relations, and ethical use of science and technology. Various faculty members with different geographical and thematic expertise come to the class as guest lecturers throughout the semester.

HIST 3363. Global History of the Cold War. (3 cr. ; A-F or Audit; Fall Even Year)

This course examines the origins, unfolding, and end of the Cold War, with emphasis on both geopolitical conflict and its social and cultural expressions. It begins with an examination of the ideological tensions between the USSR and USA and then turns to the end of European hegemony and de-colonization across Asia and Africa. It examines the expansion of the American empire and the appearance of new communist nations in Asia, Africa, and Latin America. While we will spend time on wars, insurgencies, and alliances, we will also examine how competing blocs and their members bound themselves through trade and economic interdependencies and how they represented themselves, their ideals, and the cold war itself in the sports, music, literature

and film. The course ends with the collapse of the Soviet Union and a survey of Cold War traces in the fields of geopolitics and culture.

HIST 3401V. Honors Early Latin America to 1825. (GP,WI,HIS; 4 cr. ; A-F only; Every Fall & Spring)

Societies of Americas, Spain, and Portugal before contact. Interactions among Native Americans, African slaves, and Europeans, from colonization through independence. Religion, resistance, labor, gender, race. Primary sources, historical scholarship.

HIST 3401W. Early Latin America to 1825. (GP,WI,HIS; 4 cr. ; A-F or Audit; Every Fall & Spring)

Societies of Americas, Spain, and Portugal before contact. Interactions among Native Americans, African slaves, and Europeans, from colonization through independence. Religion, resistance, labor, gender, race. Primary sources, historical scholarship.

HIST 3402W. Modern Latin America 1825 to Present. (GP,WI,HIS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

National and contemporary period 1825 to present, with emphasis on social, cultural, political, and economic change.

HIST 3412. Soccer: Around the World with the Beautiful Game. (CIV,HIS; 3 cr. ; Student Option; Spring Odd Year)

How did a kicking game played in a few English schools in the mid-nineteenth century go on to become the most popular organized pastime the world has ever known? In this class, we chart soccer's unlikely rise to global prominence and explore what it can tell us about people, games, and ethics all around the world today.

HIST 3413. War in History: Preparing and Making War in World History. (HIS; 3 cr. ; Student Option; Every Fall)

War has been a standard tool for organizing societies, settling disputes, and securing resources. The means and meaning of war have changed in important ways over time and we see very different historical outcomes across different societies. This course exams differences in war making across many societies in Europe, Asia, the Americas, and Africa from 10,000 BC to now.

HIST 3416. Imperialism and its Critics: Ethical Issues, Literary Representations. (CIV,LITR; 3 cr. ; A-F only; Fall Even Year)

Significant episodes of several imperial nations to underscore themes of ethics/literature.

HIST 3417W. Food in History. (ENV,WI,HIS; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

Significance of food in society, from earliest times to present. Why we eat what we eat. How foods have been "globalized." Dietary effects of industrial modernity. Material culture, social beliefs. Examples from around world.

HIST 3418. Drink in History. (HIS; 3 cr. ; Student Option; Fall Even, Spring Odd Year)

Significance of alcohol and stimulating beverages. Interdisciplinary study of alcohol/prohibition regimes throughout history.

HIST 3419. History of Capitalism: Uneven Development Since 1500. (3 cr. ; Student Option; Periodic Fall & Spring)

Causes of economic inequities in contemporary world. Long-term economic developments in cases taken from Africa, Asia, Europe, and North/South America. Various theoretical approaches to study of economic development. Introduction to key concepts.

HIST 3423. Central American Revolutions. (3 cr. ; Student Option; Periodic Fall)

Social, political and economic issues that have shaped Central American history for nearly two centuries. Focuses on influences of colonial histories, capitalist development, ethnic/racial conflict, foreign intervention, Catholic Church, civil war throughout region. Readings cover events in Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, Panama.

HIST 3424. Women and Gender in Latin American History. (GP,HIS; 3 cr. ; Student Option; Spring Odd Year)

Changing gender norms in Latin America over time as compared with lives of women and men of diverse classes and ethnic groups. How women responded to their position in society, on a continuum from accommodation to resistance.

HIST 3425. History of Modern Mexico. (3 cr. ; Student Option; Every Fall & Summer)

Mexico from independence to the present: struggles for land, liberty, and equality; ethnicity, gender, and class; economic growth, nationalism, and globalization; urbanization, immigration, demographic transition.

HIST 3426. Piracy in the Mediterranean: The World of Merchants and Pirates. (GP,HIS; 3 cr. ; Student Option No Audit; Spring Odd Year)

This course will use the vehicle of piracy and privateering in the Mediterranean world to explore issues of cross-cultural interaction, global connections, and identity from earliest times when people took to the sea to the Middle Ages through the early modern era, 500-1800. Wherever there was trade, wherever there was movement on the seas, there was piracy. Recent scholarship on the Mediterranean has focused on connectivities, micro-environments, the uniqueness of islands, and various climatic spheres in a geographic tradition that follows the path-breaking work of Fernand Braudel. This course will consider the urban and rural dimensions of the Mediterranean region as they relate to the history of merchants and pirates. Finally, the political and military aspects of Mediterranean history will be examined. There was a continuum from piracy to privateering to war. Students should gain a deeper understanding of a region that continues to fascinate us today.

HIST 3429. Latin American History in Film and Text. (AH,GP; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

Cinematic representations of Latin America in context of other historical/literary narratives. Experiences of Latinos in Hollywood. U.S. films compared with those produced in Latin America. Themes vary (e.g., women, revolution, colonialism).

HIST 3431. Early Africa and Its Global Connections. (GP,HIS; 3 cr. [max 4 cr.] ; Student Option; Every Fall & Spring)

Survey of African history from earliest times to 1800. Focuses on socioeconomic, political, and cultural development in pre-colonial Africa from ancient Egypt through the era of the trans-Atlantic slave trade.

HIST 3432. Modern Africa in a Changing World. (GP,HIS; 3-4 cr. ; Student Option; Every Fall, Spring & Summer)

Survey of modern African history from early 19th century to present. Focuses on socioeconomic, political, and cultural development in Africa, from abolition of trans-Atlantic slave trade through postcolonial era.

HIST 3433. Images of Africa. (GP,HIS; 3 cr. ; Student Option; Periodic Fall & Spring)

Major themes in African history, from early human development to present. History of western "knowledge" about Africa. Assumptions that have influenced production of African history. Extent to which African history is "packaged" for public consumption inside/outside Africa. How history is used to support modern political agendas.

HIST 3435. History of South Africa from 1910: Anti-Racism, Youth Politics, Pandemics & Gender (Based Violence). (GP,HIS; 3 cr. ; Student Option; Periodic Fall)

We are all living in extraordinary times. But what does that mean? In South Africa, we have seen the COVID-19 pandemic and the measures implemented to control it causing massive social upheaval and personal distress. It has forced the people in the country to confront issues that life prior to the pandemic had made easy to turn away from. Misogyny, gender based violence and sexual violence? a long-standing emergency in the south of Africa? have been forced into our vision once again. It was not the pandemic that created this violence. Nor was it the first time people had been outraged by a lack of action to address it. In the years approaching 2020, calls, protests and demonstrations were increasingly demanding the culture of impunity in gender based violence be ended; sometime with violent outcomes against the protestors themselves. Over those same years, nationwide protests have rocked South Africa's university campuses. The student movements known as #RhodesMustFall, #FeesMustFall and #RURReferenceList highlight the contrasts and disappointments of the recent past in South Africa, confront the legacy of racism and misogyny in its institutions and knowledge systems, and resonate with a history of anti-racism and struggle that now, in turn, similarly fuel the on-going Black Lives Matter and #MeToo movements worldwide.

HIST 3436. Fighting for History: Historical Roots of Contemporary Crises in Africa. (3 cr. ; Student Option; Periodic Fall)

Open any newspaper and there is almost certain to be one or more articles about crises or chaos in Africa. Journalistic accounts highlight famines, tribalism, failed states, ethnic cleansing, the plight of refugees and the AIDS pandemic. There rarely, if ever, is a

serious discussion of the underlying causes of this instability. Instead, it is implicitly assumed that this is the natural order of events in the Dark Continent.? This course challenges the racially inspired cultural arrogance which underlies assumptions about Africa and explores it with the long-term structural and historical roots of the crises which confront many parts of Africa. It is a course about Africans and how they responded to the challenges and legacies that date back to the colonial period and before. Throughout this course we will be concerned with African initiatives in a rapidly changing political, economic, social, and ideological context and the changing ways that the Global North has represented Africa. In doing so we will be fighting for a more accurate history of Africa.

HIST 3444. Chicana and Chicano History I. (DSJ,HIS; 3 cr. ; Student Option; Every Fall)

Experiences of people of Mexican descent in the United States. Important eras in histories of Mexico, the United States, and Mexican Americans. Central role of Chicana/os in U.S. history, culture, and politics. Topics include race, ethnicity, gender, sexuality, immigration, migration.

HIST 3446. Chicana and Chicano History II: WWII, El Movimiento, and the New Millennium. (DSJ,HIS; 3 cr. ; Student Option; Every Spring)

Experiences of people of Mexican descent in U.S. Notions of citizenship from WWII. Chicano civil rights movement. Impact of immigration patterns/legislation. Cultural wars, demographics. Social, economic, political changes. Meaning of racialized "Mexican" identity. How different groups of Mexicans have understood their relationships to other Americans/other Latino groups.

HIST 3454. West African History: Early Times to 1800. (GP; 3 cr. ; Student Option; Every Fall)

West Africa from late early times to establishment/histories of states. Relations with North African, Mediterranean, Asian, American worlds. Non-centralized political authority.

HIST 3455. West African History: 1800 to Present. (GP; 3 cr. ; Student Option; Every Spring)

West African history from late-18th century to present. Themes include study of continuities with past. Profound changes including new 19th century state formation, European colonialism, post-colonial issues.

HIST 3456. Social and Intellectual Movements in the African Diaspora. (GP,HIS; 3 cr. ; Student Option; Every Fall)

Political, cultural, historical linkages between Africans, African-Americans, African-Caribbeans. Socio-political movements/radical intellectual trends in late 19th/20th centuries within African Diaspora. Resistance in Suriname, Guyana, Caribbean. Protest organizations, intellectual discourses, radical movements in United States/Europe.

HIST 3461. Introduction to East Asia I: The Imperial Age. (3-4 cr. ; Student Option; Every Fall)

Comparative survey of early history of China, Japan, Korea, and Vietnam. Early Chinese thought. Diffusion of Confucianism, Buddhism, and other values throughout East Asia. Political and social history of region to 1600.

HIST 3462. From Subjects to Citizens: The History of East Asia From 1500 to the Present. (GP,HIS; 3-4 cr. ; Student Option; Every Spring)

How Asian states, societies, economies, and cultures linked with one another and with European powers. How period's historical effects still resonate. Covers India, China, Japan, Korea, and Indochina.

HIST 3462H. Honors: From Subjects to Citizens: The History of East Asia from 1500 to the Present. (GP,HIS; 3-4 cr. ; A-F only; Every Spring)

How Asian states, societies, economies, cultures linked with one another/European powers. Historical effects. Covers India, China, Japan, Korea, Indochina.

HIST 3466. Religion and Society in Imperial China. (HIS; 3 cr. ; Student Option; Periodic Fall & Spring)

Varieties of religious experience in imperial China. Religion as lived practices. Textual traditions. Buddhism, Daoism, Confucianism, relations among them. Western missionary enterprise in China.

HIST 3468. Social Change in Modern China. (; 3 cr. ; Student Option; Every Fall)

Opium War and opening of Treaty Ports in 19th century. Missionary activity and cultural influence. Changes in education system. Women's movement. Early industrialization. Socialism/collectivization after 1949. Industrialization of Taiwan. PRC's entry into world trading system.

HIST 3469. History of Women and Family in China, 1600-2000. (3 cr. ; Student Option; Fall Even, Spring Odd Year)

Marriage/family life, foot binding, cult of women's chastity. Women in nationalist/communist revolutions. Gender relations in post-socialist China. Effect of ideologies (Confucianism, nationalism, socialism) on women/family life. Differences between ideology/social practice.

HIST 3471. Modern Japan, Meiji to the Present (1868-2000). (HIS; 3 cr. ; Student Option; Every Fall & Spring)

Japan's early development as industrial/imperial power after Meiji Restoration of 1868. Political developments in Taisho years: social, cultural, economic trends that supported them. Militarization/mobilization for war in 1930s. Japan's war with China, Pacific War with the United States. American Occupation. Postwar economic recovery, high growth. Changing political/popular culture of 1980s, '90s.

HIST 3476. War and Peace in Japan Through Popular Culture. (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

War-related issues in Japan. Animation films, comics from 1940s to 1990s. Mobilization of culture for WWII. Conflict between constitutional pacifism and national security.

Japan's role in cold war and post-cold war worlds.

HIST 3477. Samurai, Geisha, and How They Became Japanese. (3 cr. ; A-F or Audit; Periodic Spring)

How samurai, geisha, and Zen Buddhism came to be considered as the quintessential Japanese tradition in 20th century. Modernity, nationalism, orientalism, international politics, globalization.

HIST 3478. Tigers and Dragons: The Rise of the East Asian Economies, 1930-Present. (3 cr. ; Student Option; Spring Odd Year)

Rise of East Asian Economies, 1930-Present.

HIST 3483. Hmong History Across the Globe. (; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

Hmong interaction with lowland Southeast Asian states (Laos, Vietnam) and Western colonial powers (French, American) since 19th century. Changes to religious, social, political, and gender institutions. Aspirations for political autonomy.

HIST 3485. History of Southeast Asia. (GP; 3 cr. ; A-F or Audit; Every Fall & Spring)

Origins of civilization/indigenous states. Impact of world religions and Western colonialism on gender, social, political, and economic structures. Nationalism. Establishment of Vietnam, Thailand, Indonesia, and the Philippines.

HIST 3486. Hmong Refugees from the Secret War: Becoming Americans. (3 cr. ; Student Option; Spring Odd Year)

Socio-economic, political, gender, cultural/religious changes in Hmong American community during last three decades. How Hmong are racialized in American society. Impact to first/second generations.

HIST 3487. The Vietnam Wars: French Colonialism and U.S. Intervention in Indochina. (3 cr. ; Student Option; Fall Odd, Spring Even Year)

French conquest. Colonial bureaucratic/economic transformations. Nationalist responses. First Indochina War. Emergence of nation-state. U.S. intervention. Impact of Vietnam War on current politics of Laos, Cambodia, and Thailand, and on Southeast Asia.

HIST 3489. Democracy and popular politics in India. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Democracy is not only a political order; it is also a popular culture and politics. This course explores three tumultuous moments of this politics and culture in India: the pluralist nationalism which characterized Gandhian nonviolence and the Indian constitution, the majoritarianism that was often this pluralism's undertow, and Hindutva or Hindu supremacism, the now dominant populist ideology.

HIST 3492. Hinduism: Traditions, Texts, Politics. (CIV; 3 cr. ; Student Option; Periodic Fall & Spring)

Development of Hinduism focusing on sectarian trends, modern religious practices, myths/rituals, pilgrimage patterns/religious

festivals. Interrelationship between Indian social structure/Hinduism.

HIST 3493. Islam: Religion and Culture. (; 3 cr. ; Student Option; Every Fall)

This course is a brief survey of the religion and civilization of Islam. It introduces students to 1) Islamic history from its inception in the seventh century CE to the present, with emphasis on the life of the Prophet Muhammad and the early Caliphate; 2) The authoritative texts of Islam, i.e. the Quran and Prophetic traditions (Hadith); 3) The institutions and discourses characteristic of Islamic civilization; and 4) The transformation of Muslim life and thought in the modern period. By taking this course, students become familiar with the chief ideas, characters, narratives, rites, localities, and movements associated with Islam. prereq: Soph or jr or sr

HIST 3494W. Christ in Islamic Thought. (WI; 3 cr. ; Student Option; Periodic Spring)

Course examines the history of the figure of Christ in Islamic thought, from the beginnings of Islam in the Qur'an and the Hadith to the recent 2013 book by Reza Aslan, *Zealot*. The course is based on close reading of primary sources from regions extending from Spain to Iran, and in various languages (in translation): Arabic, Greek, French, Farsi, and Italian. Course demonstrates how much the interpretation of the figure of Christ in Islamic thought belonged to specific historical contexts. prereq: None

HIST 3502W. Ancient Israel: From Conquest to Exile. (WI; 3 cr. ; Student Option; Periodic Spring)

Israel and Judah were not states of great importance in the ancient Near East. Their population and territory were small, and they could not resist conquest by larger, more powerful states like Assyria and Rome. Yet their ancient history matters greatly today, out of proportion to its insignificance during the periods in which it transpired. The historical experiences of the people of Israel and Judah were accorded religious meaning and literary articulation in the Hebrew Bible (the Old Testament), which became a foundational text for Judaism, Christianity, and Islam. Essential features of Western as well as Islamic civilization are predicated on some element of Israel's ancient past, as mediated through the Bible; therefore it behooves us to understand that past. But the Bible is a religious work, not a transcript of events, and the history of ancient Israel is not derived merely from reading the biblical accounts of it. Archaeological excavations have revealed the physical remains of the cultures of Israel and neighboring lands, as well as bringing to light inscriptions, documents, and literary works produced by those cultures. These sources, which complement and sometimes contradict the accounts conveyed in the Bible, provide the basis for reconstructing a comprehensive history of ancient Israel. This course covers the history of Israel and Judah from the Late Bronze Age (c. 1550-1200 BCE), by the end of which Israel had emerged as a distinct ethnic entity, to the period of Roman rule (63

BCE-330 CE), which saw the final extinction of ancient Israel, represented by the kingdom of Judea, as a political entity. Knowledge of this history is based on archaeological, epigraphic, and literary sources, including the Hebrew Bible. N.B.: Students should be aware that the study of history, like all the human and natural sciences, is predicated on inquiry, not a priori judgments. Accordingly, the Bible is not privileged as an intrinsically true or authoritative record. No text is presumed inerrant, and all sources are subject to scrutiny, in the context of scholarly discourse. Biblical texts are treated just like all other texts, as the products of human beings embedded in a historical context, and as the subject of analysis and interpretation. Persons of all faiths and of no faith are equally welcome to participate in such scholarly discourse. However, students who feel that their own religious beliefs require an understanding of the Bible that is antithetical to the foregoing statements are cautioned that they may find themselves uncomfortable with this course.

HIST 3504. The Cultures of the Silk Road. (3 cr. ; Student Option; Every Fall & Spring)
Past/present state of the cultures that flourished in Central Asia (present-day CA republics, Iran, Afghanistan) after Alexander the Great and declined with opening of sea routes.

HIST 3505. Survey of the Modern Middle East. (GP; 3 cr. ; Student Option; Every Fall)
Political history of Middle East in modern era. Socio-economic/intellectual issues. Decline of Ottoman Empire. Imperialism. Nationalism, rise/development of states. Political Islam.

HIST 3507. History of Modern Egypt. (; 3 cr. ; A-F only; Fall Odd, Spring Even Year)
Main political events. Underlying social, economic, and intellectual issues. Impact of Egypt on region. Developments in Egypt compared with those of other leading Arab states.

HIST 3509. Approaches to the Study of the Middle East. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)
Intensive reading/discussion course. Ways in which historians/social scientists have studied Middle East. Problems they have encountered. Paradigms, issues, and debates in Middle Eastern Studies.

HIST 3511. Muslims and Jews: Conflict and Co-existence in the Middle East and North Africa since 1700. (GP,HIS; 3 cr. ; Student Option; Fall Odd Year)
Diversity of social/cultural interactions between Muslims and Jews and between Islam and Judaism since 1700. What enabled the two religious communities to peacefully coexist? What were causes of conflict? Why is history of Muslim-Jewish relations such a contested issue?

HIST 3512. History of Modern Israel/Palestine: Society, Culture, and Politics. (GP; 3 cr. ; Student Option; Fall Odd Year)
History of Zionism/Israel. Arab-Jewish conflict, tensions between religious/secular Jews. Relationships between Mizrahi, Ashkenazi,

Russian, Ethiopian, Arab citizens. Israeli cultural imagery. Newsreels, political posters, television shows, films, popular music.

HIST 3513. North Africa since 1500: Islam, Colonialism, and Independence. (3 cr. ; Student Option; Spring Odd Year)
History of Maghrib (Morocco, Algeria, Tunisia, Libya, disputed territories of Western Sahara) from time of Ottoman expansion/Sharifian dynasties (Sa'dian/Alawid) in 16th/17th Centuries to end of 20th century. Focus on encounter of Islamic cultures/societies of Maghrib with Africa/Europe.

HIST 3514W. Water and Oil: An Environmental History of the Middle East. (ENV,WI,HIS; 3 cr. ; Student Option; Periodic Fall & Spring)
Water and Oil focuses on the far-reaching impacts of environmental change upon Middle Eastern societies, culture, politics, economic development or underdevelopment, and violence. It offers a narrative of the Middle Eastern past that is not framed by a specific place, ethnic group, religion, or intellectual tradition. The course is designed to enable students to think deeply about technology and the environment across the Middle East, and the region's development as shaped by local practices, global politics, economic interests, and the struggle for resource management.

HIST 3534. Introduction to Jewish History and Cultures. (HIS; 3 cr. ; Student Option; Every Fall)
This course traces the development of Judaism and Jewish civilizations from their beginnings to the present. With over three millennia as its subject, the course must of necessity be a general survey. Together we will explore the mythic structures, significant documents, historical experiences, narratives, practices, beliefs, and worldviews of the Jewish people. The course begins by examining the roots of Judaism in the Hebrew Bible and the history of ancient Israel but quickly focuses on the creative forces that developed within Judaism as a national narrative confronted the forces of history, especially in the forms of the Persian, Greek, and Roman empires. Rabbinic Judaism becomes the most dominant creative force and will receive our greatest attention, both in its formative years and as it encounters the rise of Christianity and Islam. After studying the Jewish experience in the medieval world, we will turn to Judaism's encounter with the enlightenment and modernity. The historical survey concludes by attending to the transformations within Judaism and Jewish life of the last 150 years, including a confrontation with the experience of the Holocaust. Woven throughout this historical survey will be repeated engagements with core questions: ?Who is a Jew?? ?What do Jews believe?? ?What do Jews do?? ?What do we mean by ?religion?? ?How do Jews read texts within their tradition?? And perhaps most importantly, ?How many answers are there to a Jewish question?? Students in this course can expect to come away with some knowledge of the Bible in Judaism, rabbinic literature and law, Jewish mysticism and philosophy, Jewish

nationalism and Zionism, Jewish culture, ritual, and worship in the synagogue, the home, and the community, and Jewish celebrations of life cycle events and the festivals.

HIST 3546. Islam and the West. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Cultural/intellectual trends that have defined fundamental differences between Islam and the West. Development of historical, philosophical, and intellectual mindset of both spheres. Factors in tension, anxiety, and hatred between Muslim world and Europe and the United States.

HIST 3547. The Ottoman Empire. (GP,HIS; 3 cr. ; Student Option; Every Fall & Spring)
Survey of Islam's most successful empire, from its founding circa 1300 to its demise in 1923. Lands, institutions, peoples, historical legacy.

HIST 3606. Christians, Muslims, and Jews in the Middle Ages. (GP,HIS; 3 cr. ; Student Option; Fall Even, Spring Odd Year)
A Pew Research survey of the global religious landscape in 2010 found 2.2 billion Christians (31.5% of the world's population), 1.6 billion Muslims (23.2%), and 14 million Jews (.2%). In this class, we explore how the histories of these religious communities became deeply entangled in an age of diplomacy, trade, jihad, and crusade.

HIST 3609. Military History of Premodern Europe. (; 3 cr. ; Student Option; Periodic Fall & Spring)
How changes in European warfare shaped society from the late Roman Empire to the Military Revolution and rise of the nation-state, 300-1800 CE. Topics include styles of warfare and perceptions of war; the relationship between war and society; the roles of religious belief and technology in the practice of war. What produces a military revolution?

HIST 3611. Medieval Cities of Europe: 500-1500. (GP,HIS; 3 cr. ; Student Option No Audit; Every Fall & Spring)
European cities changed from Roman times through the urban nadir of the Early Middle Ages to the flowering of cities in the High and Late Middle Ages. We explore planned towns, ad hoc developments, revived Roman sites, and economic, political, cultural, and sensory elements of city life. Students design a medieval city using Arc.GIS and StoryMap. Contact the instructor for more information.

HIST 3613. History of the Crusades. (GP,HIS; 3 cr. ; Student Option; Every Fall, Spring & Summer)
Crusading spirit in Europe. Results of classic medieval crusades ca 1095-1285. States established by crusaders in Near East. Internal European crusades. Chronological prolongation of crusading phenomenon.

HIST 3615W. Women in European History: 1500 to the Present. (GP,WI,HIS; 3 cr. ; Student Option; Periodic Spring)
History of women in Western Europe from early modern period to present. Changes crucial to women's lives. Family/kinship structure, control over property, organization of work, religious ideas/practices, education, politics, beliefs/attitudes about female body.

HIST 3616. The Hundred Years War: France and England in the Middle Ages. (HIS; 3 cr. ; Student Option No Audit; Periodic Fall)
Politics, society, and culture in medieval France from the end of the Carolingians to the end of the Hundred Years War.

HIST 3617. Pagans, Christians, Barbarians: The World of Late Antiquity. (GP,HIS; 3 cr. ; A-F or Audit; Fall Odd Year)

Between classical and medieval, pagan and Christian, Roman and barbarian, the late antique world was a dynamic age. This course will focus on the Mediterranean region from the 2nd to the mid-7th century exploring such topics as the conversion of Constantine, the fall of Rome, barbarian invasions, the spread of Christianity, and the rise of Islam.

HIST 3621. Creating the Modern World in Medieval Europe: The Renaissance, 1200-1600. (3 cr. ; Student Option; Periodic Fall)

Political/cultural history of city-states of northern/central Italy, 1200-1550. Emphasizes Florence/Venice. Readings include Dante, Machiavelli. prereq: Intro course in European history before 1500 recommended

HIST 3623W. The Age of Reformation. (WI; 3 cr. ; Student Option; Fall Even Year)

This course will examine the great religious convulsion that gripped Europe in the sixteenth and seventeenth centuries. Chronologically, however, we will begin in the late medieval period as we consider important changes that were occurring in European culture and society culminating with Europe's first Reformation, not in Germany but in Bohemia. Geographically, we begin with Europe but our scope eventually widens out to consider developments also in Asia and the Americas. We conclude by considering the relaxation of religious tensions in the late seventeenth century and concurrent growth of toleration and skepticism. Throughout the course we will consider religion as a dynamic that has had a broad impact on society affecting not only personal belief but also the politics, social patterns, and intellectual and cultural production of the early modern world.

HIST 3632. History of Germany; Reformation to Unification: 1500-1871. (; 3 cr. ; Student Option; Periodic Spring)

The Reformation era; warfare and demographic catastrophe of the early 1600s; life in town and country; absolutism; Baroque culture; family life and its transformation; economic crisis; Revolution of 1848; the military path to unification.

HIST 3637. Modern Russia: From Peter the Great to the Present. (; 3 cr. ; Student Option; Every Fall)

Political, social, and cultural forces which have shaped modern Russia. Emphasis will be on modernization, attempts at reforms in the imperial and Soviet period, and the dissolution of empires.

HIST 3652. Early Modern Britain. (; 3 cr. ; Student Option; Periodic Fall & Spring)

British society/culture during early modern era, especially 16th and 17th centuries. May include

themes related to political developments, economy/social structure, gender, religion, literature, or interaction with other world regions.

HIST 3681. Irish History. (; 3 cr. ; Student Option; Every Fall)

History of Ireland, primarily modern, with emphasis on politics and Anglo-Irish relations.

HIST 3691W. The British Empire. (WI; 3 cr. ; A-F or Audit;)

Gain/loss of colonies in Ireland, America, India, Africa. Development of racism, multicultural composition of British society, debates about economic motives for empire, resistance of colonized peoples to conquest/domination.

HIST 3704W. Daily Life in Europe:

1300-1800. (GP,WI,HIS; 3 cr. ; Student Option; Fall Even, Spring Odd Year)
Living conditions and daily life in Europe before the Industrial Revolution. Topics include marriage and family, life at court, nobles, peasants, disease, farming, livestock-raising, urban life, the middle classes, manufacturing, trade, piracy, witchcraft, war, crime, and social deviance.

HIST 3708. The Age of Curiosity: Art, Science & Technology in Europe, 1400-1800. (AH,TS; 3 cr. ; Student Option; Periodic Fall & Spring)

Diverse ways in which making of art and scientific knowledge intersected in early modern Europe. Connections between scientific curiosity and visual arts in major artists (e.g., da Vinci, Durer, Vermeer, Rembrandt). Artfulness of scientific imagery/diagrams, geographical maps, cabinets of curiosities, and new visual technologies, such as the telescope and microscope.

HIST 3711. Cognitive History. (3 cr. ; Student Option No Audit; Periodic Spring)

Cognitive History will examine how research in cognitive neuroscience provides historians with new knowledge and methods for asking questions about the past. It is not a course on the history of the cognitive sciences. Instead, it is about practicing history in the cognitive age, a period that began more than fifty years ago, and an approach to explaining how humans think and act that has been adopted within fields across our universities. The course will combine broad readings and discussions in ? Big History? and the shift from behaviorism to cognition with more specific studies about memory, narrative, aesthetics, the body, and violence. Students will have an opportunity to apply a cognitive history approach to a specific topic that emphasizes one of the following topics: Evolution, Behaviorism, Cognitive Cultural Studies, Memory, Narrative, Aesthetics, the Body, and Violence. Students will help guide discussions for the relevant class sessions on these topics and write an essay on the selected theme.

HIST 3721. Studies in 20th-Century Europe From the Turn of the Century to the End of World War II: 1900-45. (; 3 cr. ; Student Option; Every Fall & Summer)

Social, political, and cultural changes/conflicts. Background to WWI, its impact. Revolution,

failure of interwar stability. Fascism. WWII, its consequences.

HIST 3722. Studies in 20th-Century Europe From the End of World War II to the End of the Cold War: 1945-91. (GP,HIS; 3 cr. ; Student Option; Every Fall, Spring & Summer)
Social, economic, political, and cultural impacts of WWII upon Europe. Division of Europe. Communist regimes in Eastern Europe, cooperation in Western Europe. Impacts of modernization. End of Cold War.

HIST 3726W. The Century of Refugees: A Global History of Forced Migration, 1900s-2000s. (GP,WI,HIS; 3 cr. ; Student Option; Periodic Fall & Spring)

This course examines the world-historical events that structured global flows of refugees in the Twentieth Century (and beyond), the evolution of refugee protection systems that emerged in response, and the rise of the ? refugee? as a legal/political/cultural subject and as an agent of historical change.

HIST 3727. History of the Holocaust. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Study of 1933-1945 extermination of six million Jews and others by Nazi Germany on basis of race. European anti-Semitism. Implications of social Darwinism and race theory. Perpetrators, victims, onlookers, resistance. Theological responses of Jews and Christians.

HIST 3728. The History of Human Rights. (; 3 cr. ; A-F or Audit; Periodic Fall)

What are human rights? How and when did they originate? How were such rights promoted, protected, and contested at different historical junctures, and by whom? In this course, we will examine the historical processes through which human rights have been conceptualized, codified, violated, and vindicated. Throughout the semester, we will travel across the globe and trace events that span from the eighteenth century to the present day. Our search will take us through the multiple histories that have shaped what we nowadays recognize as the human rights framework ? its institutions, products, and norms. Integrating perspectives and readings from the humanities, social sciences and legal studies, this course explores how meanings of human rights have fluctuated in response to historical developments, and how human rights have come to gain their prominent role in contemporary politics, law, and culture.

HIST 3729. Nazi Germany and Hitler's Europe. (3 cr. ; Student Option; Periodic Fall & Spring)

Comprehensive exploration of Third Reich. Students will examine How the Nazis came to power, transformations of 1930s, imposition of racial politics against Jews/others, nature of total war. Students read historical accounts, memoirs, state documents, view films.

HIST 3731. Modern France and Its Empire: Identity, Citizenship and the State 1780 to the Present. (GP,HIS; 3 cr. ; Student Option; Fall Even, Spring Odd Year)

History of citizen/state in France from French Revolution to present.

HIST 3732. Revolution and Human Rights: The French Revolution and its Legacy.

(AH,CIV; 3 cr. ; Student Option; Spring Even Year)

What role did the French Revolution play in shaping how we think about the possibility of massive social change, justice, and rights today? How especially did 18th-century philosophy, culture, politics, and economics influence the development of what we call universal individual "human rights" We also ask: could we have done better? To do so, we will play "Rousseau, Burke, and Revolution in France, 1791," a Reacting to the Past flipped-classroom role-playing game. Working individually and in teams, students will prepare speeches, produce pamphlets and newspapers, not only to learn about the stakes of this historical turning point and the philosophical debates surrounding it, but also to imagine changing it. We will also seek out and document the legacy of this Revolution in our lives and around the world today. This class offers students the knowledge and skills to participate in substantive debate aimed at solving problems collectively, to effect change aligning with their beliefs and philosophies, and to reflect critically on historical legacy No prerequisites. All materials for Fren 3732 are in English, and students in all programs are welcome!

HIST 3735. Politics of Ideas: European Thought in 20th Century Contexts. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Development of political ideas/ideologies in 20th century. How to understand ideas in various contexts of their production, dissemination, and appropriation. Students read primarily original political/social philosophical texts that have shaped social, cultural, and political landscape.

HIST 3746. Game of Thrones: Emperors, Knights and Witches in Central Europe. (HIS; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

This course traces the rise and fortunes of the Habsburg family from their emergence in the late 13th century to the end of the Holy Roman Empire in 1806. We use the family to explore key themes of the period including the Black Death, Hussite wars and peasant revolts, the new print culture, developments of the Reformation, European expansion and Enlightenment culture. prereq: None

HIST 3749. Central and Eastern European Migrants in Minnesota. (CIV,HIS; 3 cr. ; Student Option; Periodic Spring)

In this class, we will use Minnesota, particularly the Twin Cities, as a lens through which to examine the history of Central and Eastern European migration to the United States (U.S.) from the late 19th century to the present. Moving chronologically and from the global to the local, this class will first examine the complex and intertwined reasons that prompted people to settle (either temporarily or permanently) in the U.S. in the late 19th and early 20th centuries. We will explore the communalities and differences between the Poles, Ukrainians, Germans, Czechs,

Slovaks, Jews, Hungarians, Slovenes, Croats, and Serbs who made up this initial wave of migration, and assess how these migrants shaped the urban and social fabric both in the United States, and in St. Paul and Minneapolis. Second, the class will examine how these communities evolved over the course in the 20th century by a) exploring topics such as ethnic identity maintenance, inter-generational relations, return migration, xenophobia and antisemitism, the relationship between migrants and the host society, and institutions (churches and synagogues, fraternal organizations, learned societies, archives, museums and libraries, etc.) established by migrants in the U.S., and b) assessing the impacts of later migration waves from Europe to the U.S., caused by the Holocaust and the Second World War, the 1956 Hungarian uprising, the 1968 Prague Spring, Soviet emigration policies, the fall of the Berlin Wall, and the civil wars in Yugoslavia. Keeping in mind the pressing ethical questions that subtend migration (both historical and contemporary), this class will also ask what it means to be a descendant of Central and Eastern European migrants in present-day Minnesota?not just of those who arrived over a century ago, but also more recent migrants, e.g., Russians, or Muslims from Bosnia-Herzegovina. To this end, we will enrich our classroom by extending it into the metro area with visits to relevant sites and meetings with representatives of some of these communities in order to understand their current lives, work, and challenges. This class will thus draw on numerous local resources: archives, buildings such as religious sites and community centers, museums, etc.

HIST 3767. Eastern Orthodoxy: History and Culture. (3 cr. ; Student Option;)

Development of the orthodox church in Byzantium, the Islamic Near East, the Slavic world and in the diaspora; impact of orthodoxy on political and cultural institutions, interaction with other Christian and non-Christian communities; orthodox spirituality and aesthetics.

HIST 3797. History of Population.

(GP,SOCS; 3 cr. ; Student Option; Every Spring)

History of births, deaths, migration, population size, and population characteristics. Evidence from Europe, the United States, and Latin America with comparative material from Africa and Asia. Methods of historical population analysis and research of historical population data.

HIST 3802. Religious Encounters in Early America. (3 cr. ; Student Option; Periodic Fall & Spring)

The United States is home to an astonishing array of religious beliefs and institutions, yet mutual toleration has historically been harder to achieve. This upper-level course, which is run as a discussion seminar, uses case studies to investigate how people of differing faiths perceived, reacted to, and changed each other, between the arrival of Jesuits and Puritans in the early 17th century and the US-Dakota War of 1862. People who hailed from North

America, Europe, and Africa had divergent ideas about the divine and its presence on Earth, about life and life after death, about religious rituals and relations of authority. Their struggles with one another were partly struggles over religiously inflected ways of being in the world. The course explores how religion shaped people's responses to European colonization, the growing slave-labor system, industrialization, immigration, and westward expansion. A religious lens onto American history reveals religion as an element of struggle and shows that freedom of conscience has been continually contested rather than easily assured. prereq: Non-fr or instr consent

HIST 3804. Religion and the American Culture Wars. (HIS; 3 cr. ; Student Option; Every Fall)

Thomas Jefferson, Benjamin Franklin, James Madison, Thomas Paine, George Washington, and John Adams on religion, faith, and religion in politics. Deism. Enlightenment-era discussions about rational religion. Rise of evangelicalism. Separation of church/state, framers' original intent for first amendment. Religious Right.

HIST 3804H. Religion and the American Culture Wars. (; 3 cr. ; A-F only; Periodic Fall & Spring)

Thomas Jefferson, Benjamin Franklin, James Madison, Thomas Paine, George Washington, and John Adams on religion, faith, and religion in politics. Deism. Enlightenment-era discussions about rational religion. Rise of evangelicalism. Separation of church/state, framers' original intent for first amendment. Religious Right.

HIST 3809. The Peoples of Revolutionary America. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Culture/structure of late colonial politics. Regionalism. Connections between society and politics. Imperial crisis and independence. Military history of the Revolution. Origins of national politics and the constitution.

HIST 3811. Antebellum America: Slavery, Expansion and the Development of a Divided Nation. (3 cr. ; Student Option; Periodic Fall & Spring)

This course examines the history of the U.S. between the War of 1812 and the outbreak of the Civil War in 1861. We will examine the dramatic expansion in population and territory; violent growth of slavery; onset of transportation, communications, and industrial revolutions; forced removal of Native Americans; movements for social reform; transformations in popular culture, family life, and religious experience; maturation of political parties; and the coming of the Civil War.

HIST 3812. The Civil War and Reconstruction. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

United States from 1848 to 1877. Causes of sectional crisis; Southern secession; Lincoln and emancipation; military history; impact of war North and South; Reconstruction efforts to change the Southern life and transform the status of African Americans.

HIST 3813W. Slavery and the Making of America. (DSJ,WI,HIS; 3 cr. ; Student Option; Periodic Fall & Spring)

This course examines American racial slavery and its centrality to U.S. history. The course teaches students to consider the experiences of enslaved people, observe how the institution of slavery operated, and understand its far-reaching influence across social, political, cultural, economic, legal, environmental, and intellectual domains.

HIST 3821. United States in the 20th Century to 1945. (HIS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

American politics and society in the progressive era, the 1920's, the Great Depression and World War II. Economic reform at home, the challenges of world war abroad, and social change affecting the status of women and racial minorities.

HIST 3822. Making America Modern: 1945 to Present. (3 cr. ; Student Option; Every Fall, Spring & Summer)

American politics and society in the postwar era, the diplomacy of the Cold War, the civil rights movement, the Vietnam War, cultural clashes in the 1960's, Watergate, the conservative resurgence, and the end of the Cold War.

HIST 3834. Law in American Life, Colonial Era to Civil War. (; 3 cr. ; A-F or Audit;)

Understandings of law/property held by colonists, Indians. Conceptions of relationships among family, community, state held in colonial America; conceptions held today. Law of slavery in colonial era. American Revolution/Constitution. Law, industrialization. Legal legitimacy, federalism, Civil War as constitutional crisis.

HIST 3835. Law in American Life: 1865 to Present. (; 3 cr. ; Student Option;)

Centralization of state power, rise of individual rights. Constitutionalization of American law. Passage, promise, abrogation, rediscovery of 13th, 14th, 15th Amendments. Expansion of federal administrative state. Origins of civil liberties. Law and the welfare state. Civil Rights Revolution of 1950s, '60s, '70s. Product liability law. Second half of two-semester survey. May be taken independently.

HIST 3852. Work and Workers in the United States. (DSJ,HIS; 3 cr. ; Student Option; Periodic Fall)

Why do Americans work, and what do we expect in exchange? This course explores how the answers to those questions have changed overtime, from the colonial era to the present, and how the past shapes our approach to work today.

HIST 3853. Black Protest in Twentieth Century America. (CIV,HIS; 3 cr. ; A-F only; Periodic Fall, Spring & Summer)

This course gets at the heart of why/how African Americans have been fighting for social and political equality throughout the 20th Century. We explore various ways that African Americans have articulated their political demands and affirmed their citizenship rights using youth and grassroots organizations,

workers' rights, feminism, education, the courts and laws as tools for political advancement.

HIST 3854. Race and Sport. (DSJ,HIS; 3 cr. ; A-F only; Periodic Fall)

This class examines how race, gender, and sport intersect as sites of resistance and reform in twentieth century American life. With the intensification of Jim Crow coinciding with the professionalization and commercialization of sports, athletes of color became central to American debates about science, citizenship, class, ethnicity, sexuality, social mobility, belonging, culture, and entitlement. This seminar will be particularly interested in how athletes of color forced a place for themselves in sports like baseball, boxing, football, golf, and basketball by exercising different models of political protest, citing an urgent need for social justice reforms that spread beyond the realm of sport.

HIST 3856. The Civil Rights and Black Power Movement, 1954-1984. (3 cr. ; Student Option; Every Fall)

Modern black civil rights struggle in U.S. Second reconstruction. Failure of reconstruction, abdication of black civil rights in 19th century. Assault on white supremacy via courts, state, grassroots southern movement in 1950s/1960s. Black struggle in north/west.

HIST 3857. Race: The History of An Idea in North America. (DSJ,SOCS; 3 cr. ; A-F only; Periodic Fall)

This seminar explores the roots and rationales presented when constructing and upholding the idea of race. This class examines processes of racial formation in science, law, history, immigration policy, education, leisure, adoption, marriage, and medicine. We will look at how race has been used to pathologize, eroticize, criminalize, vilify, and medicalize purported ? problem people, ? like immigrants, the poor, and the sick. Using memoirs, legal cases, history of medicine, laws, photographs, oral histories, and secondary source readings, this class traces the history of America's fascination with race and how race came to define so many aspects of American life during the twentieth century.

HIST 3862. American Immigration History. (DSJ,HIS; 3 cr. ; Student Option; Spring Odd Year)

Global migrations to U.S. from Europe, Asia, Latin America, and Africa, from early 19th century to present. Causes/cultures of migration. Migrant communities, work, and families. Xenophobia, assimilation/integration, citizenship, ethnicity, race relations. Debates over immigration. Place of immigration in America's national identity.

HIST 3864. African American History: 1619-1865. (CIV,HIS; 3 cr. [max 4 cr.]; A-F or Audit; Periodic Fall & Spring)

Importance of dynamics of class, gender, region, and political ideology. Changing nature of race/racism.

HIST 3865. African American History, 1865 to Present. (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

History of African American men and women from the beginning of the 20th century to the

present. Discussion of internal migrations, industrialization and unionization, The Great Depression, world wars, and large scale movements for social and political change.

HIST 3868W. Race, War, and Race Wars in American History. (CIV,WI; 3 cr. ; A-F or Audit; Fall Odd Year)

Role that race has played in American war history. Impact that wars have had on race and race relations in the United States and the world. Literature, film.

HIST 3871. American Indian History: Pre-Contact to 1830. (DSJ,HIS; 3 cr. ; Student Option; Every Fall & Spring)

Introduction to American Indian history from ancient native America to the removal era. Focuses on the social, cultural, political, and economic diversity of Native American peoples and Native American experiences with European colonialism.

HIST 3872. American Indian History: 1830 to the Present. (DSJ,HIS; 3 cr. ; Student Option; Every Fall & Spring)

Focus on the impact of federal Indian policy on American Indian cultures and societies, and on American Indian culture change.

HIST 3875W. Comparative Race and Ethnicity in US History. (DSJ,WI,HIS; 3 cr. [max 4 cr.]; A-F or Audit; Periodic Fall & Spring)

This writing-intensive course examines the racial history of modern America to learn from and engage with what historians enmeshed in ethnic studies do. These historians examine the systematic and coordinated exercises of power called race in the American past and make legible how racially aggrieved groups responded to this shaping power. Thus, throughout, we ask, "What did racial subjects do with what was done to them by the American system forged out of settler colonialism, slavery, racism, and other forms of injustice, exclusion, and violence?" This question issues an intellectual challenge to do all that needs to be done to capture community life, the politics of difference, and the dynamism of social identities in all their richness, fullness, and complexity. In other words, we study and write about the racial history of modern America, including its ugly past and arc of justice, to consider what it would take to transcend this racial past.

HIST 3877. Asian American History, 1850-Present. (DSJ,HIS; 3 cr. ; Student Option; Every Fall & Spring)

Asian American history and contemporary issues, from 1850 to the present. Immigration, labor, anti-Asian movements, women/families, impact of World War Two, new immigrant/refugee communities, civil rights, Asian American identity/culture.

HIST 3886. The Age of Atlantic Revolutions, 1765-1830. (; 3 cr. ; Student Option; Fall Even Year)

Thinking about the rebellions that rocked the Atlantic world during the late eighteenth and early nineteenth centuries, we will compare and contrast the diverse political, economic, and social elements surrounding the following

conflicts: the American Revolution, the French Revolution, the Haitian Revolution, and the Latin American Wars of Independence.

HIST 3896. Internship for Academic Credit. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

An applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals, which may be related to a student's major field or area of interest. The work can be full or part time, paid or unpaid, primarily in off-campus environments. Internships integrate classroom knowledge and theory with practical application and skill development in professional or community settings. The skills and knowledge learned should be transferable to other employment settings and not simply to advance the operations of the employer. Typically the student's work is supervised and evaluated by a site coordinator or instructor.

HIST 3960. Topics in History. (; 1-4 cr. [max 16 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Selected history topics not covered in regular courses.

HIST 3980W. Supplemental Writing in History. (WI; 1 cr. [max 4 cr.] ; Student Option; Every Fall & Spring)

May be attached, by agreement of instructor and students, to any 3xxx or 5xxx course to make a writing-intensive experience. prereq: instr consent; must take a 3-cr 3xxx or 5xxx course taken concurrently

HIST 3993. Directed Study. (1-16 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Guided individual reading or study. Open to qualified students for one or more semesters. Prereq instr consent, dept consent, college consent.

HIST 3994. Directed Research. (1-16 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Qualified students work on a tutorial basis. Prereq instr consent, dept consent, college consent. prereq: instr consent, dept consent, college consent

HIST 4011V. Honors: Capstone Research. (WI; 4 cr. ; A-F only; Every Fall & Spring)

The capstone research course helps students prepare and complete their writing intensive research paper that satisfies the capstone requirement of the History Major. Class readings and exercises help students define a research question that fits within the thematic frame of the course, conceptualize the project, identify and analyze primary sources, craft a paper outline, revise drafts, and produce a final version of the Major Paper in History. Topics in 4011W/V will vary by semester and will be printed in the class schedule. prereq: Jr or sr history major, honors, or instr consent

HIST 4011W. Capstone Research. (WI; 4 cr. ; A-F only; Every Fall & Spring)

The capstone research course helps students prepare and complete their writing intensive research paper that satisfies the capstone requirement of the History Major. Class readings and exercises help students define a research question that fits within the thematic

frame of the course, conceptualize the project, identify and analyze primary sources, craft a paper outline, revise drafts, and produce a final version of the Major Paper in History. Topics in 4011W/V will vary by semester and will be printed in the class schedule. prereq: Jr or Sr history major or instr consent

HIST 4961V. Honors: Major Paper. (WI; 4 cr. ; A-F only; Every Fall, Spring & Summer)

Research paper on topic of student's choice. Work largely with primary sources. Faculty guidance. prereq: dept consent, instr consent; sign up in Undergraduate Studies Office two sem in advance

HIST 4961W. Major Paper. (WI; 4 cr. ; A-F or Audit; Every Fall & Spring)

Research paper on topic of student's choice. Work largely with primary sources. Faculty guidance. prereq: dept consent, instr consent; sign up in Undergraduate Studies Office two sem in advance

HIST 4970. History Day Mentorship. (; 1 cr. [max 4 cr.] ; Student Option; Every Fall & Spring)

HIST 4970 is a course designed to engage students in local grades 6-12 education through the National History Day in Minnesota program. This class requires that students complete at least 100 hours of mentoring work in History Day schools in the Twin Cities. While the focus of these hours will be in the classroom, some hours may be fulfilled through participation in other History Day support services and/or assistance with events. In addition to their commitments to their assigned school, students must participate in regular seminar meetings, complete assigned course work, and fulfill final project requirements. Following the start of the class, students will have been assigned to a school, received preliminary History Day training, meet participating teacher(s), and develop a schedule for school visits. Most of all, this course is about connections. The University is looking for civic engagement opportunities through its ?Grand Challenges? curriculum that demonstrate the relevance of the institution and the contributions of its students to the citizens of the state. The College of Liberal Arts ?roadmap? also places specific emphasis on connecting its majors to the structures of education in Minnesota. Furthermore, the connections you make in applied learning situations (internships and/or service learning) can be a determining factor in shaping future career paths or graduate education. The History Day mentor program is a unique opportunity to apply your academic skills in a real-world educational environment. Your efforts will assist teachers on the frontlines of education, and you will help build pathways to higher education for inner-city students. The instructors appreciate the interest in service learning that has brought you to this course, and it is our hope that this opportunity proves to be a highlight of your undergraduate experience.

HIST 5051. Before Herodotus: History and Historiography of Mesopotamia and the Ancient Near East. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Historical method/sources for ancient Near Eastern history. Historical traditions. Historiographic texts of Mesopotamia and neighboring regions of the ancient Near East, secondary emphasis on their relationship to works of classical historians such as Herodotus. Use of these sources in modern historiography of ancient Near East. prereq: Prev coursework in ancient Near Eastern history recommended

HIST 5053. Doing Roman History: Sources, Methods, and Trends. (; 3 cr. ; Student Option; Fall Even, Spring Odd Year)

Survey of major scholarship in field of Roman history since Mommsen. Political, cultural, social, military, and economic history. Focuses on methodological problems posed by evidence. Ways in which these issues shape research. prereq: Grad student or instr consent

HIST 5264. Imperial Russia: Formation and Expansion of the Russian Empire in the 18th and 19th Centuries. (3 cr. [max 4 cr.] ; Student Option; Every Fall & Spring)

Interaction with Europe and Asia; attempts at modernization and reform; emancipation of the serfs and rise of revolutionary movements.

HIST 5265. 20th-Century Russia: The Collapse of Imperial Russia, the Revolutions, and the Soviet Regime. (3 cr. ; Student Option; Every Spring)

Analysis of the factors that led to the collapse of the tsarist regime; discussion of the 1917 revolution, the evolution of the Soviet regime and the collapse of Soviet communism. Emphasis on the role of nationalities and the rise of the Commonwealth of independent states.

HIST 5271. The Viking World: Story, History, and Archaeology. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Viking society and expansion of Viking influence abroad. Viking impact on Western Europe, interactions with Slavic lands, settlement of North Atlantic islands, Western Europe's impact on Scandinavian lands. Analyzes archaeological, historical, linguistic, and numismatic evidence.

HIST 5283. Marx, Capital and History: An Introduction to Marxist Theory and History. (3 cr. ; Student Option; Spring Even Year)

Explore Marx's understanding of capitalism and its history. Marx's argument regarding historical specificity of capitalism as economic/social condition

HIST 5286. Galileo and the Beginnings of Modern Science. (3 cr. ; A-F only; Periodic Fall)

The life and work of Galileo Galilei (1564-1642), often called the ?founder of modern science.? Topics: the Renaissance Italian context for Galileo?s work; the arrangements of authoritative knowledge that prevailed in 16th-century Tuscany and Venice; the role that universities, the Catholic church, learned academies, and the state played in disciplining knowledge. We consider the episodes of Galileo?s career and read his seminal texts with secondary commentaries upon them. His telescopic

observations of 1609-10; his battles with Aristotelian natural philosophy; his experiments and arguments on behalf of experimental and mathematical physics; his defense of Copernican ?heliocentric? cosmology and his trial and condemnation by the Roman Catholic Church for heresy; and his work in mathematics and mathematical physics that paved the way for Newton and Einstein. The goal will be to understand the achievements of Galileo in their specific historical and cultural context and to use these reflections for thinking about the nature of the modern science that he helped to initiate.

HIST 5461. Introduction to East Asia I: The Imperial Age. (3 cr. ; Student Option; Every Fall)

Comparative survey of early history of China, Japan, Korea, and Vietnam. Early Chinese thought. Diffusion of Confucianism, Buddhism, and other values throughout East Asia. Political and social history of region to 1600.

HIST 5462. From Subjects to Citizens: The History of East Asia From 1500 to the Present. (3 cr. ; Student Option; Every Spring)

How Asian states, societies, economies, and cultures linked with one another and with European powers. How period's historical effects still resonate. Covers India, China, Japan, Korea, and Indochina.

HIST 5468. Social Change in Modern China. (; 3 cr. ; Student Option; Every Fall)

Opium War and opening of Treaty Ports in 19th century; missionary activity and cultural influence; changes in education system; women's movement; early industrialization; socialism and collectivization after 1949; industrialization of Taiwan; PRC's entry into the world trading system.

HIST 5478. Tigers and Dragons: The Rise of the East Asian Economies, 1930-Present. (3 cr. ; Student Option; Spring Odd Year)

Rise of East Asian Economies, 1930-Present. prereq: Grad student

HIST 5513. North Africa since 1500: Islam, Colonialism, and Independence. (3 cr. ; Student Option; Spring Odd Year)

History of the Maghrib (Morocco, Algeria, Tunisia, Libya and disputed territories of Western Sahara from time of Ottoman expansion/Sharifian dynasties [Sa'dian/Alawid]) in 16th/17th Centuries to end of 20th century. Focus on encounter of Islamic cultures/societies of Maghrib and Africa/Europe

HIST 5547. Empire and Nations in the Middle East. (3 cr. ; Student Option; Periodic Fall & Spring)

Modernity in non-Western imperial context. Identity, ideology, economy, environment, language. prereq: Grad student or instr consent

HIST 5708. The Age of Curiosity: Art, Science & Technology in Europe, 1400-1800. (AH,TS; 3 cr. ; Student Option; Periodic Fall & Spring)

Diverse ways in which making of art and scientific knowledge intersected in early modern Europe. Connections between scientific curiosity and visual arts in major artists (e.g., da Vinci, Durer, Vermeer,

Rembrandt). Artfulness of scientific imagery/diagrams, geographical maps, cabinets of curiosities, and new visual technologies, such as the telescope and microscope.

HIST 5711. Cognitive History. (3 cr. ; Student Option No Audit; Periodic Spring)

Cognitive History will examine how research in cognitive neuroscience provides historians with new knowledge and methods for asking questions about the past. It is not a course on the history of the cognitive sciences. Instead, it is about practicing history in the cognitive age, a period that began more than fifty years ago, and an approach to explaining how humans think and act that has been adopted within fields across our universities. The course will combine broad readings and discussions in "Big History" and the shift from behaviorism to cognition with more specific studies about memory, narrative, aesthetics, the body, and violence. Students will have an opportunity to apply a cognitive history approach to a specific topic that emphasizes one of the following topics: Evolution, Behaviorism, Cognitive Cultural Studies, Memory, Narrative, Aesthetics, the Body, and Violence. Students will help guide discussions for the relevant class sessions on these topics and write an essay on the selected theme

HIST 5728. The History of Human Rights. (3 cr. ; Student Option; Periodic Fall)

What are human rights? How and when did they originate? How were such rights promoted, protected and contested at different historical junctures, and by whom? In this course, we will examine the historical processes through which human rights have been conceptualized, codified, violated, and vindicated. Throughout the semester, we will travel across the globe and trace events that span from the eighteenth century to the present day. Our search will take us through the multiple histories that have shaped what we nowadays recognize as the human rights framework ? its institutions, products and norms. Integrating perspectives and readings from the humanities, social sciences and legal studies, this course explores how meanings of human rights have fluctuated in response to historical developments, and how human rights have come to gain their prominent role in contemporary politics, law and culture.

HIST 5797. Methods of Population History.

(; 3 cr. ; A-F or Audit; Periodic Fall & Spring) Standard methods of population analysis. Focuses on methods widely used for historical population research.

HIST 5801. Seminar in Early American History. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Introduction to literature of early American history. Readings selected from some of best scholarship in field. Questions of colonial historians. Theories, methods, sources used in pursuit of those questions.

HIST 5802. Readings in American History, 1848-Present. (3 cr. ; A-F or Audit; Every Fall & Spring)

Readings-intensive course. U.S. history from Mexican-American War to present.

HIST 5831. Cultural Fallout: The Cold War and Its Legacy: Readings. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Culture of the Cold War, its legacy. How it affected/reflected domestic politics, public policies, civic life, gender expectations, sexuality, class relations, racial justice, and civil rights. Impact of domestic anti-communism and of American cultural politics abroad.

HIST 5877. Asian American History. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Introduction to key issues, theoretical frameworks, research, and methodologies of Asian American history. Seminal texts that defined the field. Recent scholarship in history and in related disciplines. Emphasis field's comparative/transnational linkages to ethnic studies, Asian studies, and the Americas.

HIST 5890. Readings in American Indian and Indigenous History. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Students in this course will read recently published scholarship in American Indian and Indigenous history that takes up pressing research questions, promises to push inquiry in new directions, and that theorizes important interventions in our thinking to understand where the field is situated and moving. Reflecting the instinctively interdisciplinary nature of American Indian and Indigenous history, readings will be drawn not just from the discipline of history but across other disciplines such as Anthropology, American Studies, Geography, Literature, Political Science, and Legal Studies. As well, readings will include scholarship that reaches out to embrace the Global Indigenous studies turn. prereq: Advanced undergrad with instr consent or grad student

HIST 5891. American Indian and Indigenous Studies Workshop. (1.5 cr. [max 12 cr.] ; S-N or Audit; Every Fall & Spring)

The American Indian and Indigenous Studies Workshop brings graduate and advanced undergraduate students and faculty together to read and provide intensive feedback (written and oral) on their works in progress. As an interdisciplinary field, AIIS students stand to benefit from ongoing and engaged conversations about that work that will deepen and enhance their professionalization in the field. The readings for the workshop are submissions from the membership of the workshop (which will include participants who are not formally enrolled in the workshop). We read and consider two submissions per week (sometimes more if the submissions are shorter) that are pre-circulated to all participants via the workshop's listserv. Readings under consideration include research papers, dissertation chapters, article manuscripts, research proposals, conference papers, and other submissions that will benefit from intensive engagement with the members and will deepen the knowledge of all of the participants. Students will gain experience with the research, writing, and revision process as well as scholarly conversations about original research and writing. The overarching aim of the workshop is to develop research, writing,

revision, and scholarly discussion skills as well as community-building in American Indian and Indigenous Studies and professionalization in an increasingly interdisciplinary and global field of study

HIST 5901. Latin America Proseminar: Colonial. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Introduces beginning graduate and advanced undergraduate students to major historical writings on various Latin American themes. prereq: instr consent

HIST 5902. Latin America Proseminar: Modern. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Introduces beginning graduate and advanced undergraduate students to major historical writings on various Latin American themes. prereq: instr consent

HIST 5910. Topics in U.S. History. (; 1-4 cr. [max 20 cr.] ; Student Option; Every Fall & Spring)

Selected topics in U.S. history not covered in regular courses. Taught as staffing permits. prereq: Grad or advanced undergrad student with instr consent

HIST 5932. The Production of Knowledge, Negotiating the Past, and the Writing of African Histories. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Recent scholarship on social history of Africa. Focuses on new literature on daily lives of ordinary people in their workplaces, communities, households.

HIST 5960. Topics in History. (; 1-4 cr. [max 16 cr.] ; Student Option; Every Fall & Spring)

Selected topics in history not covered in regular courses. Taught as staffing permits. prereq: [advanced undergrad with instr consent]

HIST 5993. Directed Study. (1-16 cr. [max 20 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. Prereq [Grad student or sr], instr consent, dept consent, college consent.

HIST 5994. Directed Research. (1-16 cr. ; Student Option; Every Fall, Spring & Summer)

Work on a tutorial basis. Prereq [Grad student or sr], instr consent, dept consent, college consent.

History of Medicine (HMED)

HMED 3001W. Health, Disease, and Healing I. (HIS,WI; 4 cr. ; Student Option; Every Fall)

Introduction to intellectual/social history of European/American medicine, health care from classical antiquity through 18th century.

HMED 3002W. Health Care in History II. (HIS,WI; 4 cr. ; Student Option; Every Spring)

Introduction to intellectual/social history of European/American medicine, health care in 19th/20th centuries.

HMED 3035. Sex and Gender in US Medicine: Queering the Medical Model. (3 cr. ; A-F only; Periodic Spring & Summer)

Queering the Medical Model addresses homosexual, transgender, and intersex history

of medicine in the United States from 1800 to the present along three intersecting themes. First, the course charts scientific constructs of sex, sexuality, and gender from the 19th to the 20th centuries. Second, it explores how sex and gender became entangled with the so-called medical model, from the role of medical jurisprudence in leveraging a two-sex system for legal claims, sex and sexual disorder research in the early 20th century, the development of hormonal and surgical technologies to manipulate gender morphology in the later 20th century, and the impact of the medical model on medical access historically and in the present. Finally, it identifies how queer and gender non-conforming people resisted, dodged, and mobilized changing scientific constructs, medical possibilities, and social opportunities. This course combines lectures, discussions, and guided engagement with historical materials from several archival holdings, alongside with relevant readings from history and other disciplines.

HMED 3040. Human Health, Disease, and the Environment in History. (HIS; 3 cr. ; Student Option; Every Spring & Summer)

Introduction to historical relationship of human health and the environment. How natural/human-induced environmental changes have, over time, altered our experiences with disease and our prospects for health.

HMED 3055. Women, Health, and History. (DSJ,HIS; 3 cr. ; A-F only; Periodic Fall & Spring)

Women's historical roles as healers, patients, research subjects, health activists. Biological determinism, reproduction, mental health, nursing, women physicians, public health reformers, alternative practitioners. Gender disparities in diagnosis, treatment, research, careers. Assignments allow students to explore individual interests.

HMED 3065. Body, Soul, and Spirit in Medieval and Renaissance European Medicine. (; 3 cr. ; A-F or Audit; Every Spring)

Body/soul in medieval theology/cosmology. Religious conceptions of body/soul. Medical conceptions in medieval world. Medieval/renaissance psychology. Medical astrology and its consequences. Medical normal/abnormal body. Medicine of reproduction and sexual identity. Death, burial, dissection, and resurrection in medical/religious perspective. Macrocosmic/microcosmic body. Limits to human power/authority over body. Anatomical/chemical body/spirit.

HMED 3075. Technology and Medicine in Modern America. (HIS,TS; 3 cr. ; Student Option; Every Fall & Spring)

How technology came to medicine's center-stage. Impact on production of medical knowledge, professionalization, development of institutions/industry, health policy, and gender/race disparities in health care.

HMED 3315. Early Modern Medicine in the Arts and Literature. (AH; 3 cr. ; Student Option; Periodic Fall & Spring)

What did the arts offer to medicine, and what did medicine offer to the arts in early modern

time? How did the representation of the human being in poetry, drama, and figurative arts interplay with the new medical culture and practices at that time? This course will examine the dynamic interchange and engagement of Western Renaissance medical culture (before 1800) in relation to literary, visual and performing arts, approaching questions that cross disciplinary, geographical, and social boundaries. Topics to be addressed include historical questions related to the intersection between the late European medieval university's programs of medicine and arts, humanistic culture, and medical charlatanism. Moreover, we will focus on the ephemeral rituals of medical and performative practices and the visual culture in works of art and scientific illustrated treatises of life, death, and the afterlife. Finally, we will explore the embodiments in poetry and drama of illness and metaphor, gender conflicts, and medical, spiritual, and philosophical views of what it meant to be human. By exploring the value of humanistic study and medical ethical concerns in Renaissance humanism, students will understand the historical sources of a modern humanistic formation and be informed about the importance of ethics to citizenship, reconsidering the present vision of a humanistic education and imagining the future in the academic humanities and in our society. The course will culminate in a digital project involving students in the creation of a virtual exhibit on the course topics, by using the New Builder StoryMaps software proposed by DASH/U-Spatial. This is an introductory-level course.

HMED 3940. Topics in History of Medicine. (; 1-3 cr. [max 9 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Selected history of medicine topics not covered in regular courses.

HMED 3993. Directed Study. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study.

HMED 4965W. Senior Research in Medical History. (WI; 3 cr. ; A-F only; Every Fall & Spring)

Seminar. Reading/discussion, individual directed research project with oral presentation. Students meet in peer groups and with instructor. prereq: Sr, instr consent

HMED 5075. Technology and Medicine in Modern America. (; 3 cr. ; A-F or Audit; Fall Odd, Spring Even Year)

How technology came to medicine's center-stage. Impact on medical practice, institutions, consumers, production of medical knowledge, professionalization, health policy, gender/race disparities in health care. prereq: instr consent

HMED 5940. Topics in the History of Medicine. (; 3 cr. [max 15 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Selected history of medicine topics not covered in regular courses.

History of Science and Tech (HSCI)

HSCI 1011. Digital World. (HIS,TS; 3 cr. ; Student Option; Every Spring)

Essential knowledge and critical perspective to understand today's Digital World. The history and social impact of the digital revolution, including security, surveillance, "virtual reality," and the future of the Internet.

HSCI 1212. Life on Earth: Origins, Evolution & Ecology. (ENV,HIS; 4 cr. ; Student Option; Every Spring)

How have people explained where life came from and how it has developed over time? We examine controversies over life's origins, the Holocene extinction, human population growth, the Dust Bowl and soil conservation, DDT and falcon repatriation, and disease and responses to pandemics. Evolution, natural theology. Ecosystems.

HSCI 1585. Mammoths, Minerals, Monoculture: History of Earth and Environmental Science. (HIS; 3 cr. [max 4 cr.] ; Student Option; Every Fall)

This course investigates the many ways people across the globe have sought to understand the environment and the earth from antiquity to the present. We will study the context in which the modern earth and environmental sciences emerged, asking throughout the semester what knowledge traditions contributed to the development of the sciences we know today. We will investigate the historical perspectives that shaped three intersecting themes throughout the semester: the questions of geological time and of change in the study of the earth; human use of natural resources in industry and agriculture; and understandings of the earth and environment as a global system. We will examine secondary historical scholarship and primary sources from North and South America, Africa, Europe, and Asia in order to better understand the religious and philosophical stakes of earth and environmental science, the role of empire and state building in the development of geoscience, and the interrelationship of science and industry.

HSCI 1714. Stone Tools to Steam Engines: Technology and History to 1750. (HIS,TS; 3-4 cr. ; Student Option; Every Fall & Spring)

Technology is an enormous force in our society, and has become so important that in many ways it seems to have a life of its own. This course uses historical case studies to demonstrate that technology is not autonomous, but a human activity, and that people and societies made choices about the technologies they developed and used. It asks how technological differences between nations influenced their different courses of development, and why some societies seemed to advance while others did not. We ask how technological choices can bring about consequences greater than people expected, and how we might use this knowledge in making our own technological choices. In particular, we explore the historical background, development, and character of the most widespread technological systems the world has known, from prehistoric stone tool societies, through Egypt and the pyramids,

ancient Greece and Rome, the explosion of Islam, and the dynamic and often violent technologies of medieval Europe.

HSCI 1715. History of Modern Technology: Waterwheels to the Web. (HIS,TS; 3-4 cr. ; Student Option; Every Fall & Spring)

This course explores the many technological systems that have come to span our globe, alongside the widespread persistence of traditional technologies. We start with the earliest glimmerings of modernity and industrialization, and move on in time to the building of global technological networks. How have people changed their worlds through technologies like steam engines and electronics? Is it a paradox that many traditional agricultural and household technologies have persisted? How have technologies of war remade the global landscape? We ask how business and government have affected technological entrepreneurs, from railroads to technologies of global finance. We end by considering the tension between technologies that threaten our global environment and technologies that offer us hopes of a new world.

HSCI 1814. Revolutions in Science: The Babylonians to Newton. (GP,HIS; 3-4 cr. ; Student Option; Every Fall & Spring)

Development and changing nature of sciences in their cultural context. Babylonian/Greek science. Decline/transmission of Greek science. Scientific Revolution (1500-1700) from Copernicus to Newton.

HSCI 1815. Making Modern Science: Atoms, Genes and Quanta. (GP,HIS; 3-4 cr. ; Student Option; Periodic Fall, Spring & Summer)

How scientists like Darwin and Einstein taught us to think about nature; everything from space, time and matter to rocks, plants, and animals.

HSCI 2333V. Honors Course: A Century of Science in Modern America. (CIV,WI,HIS; 3 cr. ; A-F only; Every Fall)

Science and technology influence nearly every aspect of our daily lives as well as the communities in which we live, both locally and globally. How did science and technology become such ubiquitous and powerful aspects of American industry, government policy, public life, and international negotiation? What are the responsibilities of scientists and engineers who play a critical role in creating and maintaining these elements? How can the broader public position itself to provide encouragement, insight and critique of the research and applications of science and technology? This course is intended to examine these questions by exploring historical case studies that highlight ethical, political, and social issues that give meaning to, and in turn, are shaped by science and technology. Beginning with the role of scientists as professional experts in the Progressive era, we consider how ideals of scientific management impacted animal lives and workers = bodies. Ethical choices frame the application of expertise and require attention and specific decision-making. Using eugenics as an example, we will reflect upon the interplay between the often na?ve

understanding of heredity and public policy and continue discussion into the application of contemporary genetic testing. Ethics are framed in social and political settings, and we will follow sometimes surprisingly comparable developments in Russia and the United States, with particular attention to large-scale engineering projects in the 1920s and 1930s and the space race in the 1950s and 1960s in order to understand how these reflected, or failed to reflect, risk and human life. This course meets the Historical Perspectives, Civic Life and Ethics, and Writing Intensive requirements as defined by the Council on Liberal Education. Along with Student Learning Outcomes, these requirements will help you continue to build critical tools for your work at the university as well as ways to evaluate and create knowledge in and beyond your intended career area.

HSCI 3211. Biology and Culture in the 19th and 20th Centuries. (CIV,HIS; 3 cr. ; Student Option; Every Fall & Spring)

Changing conceptions of life and aims and methods of biology; changing relationships between biology and the physical and social sciences; broader intellectual and cultural dimensions of developments in biology.

HSCI 3242. Navigating a Darwinian World. (HIS; 3 cr. ; Student Option; Every Fall)

In this course we grapple with the impact of Darwin's theory of evolution in the scientific community and beyond. We'll examine and engage the controversies that have surrounded this theory from its inception in the 19th century through its applications in the 21st. What made Darwin a Victorian celebrity, a religious scourge, an economic sage and a scientific hero? We'll look closely at the early intellectual influences on theory development; study the changing and dynamic relationship between science and religion; and critically analyze the application of Darwin's theory to questions of human nature and behavior.

HSCI 3244. Nature's History: Science, Humans, and the Environment. (ENV,HIS; 3 cr. ; Student Option; Every Fall)

We examine environmental ideas, sustainability, conservation history; critique of the human impact on nature; empire and power in the Anthropocene; how the science of ecology has developed; and modern environmental movements around the globe. Case studies include repatriation of endangered species; ecology and evolutionary theory; ecology of disease; and climate change.

HSCI 3246. History of (Un)Natural Disasters. (ENV,HIS; 3 cr. ; Student Option; Periodic Spring)

Earthquakes, hurricanes, tsunamis, wildfires, epidemic disease, and technological failures? This course will examine large scale natural events in American and world history, the social, technological, and environmental conditions that underlie them, and their historical consequences. Human societies have long been embedded in physical landscapes where they are subject to specific environmental conditions and physical risks:

eight thousand-year-old wall paintings in Turkey depict the eruption of Hasan Dag volcano over the city of Catal Huyuk, for example. But then and now, it takes a certain combination of social conditions and environmental events to create a natural disaster. In this course, we will use historical natural disasters to explore the interconnections between the structures and ideas of human society and environmental forces. Humans have not been simply the random victims of natural disasters; where and how they chose to live influenced the impact of any disastrous event. Examining these events in a historical context will help us see the social, technological, scientific, and environmental systems that have been constantly interacting, but which are normally taken for granted until they break down.

HSCI 3331. Technology and American Culture. (HIS,TS; 3 cr. ; Student Option; Every Fall & Spring)

American culture(s) and technology, pre-Columbian times to present. Artisanal, biological, chemical, communications, energy, environment, electronic, industrial, military, space and transportation technologies explained in terms of economic, social, political and scientific causes/effects.

HSCI 3332. Science in the Shaping of America. (DSJ,HIS; 3 cr. ; Student Option; Periodic Spring)

Science played a central role in taking scattered imperial colonies in North America to world power in just four centuries. This course investigates people, policies, and knowledge-making in a culture whose diversity was a critical part of its expanding capacities. It begins by examining the differences in ways of knowing as well as shared knowledge between Native Americans and Europeans and concludes by discussing how a powerful nation's science and technology shaped international relations. Class, race, ethnicity, and gender provided for a range of perspectives that contributed to science alongside social and economic developments. Online assignments, films and images, along with primary and secondary source readings provide the basis for class discussion.

HSCI 3401. Ethics in Science and Technology. (CIV,HIS; 3 cr. ; Student Option; Periodic Fall)

In addition to examining the idea of ethics itself, this course will examine the ethical questions embodied in specific historical events, technological systems, and scientific enterprises. Commonly, technology is assumed to be the best engineered solution for a particular goal and (good) science is supposed to be objective; however, this is never truly the case, values and moral choices underlie all of our systems for understanding and interacting with the world around us. These values and choices are almost always contentious. Through a series of historical case studies we will grapple with the big issues of right and wrong and the role of morality in a technological world. Our goal will be to learn to question and think critically about the things we

create, the tools we use, and the ideology and practice of science.

HSCI 3421. Engineering Ethics. (CIV,HIS; 3 cr. ; Student Option; Every Fall & Spring)

Ethical issues in engineering research and engineers' public responsibility/practice, using historical cases; historical development of engineering as a vocation/profession; ethical implications of advanced engineering systems such as nuclear weaponry and networked communications.

HSCI 3611. Enlightenment, Revolution, and the Rise of Modern Science. (GP,HIS; 3 cr. ; Student Option; Periodic Spring)

Understanding the origins of our own culture of Modern Science in the Enlightenment of the eighteenth century. Newton's ambiguous legacy; science as wonder and spectacle; automata and monsters; early theories of sex and gender; empire and scientific expeditions; reshaping the environment; inventing human sciences; Frankenstein and the limits of science and reason.

HSCI 3714. Stone Tools to Steam Engines: Technology and History to 1750. (HIS,TS; 3-4 cr. ; Student Option; Every Fall & Spring)

Technology is an enormous force in our society, and has become so important that in many ways it seems to have a life of its own. This course uses historical case studies to demonstrate that technology is not autonomous, but a human activity, and that people and societies made choices about the technologies they developed and used. It asks how technological differences between nations influenced their different courses of development, and why some societies seemed to advance while others did not. We ask how technological choices can bring about consequences greater than people expected, and how we might use this knowledge in making our own technological choices. In particular, we explore the historical background, development, and character of the most widespread technological systems the world has known, from prehistoric stone tool societies, through Egypt and the pyramids, ancient Greece and Rome, the explosion of Islam, and the dynamic and often violent technologies of medieval Europe.

HSCI 3715. History of Modern Technology: Waterwheels to the Web. (HIS,TS; 3-4 cr. ; Student Option; Every Fall & Spring)

This course explores the many technological systems that have come to span our globe, alongside the widespread persistence of traditional technologies. We start with the earliest glimmerings of modernity and industrialization, and move on in time to the building of global technological networks. How have people changed their worlds through technologies like steam engines and electronics? Is it a paradox that many traditional agricultural and household technologies have persisted? How have technologies of war remade the global landscape? We ask how business and government have affected technological entrepreneurs, from railroads to technologies of global finance. We end by considering the

tension between technologies that threaten our global environment and technologies that offer us hopes of a new world.

HSCI 3814. Revolutions in Science: The Babylonians to Newton. (GP,HIS; 3-4 cr. ; Student Option; Every Fall & Spring)

Development and changing nature of sciences in their cultural context. Babylonian/Greek science. Decline/transmission of Greek science. Scientific Revolution (1500-1700) from Copernicus to Newton.

HSCI 3815. Making Modern Science: Atoms, Genes and Quanta. (GP,HIS; 3-4 cr. ; Student Option; Periodic Fall, Spring & Summer)

How scientists like Darwin and Einstein taught us to think about nature; everything from space, time and matter to rocks, plants, and animals.

HSCI 4060. Special Topics in History of Technology. (; 3 cr. ; Student Option; Periodic Spring)

Topics specified in Class Schedule

HSCI 4121W. History of 20th-Century Physics. (WI; 3 cr. ; Student Option; Periodic Spring)

The transition from classical to modern physics (relativity, quantum) and its architects (from Planck and Einstein to Heisenberg and Schrödinger). The WWII bomb projects in the US and in Germany. Post-war developments (solid state, particle physics).

HSCI 4321. History of Computing. (HIS,TS; 3 cr. ; Student Option; Fall Even, Spring Odd Year)

Developments in the last 150 years; evolution of hardware and software; growth of computer and semiconductor industries and their relation to other business areas; changing relationships resulting from new data-gathering and analysis techniques; automation; social and ethical issues.

HSCI 4455. Women, Gender, and Science. (DSJ,HIS; 3 cr. ; Student Option; Every Fall & Spring)

Three intersecting themes analyzed from 1700s to the present: women in science, sexual and gendered concepts in modern sciences, and impact of science on conceptions of sexuality and gender in society.

HSCI 5211. Biology and Culture in the 19th and 20th Centuries. (CIV; 3 cr. ; Student Option; Every Fall & Spring)

Changing conceptions of life and aims and methods of biology; changing relationships between biology and the physical and social sciences; broader intellectual and cultural dimensions of developments in biology.

HSCI 5242. Navigating a Darwinian World. (; 3 cr. ; Student Option; Every Spring)

In this course we grapple with the impact of Darwin's theory of evolution in the scientific community and beyond. We'll examine and engage the controversies that have surrounded this theory from its inception in the 19th century through its applications in the 21st. What made Darwin a Victorian celebrity, a religious scourge, an economic sage and a scientific hero? We'll look closely at the early intellectual influences on theory development; study the

changing and dynamic relationship between science and religion; and critically analyze the application of Darwin's theory to questions of human nature and behavior.

HSCI 5244. Nature's History: Science, Humans, and the Environment. (; 3 cr. ; Student Option; Every Fall)

We examine environmental ideas, sustainability, conservation history; critique of the human impact on nature; empire and power in the Anthropocene; how the science of ecology has developed; and modern environmental movements around the globe. Case studies include repatriation of endangered species; ecology and evolutionary theory; ecology of disease; and climate change.

HSCI 5246. History of (Un)Natural Disasters. (3 cr. ; Student Option; Periodic Spring)

Earthquakes, hurricanes, tsunamis, wildfires, epidemic disease, and technological failures. This course will examine large scale natural events in American and world history, the social, technological, and environmental conditions that underlie them, and their historical consequences. Human societies have long been embedded in physical landscapes where they are subject to specific environmental conditions and physical risks: eight thousand-year-old wall paintings in Turkey depict the eruption of Hasan Dag volcano over the city of Catal Huyuk, for example. But then and now, it takes a certain combination of social conditions and environmental events to create a natural disaster. In this course, we will use historical natural disasters to explore the interconnections between the structures and ideas of human society and environmental forces. Humans have not been simply the random victims of natural disasters; where and how they chose to live influenced the impact of any disastrous event. Examining these events in a historical context will help us see the social, technological, scientific, and environmental systems that have been constantly interacting, but which are normally taken for granted until they break down.

HSCI 5331. Technology and American Culture. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Development of American technology in its cultural/intellectual context from 1790 to present. Transfer of technology to America. Establishment of an infrastructure promoting economic growth. Social response to technological developments.

HSCI 5332. Science in the Shaping of America. (; 3 cr. ; Student Option; Periodic Spring)

The British colonies of North America were founded in precisely the same centuries as a revolution in European's understanding of nature, transformed by the ideas of Galileo, Newton, and Linnaeus and by the technologies of the industrial revolution. Native Americans and African Americans had their own knowledge of nature, and their close understanding intersected with the increasingly scientific techniques brought with European

settlers and enhanced the survival and intellectual capacities of the newcomers. By demonstrating the diversity of scientists in the ever changing demographics of an immigrant nation, the course argues that this diversity and the capacities of newcomers contributed to the national success in science and engineering. The engagement with science at points were used to try to limit access by women or African-Americans, but sciences was also used to discredit false theories through ever expanding emphasis on empiricism as well as attention to the social and economic consequences of innovation. The goal is to demonstrate those historical linkages in particular places and institutions as they influenced and reinforced specific scientific work, while, at the same time, being attentive to how scientific ideas and practices were shaped by American culture.

HSCI 5401. Ethics in Science and Technology. (; 3 cr. ; Student Option; Periodic Fall)

Historical issues involving ethics in science. Ethical problems posed by modern science/technology, including nuclear energy, chemical industry, and information technologies.

HSCI 5421. Engineering Ethics. (; 3 cr. ; Student Option; Every Fall & Spring)

Engineering ethics in historical context, including the rise of professional engineering societies; ethical problems in engineering research and engineers' public responsibility; ethical implications of advanced engineering systems such as the production of nuclear weapons; development of codes of ethics in engineering.

HSCI 5611. Enlightenment, Revolution, and the Rise of Modern Science. (3 cr. ; Student Option; Periodic Spring)

Understanding the origins of our own culture of Modern Science in the Enlightenment of the eighteenth century. Newton's ambiguous legacy; science as wonder and spectacle; automata and monsters; early theories of sex and gender; empire and scientific expeditions; reshaping the environment; inventing human sciences; Frankenstein and the limits of science and reason.

HSCI 5993. Directed Studies. (; 1-15 cr. ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. prereq: instr consent

Hmong (HMNG)

HMNG 1011. Beginning Hmong I. (; 5 cr. ; Student Option No Audit; Every Fall)

Listening, speaking, reading, writing skills. Emphasizes development of communicative competence.

HMNG 1012. Beginning Hmong II. (5 cr. ; Student Option No Audit; Every Spring)

Continuation of 1011. Listening, speaking, reading, writing skills. Development of communicative competence. prereq: HMNG 1001 or 1011

HMNG 1013. Medical Hmong. (; 3 cr. ; Student Option No Audit; Periodic Fall & Spring)

This online course is designed for students and working professionals interested in learning the Hmong language in relation to the medical field, including but not limited to: 1. General phrases of greetings and introductions used in interpersonal settings. 2. Conversational Hmong, geared towards medical topics. 3. Medical terminology and cultural expressions relating to health and culture. No prior Hmong language background is required and there are no course prerequisites. While effective communication is essential in all fields of work, it is especially vital in the medical field. This online medical Hmong language course provides opportunities for students to learn and understand Hmong. Emphasis will be on key phrases, vocabulary, and cultural nuances related to the medical field. The course will provide a foundation for speaking, reading, writing, and listening comprehension for individuals interested in working with Hmong-speaking patients, clients, and others in the medical field. Students will have opportunities to learn and apply materials to real-world case scenarios and situations in the medical field.

HMNG 1015. Accelerated Beginning Hmong. (; 5 cr. ; Student Option No Audit; Every Fall & Summer)

Review of grammar/usage, practice in reading/writing. Introduction to Hmong literature and formal writing. Topics in Hmong culture. prereq: Ability in basic spoken Hmong

HMNG 3016. Accelerated Intermediate Hmong. (5 cr. ; Student Option No Audit; Every Spring)

Review of grammar/usage, continued practice in reading/writing. Expanded introduction to Hmong literature/formal writing. Selected topics in Hmong culture. prereq: [1011 and 1012] or 1015 or instr consent

HMNG 3021. Intermediate Hmong I. (5 cr. ; Student Option No Audit; Every Fall)

Listening, speaking, reading, writing. Grammar review/elaboration. Authentic texts, cultural readings, basic compositions, oral presentations. prereq: Hmng 1002 or Hmng 1012 or Hmng 1015

HMNG 3022. Intermediate Hmong II. (5 cr. ; Student Option No Audit; Every Spring)

Continuation of 3021. Listening, speaking, reading, writing. Grammar review/elaboration. Authentic texts, cultural readings, basic compositions, oral presentations. prereq: Hmng 3021

HMNG 3031. Advanced Hmong I. (4 cr. ; Student Option; Every Fall)

Speaking, listening, reading, writing. Complex vocabularies, sentence structures from Hmong newspapers, magazine, folktales, folk songs, novels, poetry, proverbs, riddles. Concepts/terms from social/ritual settings. Idioms, slang, classifiers. prereq: 3022 or equiv or instr consent

HMNG 3290. Hmong Language Teaching Tutorial. (; 1 cr. [max 2 cr.] ; S-N only; Every Fall & Spring)

Students tutor beginning students of Hmong and are part of department's Hmong language team. prereq: Grade of A in 3022

HMNG 3993. Directed Studies. (1-5 cr. [max 15 cr.]; Student Option No Audit; Periodic Fall & Spring)

Guided individual study of Hmong language or linguistics. prereq: instr consent, dept consent, college consent

HMNG 4001. Beginning Hmong I for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Fall)

Listening, speaking, reading, writing skills. Emphasizes development of communicative competence. Meets with 1011.

HMNG 4002. Beginning Hmong II for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Spring)

Continuation of 4001. Listening, speaking, reading, writing skills. Development of communicative competence. Meets with 1012. prereq: 4001

HMNG 4003. Intermediate Hmong I for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Fall)

Listening, speaking, reading, writing. Grammar review/elaboration. Authentic texts, cultural readings, basic compositions, oral presentations. Meets with 3021. prereq: 4002

HMNG 4004. Intermediate Hmong II for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Spring)

Continuation of 4003. Listening, speaking, reading, writing. Grammar review/elaboration. Authentic texts, cultural readings, basic compositions, oral presentations. Meets with 3022. prereq: 4003

HMNG 4005. Accelerated Beginning Hmong for Graduate Research. (5 cr. ; Student Option No Audit; Every Fall & Summer)

Review of grammar/usage, practice in reading/writing. Introduction to Hmong literature and formal writing. Topics in Hmong culture. prereq: Ability in basic spoken Hmong

HMNG 4006. Accelerated Intermediate Hmong for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Spring)

Review of proper grammar/usage, practice in reading/writing. Expanded introduction to Hmong literature/formal writing. Topics on Hmong culture. prereq: [4001 and 4002] or 4005

HMNG 4007. Advanced Hmong I for Graduate Student Research. (4 cr. ; Student Option; Every Fall)

Speaking, listening, reading, writing. Complex vocabularies, sentence structures from Hmong newspapers, magazine, folktales, folk songs, novels, poetry, proverbs, riddles. Concepts/terms from social/ritual settings. Idioms, slang, classifiers. prereq: 4004 or equiv or instr consent

HMNG 4008. Advanced Hmong II for Graduate Student Research. (4 cr. ; Student Option; Every Spring)

Speaking, listening, reading, writing. Complex vocabularies, sentence structures from Hmong newspapers, magazine, folktales, folk songs,

novels, poetry, proverbs, riddles. Concepts/terms from social/ritual settings. Idioms, slang, classifiers. prereq: 4007 or equiv or instr consent

HMNG 4102. Introduction to Hmong Language II for Graduate Student Research.

(5 cr. ; Student Option; Every Summer) Continuation of HMNG 4101. Foundations of learning Hmong. Speaking, reading, writing, listening. Communication/interaction, supplemented with grammatical details. Hmong community/culture. Meets with 1002.

HMNG 5040. Readings in Hmong Texts. (; 3-4 cr. [max 12 cr.]; Student Option; Periodic Fall & Spring)

Comprehensive, multidimensional overview of Hmong oral forms/traditions. Hmong legends, mythology, folksongs, birth, marriage/funeral rites. History, social/cultural anthropology. Values, life ways of traditional village society. Societal changes resulting from emigration to U.S.

HMNG 5041. Readings in Hmong Social and Cultural Experience. (3 cr. ; Student Option No Audit; Every Spring)

Students read a variety of authentic texts in Hmong, ranging from traditional folklore, folksongs, stories, research, news articles, and more. Utilizing these authentic texts, students will have in-depth discussions on Hmong literature, vocabulary, language applications and social/cultural structures. In-class discussions focus on language use, social interpretations of texts, and social applications. Class is conducted 80% Hmong, and 20% English. prereq: HMNG 3031 or instructor consent

HMNG 5993. Directed Studies. (1-5 cr. [max 15 cr.]; Student Option No Audit; Every Fall & Spring)

Guided individual study of Hmong language or linguistics. prereq: instr consent, dept consent, college consent

Honors Colloquia (HCOL)

HCOL 3101H. The Honors Thesis - Development. (; 1 cr. ; A-F only; Every Spring)

This course provides a classroom-support format to assist Honors students with developing a firm foundation for research in advance of their final year of study. Most thesis writing will be done under the direction of the thesis advisor and committee, hence assignments in HCOL 3101H are structured to prompt students toward engaging best practices?generically, and in their specific field of study?in preparing to complete thesis work. The course?s ultimate objective is to provide context, structure, third-party scholarly guidance, and a supportive community of peers to promote excellence and expediency in fulfilling the final requirement for graduation with Latin Honors.

HCOL 3102H. The Honors Thesis - Writing. (; 1 cr. ; A-F only; Every Fall)

This course provides a classroom-support format to assist Honors students with the completion of the Honors thesis during their

final year of study. Most thesis writing will be done under the direction of the thesis advisor and committee, hence assignments in HCOL 3102H are structured to prompt students toward engaging best practices? generically, and in their specific field of study? in completing thesis work. The course?s ultimate objective is to provide context, structure, third-party scholarly guidance, and a supportive community of peers to promote excellence and expediency in fulfilling the final requirement for graduation with Latin Honors.

HCOL 3103V. The Honors Thesis?Writing and Revision. (WI; 1 cr. ; A-F only; Every Spring)

This course provides a structured format and outside supervision to assist Honors students and their faculty advisors in drafting and editing the prose of the Honors thesis. Specifically, students are asked to regularly solicit their thesis advisor for specific kinds of feedback on draft writing samples, meet with the faculty member to go over this feedback, and then write up a plan for incorporating the feedback into subsequent drafts. HCOL3103V assumes that the bulk of the work devoted to developing a thesis topic, consulting secondary sources, collecting data, doing analysis, and producing creative output has already been completed. Hence, assignments in HCOL3103V prompt students and thesis advisors to meet regularly in service of crafting prose appropriate for their discipline and project. The final assignment comprises the submission of the completed thesis draft to the full thesis committee. [This is an optional course for students seeking a Writing Intensive requirement while completing their Honors Thesis. UHP students must still take the required thesis support coursework -- either HCOL 3101H, HCOL 3102H, or the required thesis course in their department. Students are encouraged to complete HCOL 3101H or their approved departmental thesis course prior to this course.]

HCOL 3996H. Honors: Research Internship. (; 1-3 cr. [max 9 cr.]; A-F only; Every Fall, Spring & Summer)

Supervised research-based internship with a University Honors Program community partner. prereq: Honors student

Honors Seminar (HSEM)

HSEM 2009H. Contemporary Art and Politics: From Marcel Duchamp to Ai Weiwei. (GP; 3 cr. ; A-F only; Periodic Fall)

This course will discuss the subject matters and practices of major contemporary artists all over the world - including Marcel Duchamp, Joseph Beuys, Christo and Jeanne-Claude, Jeff Koons, Andy Warhol, Yoko Ono, Ilya Kabakov, Jasper Johns, Jean-Michel Basquiat, Ai Weiwei, Shirin Neshat, Marina Abramovic, Kara Walker, etc. ? whose creative work frequently intertwines with commentaries on contemporary politics. As a strategy of being, these contemporary artists seem to use art to engage their audiences in a dynamic dialogue concerning certain aspects of contemporary life. These and other artists want to interpret political reality in order to change

it; that is, to bring about social and political transformation through aesthetic means. This course will provide an overview of the ideas, strategies, and work of the artists as a critical lens for viewing the changing cultural and political landscape of an increasingly technological and globalized world. This course will take a comparative studies approach to the development of contemporary art in its historical, its social and political contexts, the increasing influence of the Western art in Asia, Africa, and other parts of the world, and the cross-cultural communication customs and protocols of international art practice and art criticism. Methodologically, this course first aims at integrating four major disciplinary approaches in discussing art history from post-WWII to the present day: historical studies, sociological studies, psychoanalytic studies and cultural studies. Such an integrated approach will provide a framework and a reference point for us to describe and understand contemporary art in certain historical and political contexts.

HSEM 2018H. The American Quest for Security. (CIV,HIS; 3 cr. ; A-F only; Periodic Spring)

For more than half a century, Americans have been concerned about security--national security as well as personal security. What do Americans mean when they talk about security? What are they worried about, and how do they try to keep themselves safe and secure? The quest for national security has taken shape at the level of foreign policy and military engagement. At the same time, Americans have endeavored to achieve their own safety and security through political and personal efforts. This seminar examines the various ways that citizens have addressed the issue of security in their own lives, whether their fears have been justified, and whether their efforts have kept them safe. The goal is for students to understand the issue of security in a historical context, and to enable them to be effective citizens in a world that often feels dangerous.

HSEM 2026V. The Watershed Workshops. (AH,WI; 3 cr. ; A-F only; Periodic Spring)

We are made of water. We are connected to each other by water. A watershed is a community of living being held together by the water that flows through them. In this class we explore many ways of knowing water, and we will experiment with ways of writing about ourselves, our relationships, and our communities. In this class you will learn how to write creatively in conversation with scientists, conservationists, cultural critics, and many other types of experts.

HSEM 2039H. IAS Thursdays: Across the University & Beyond. (; 3 cr. ; A-F only; Periodic Spring)

In this seminar the best of the University's research and creative work is brought to you. Every Thursday afternoon, the Institute for Advanced Study offers a presentation, a lecture, discussion, and performances by leading scholars and artists from around the world and within the University. Seminar

participants will attend the Thursdays at Four series and meet on Tuesdays to discuss the presentations, which will draw upon disciplines across the University. Students will do supplemental readings related to the presentations and talk with presenters as their schedules allow. This is the perfect seminar to introduce students to the rich variety of work done at the University.

HSEM 2041H. Greece and the Eternal Questions of the Liberal Arts. (CIV; 3 cr. ; A-F only; Periodic Spring)

Throughout history, communities have grappled with the same questions: how do we govern the community? What stories do we tell about ourselves that give meaning to our lives? How do we persuade each other? How do we express our values and identity? Are there roles proper to men and women? Does life have meaning after life ends? Ancient Greek society was a particularly intense location for considering those questions. These are questions fundamental to the liberal arts and fundamental to being a contributing citizen of a democracy in a globalized world. This class examines and critiques the ancient Greek answers in order to gain perspective on how to answer those questions for our own lives and our community.

HSEM 2042H. Jewish Humor: Seriously Funny from Text to Stage to Screen. (DSJ; 3 cr. ; A-F only; Periodic Spring)

This course on Jewish humor, in addition to introducing students to various theoretical frameworks for approaching humor and comedy, will by way of the joke introduce students to a range of classical Jewish texts, including the Torah and Talmud, before moving to an examination of Jewish contributions to the comedy industry and to popular culture from the 19th century until today, especially in the United States. In the U.S. the comic world has been so dominated by Jewish writers and performers that the "People of the Book" have come to be known as the "People of the Joke," and the 2013 Pew Research poll showed that for American Jews a sense of humor is essential to their Jewish identity--more important than ritual and the observance of traditional religious commandments. While surveying a broad range of humor in print, on stage, and in films, students will also learn about the historical and cultural contexts that make such humor not only possible but existentially necessary? a serious business indeed. And we will accomplish all this while laughing hysterically. No prior knowledge of Jewish history and culture is required or assumed.

HSEM 2043H. Finding the "Corporate Soul": Corporate advocacy, social responsibility, and community engagement. (; 3 cr. ; A-F only; Periodic Fall)

As the corporation has replaced government and the church as the dominant social institution in the industrialized world, the use of organizational advocacy as a means of persuasion has predictably increased. One reason for this increase is that stakeholders expect and demand corporations act in

accordance with social and cultural norms. Advocacy messages provide organizations with a tool for promoting change, forming attitudes, and furthering dialogue about substantive issues. By engaging in advocacy, organizations enter into a public dialogue about issues that it views as significant in the realization of its goals and objectives. This seminar seeks to answer questions such as: What contribution does organizational advocacy make to public dialogue? How does corporate advocacy represent the goals and needs of the organization and society? What are the social implications of organizational advocacy? Our goal is to understand organizational advocacy beyond a single issue, campaign, or corporation. To achieve our goal, we will examine a variety of communication theories and international, national, and Minnesota-based campaigns.

HSEM 2044H. Enemies of the People? Journalism & Democracy in the United States. (HIS; 3 cr. ; A-F only; Periodic Spring)

This seminar explores the evolution of journalism's role in the democratic process? from the nation's founding through today's contentious relationship between President Trump and the press. Students will examine critical questions confronting journalism and democracy in the digital age: the growth of partisan news and decline in original reporting; the role of social media in facilitating propaganda and ?fake news?; and concerns about over-commercialization. At the same time, students will place these issues in historical context and consider a number of normative and critical theories concerning journalism's proper role in our civic life. At a time when trust in both journalism and government are at an all-time low, this seminar explores how we arrived at this point and where we might be heading.

HSEM 2053H. The Psychology of Paranormal Phenomena. (; 3 cr. ; A-F only; Periodic Fall)

Research has shown that most Americans hold one or more supernatural, paranormal, or pseudoscientific beliefs. These include beliefs in mind reading, fortune telling, psychokinesis, remote viewing, therapeutic touch, out-of-body experiences, alien abduction, and cryptozoology (Bigfoot, the Loch Ness Monster, etc.). This course has two goals: The first is to introduce students to critical thinking and behavioral research methods. The second is to critically evaluate the evidence for a variety of supernatural, paranormal and pseudoscientific claims. Students will design and carry out their own experimental tests of these claims. The course will also include a guest lecture and demonstration by a local psychic. Reading per week: 40 Pages. Three written papers (3-5 pages each), one group presentation, and 4 quizzes.

HSEM 2055V. Biology and Society: How Evolution Shapes Our Lives. (WI; 3 cr. ; A-F only; Periodic Fall)

Evolution is a contested idea in our society. However, in a very real sense, evolution shapes our lives. In order to understand both

the controversy surrounding evolution and its impact on individuals and society, this course explores a variety of themes at the intersection of biology and philosophy and is co-taught by a biologist and philosopher of biology. We will investigate various dimensions of human evolution and applications of different evolutionary ideas to understanding ourselves with a special focus on health and disease. Then we turn to how humans alter or control the evolutionary process through domestication, conservation of species, and climate change. Finally, we look at the intersection of evolution and religion in the public sphere, the evolution of ideas about the human species (including questions about biological race realism), and how both culture and language evolve. We close the course by reflecting on what the future of human evolution might look like.

HSEM 2064H. Sex, Gender, and the Digital Body. (; 3 cr. ; A-F only; Periodic Spring)

Our online lives are marked by different kinds of gender performance: social media selfies, texting, gaming, and YouTube vlogging, are among the digital genres in which we embody personas that have a gendered component. This course examines the relationship between digital technology and gender embodiment, to trace how concepts of gender evolve across platforms. Drawing examples from Egypt, Iran, the United States, India, and Europe, we see how digital platforms and networks build provide spaces for performance in different cultural contexts.

HSEM 2065H. Making Museums. (; 3 cr. ; A-F only; Periodic Fall)

Museums are a significant, international growth industry. Where museums of the past sought simply to educate their visitors, today's museums also promise to entertain, move, and provoke them, to express identities, unsettle certainties, question histories, and consolidate communities. How do museums follow through on that promise? What techniques do curators use to shape visitor experience? And when do museums' ambitions to create culture also court controversy?

HSEM 2069H. Film as Art: Global Practices. (; 3 cr. ; A-F only; Periodic Spring)

?Film as Art? offers a selective overview of the most influential Non-Anglo-American ?film authors? in post WWII art film history: Federico Fellini, Luchino Visconti, Roberto Rossellini, Michelangelo Antonioni, Vittorio De Sica, Pier Paolo Pasolini, Bernardo Bertolucci, Giuseppe Tornatore (Italy); Fran?ois Truffaut, Jean-Luc Godard, Alain Resnais, Claude Chabrol, Costa-Gavras (France); Ingmar Bergman (Sweden); Rainer Werner Fassbinder, Werner Herzog, Volker Schl?ndorff, Wim Wenders (Germany); Andrei Tarkovsky (Russia); Luis Bu?uel, Pedro Almodovar (Spain); Krzysztof Kieslowski (Poland); Theodoros Angelopoulos (Greece); Abbas Kiarostami (Iran); Yasuji?#333; Ozu, Shind?#333; Kaneto, Akira Kurosawa (Japan); and Hou Hsiao-hsien (Taiwan). Throughout the course, we will learn the definitions of ? art film? and ?film author?, filmmaking as high art practice, major art film movements

in the world: Italian New-Realism, French New Wave, New German Cinema, New Taiwanese Cinema, etc. and their influence on the American filmmaking. We will develop a historical appreciation of art film based on cinematic traditions contained within narrative, documentary, and experimental forms, and acquire a critical, technical, and aesthetic vocabulary relating to particular filmmakers. In particular, we will examine and evaluate the importance of genre and the legacy of individual ?auteurs? throughout the history of post-war cinema. We will study the individuality of the filmmakers and their contribution to our understandings of politics, society, and human relationship.

HSEM 2081V. Modernism in Mexico.

(AH,WI,GP; 3 cr. ; A-F only; Periodic Spring) 'The Mexican Revolution' transformed the country's politics and society. Developments in art and architecture in Mexico during the first half of the twentieth century were equally dramatic. This course will explore the artists and works of art at the heart of this extraordinary cultural achievement. Among the figures to be studied will be the painters Diego Rivera and Frida Kahlo, the architect Luis Barragan, the filmmakers Emilio Fernandez and Luis Bunuel, and the photographers Manuel Alvarez Bravo and Tina Modotti. On a trip to Mexico City during Spring Break, we will be able to view in person many of the most important creations of Mexican modernism, including not only those in museums, but murals and works of architecture. We will also visit such special sites as Kahlo's famous Casa Azul (Blue House) and, for historical background, the great Museum of Anthropology and the pre-Columbian city of Teotihuacan.

HSEM 2207H. Visual and Critical Thinking. (; 3 cr. ; A-F only; Periodic Fall)

This course will examine two forms of thought processes, Visual Thinking and Critical Thinking, and integrate their use and development. Visual Thinking strategies focus on the use of evidentiary reasoning. Based on structured series of exercises of observation and fine art, it develops the ability to examine art, objects, and environments. Critical thinking will focus on the organization of the mind for critical thinking and examines the structures and assumptions we make in our everyday lives. The class will focus on practice, not on lecture.

HSEM 2208H. Housing Matters. (DSJ; 3 cr. [max 6 cr.] ; A-F only; Periodic Spring)

Housing directly affects our physical and mental health, children's educational attainment, our economic opportunities, our transportation patterns and dependencies, and the environment. However, not all people are able to achieve the same levels of well-being because of disparities due to race, ethnicity, and class as they seek to obtain stable, secure, and affordable housing in supportive neighborhoods and communities. We will explore issues of power and privilege that contribute to those disparities. Public policy at the local and national levels will be

examined as it both creates and minimizes social inequities in housing.

HSEM 2242H. Einstein's Universe. (; 3 cr. ; A-F only; Periodic Fall)

In this seminar, we examine the life and work of Albert Einstein (1879?1955). I will have you read the biography of Einstein by Walter Isaacson and watch the season of the TV series Genius based on it. In this course, you will explore several topics covered in the book and the TV series in greater depth. Class time will be divided about equally between discussing various aspects of Einstein?s personal life and learning about Einstein?s fundamental contributions to physics. In the former category, we will look at, for instance, his attitude toward Judaism and Zionism, his view of God, his pacifism, and the relationship with his first wife, fellow student Mileva Maric. In the latter category, the goal is to provide you with a thorough understanding of the basic ideas behind special relativity, general relativity, and quantum mechanics. To achieve this goal we will only need a modest amount of mathematics, which I will develop without presupposing more than the most basic high-school algebra and geometry. Since this material, however, calls into question deeply entrenched ideas about space and time and the nature of physical reality, you should be prepared to challenge yourself, conceptually and mathematically. Your reward will be a much deeper appreciation than you may have thought possible for a non-physics/non-math major of some famous parts of Einstein?s science, including time dilation, the twin paradox, $E=mc^2$, Minkowski space-time, curved space-time, black holes, gravitational waves, the expanding universe, cosmological constant, and quantum entanglement. By the end of the course, you should have a solid understanding of some of Einstein?s most revolutionary ideas, of how he arrived at them, at what personal price, and in what broader socio-political and cultural context.

HSEM 2325H. Fantasy: A Ghastly, Wicked Introduction. (GP; 3 cr. ; A-F only; Periodic Spring)

This seminar is a ghastly wicked ride through main genres and formats of fantasy literature for adolescents and young adults. Fantasy is explored as a literature of possibilities and empowerment. The focus is on eight principal genres and on the role of fantasy in nurturing moral imagination, creative thinking, and the human potential.

HSEM 2413H. Insights, Ideas, and Innovation. (; 3 cr. ; A-F only; Periodic Fall)

This course is designed to introduce students to techniques for discovering everyday problems and fashioning potential solutions to those problems. Because the course material deals with ideas and idea generation, it is designed to be helpful to many future careers and callings by unlocking individual creative thinking skills. During the semester we will explore the genesis of ideas and the relationship between deep insight, empathy, consumer problems, ideas, and innovation. Specific topics to be covered during

the semester include the role of insights, ethnography, and discovery techniques; individual and group creativity; the creative process and where ideas come from; innovation and the value thereof; and effective communication of ideas. This course seeks to provide students with the skills, tools, and mindsets to enable them to discover other people's problems from which potential solutions might be built. These solutions include services, products, and potential businesses.

HSEM 2512H. The Mathematics of Elections and Social Choice. (MATH; 3 cr. ; A-F only; Periodic Fall)

This course will focus on the mathematics behind Voting Theory, apportionment, and fair division. Whether it is choosing a student association representative or ranking NCAA sports teams, there are a variety of selection methods that could be employed, but which is best? This course will use mathematics to study the strengths and weaknesses of different ways to tally votes or hold an election. Voting methods to be studied include single ballot vs instant-runoff (also known as a ranked-choice), as well as point-based rankings. This course will also explore the mathematics behind apportionment (and how it can lead to paradoxes), and how mathematics is used to evaluate the fairness of congressional districts in the context of gerrymandering. Finally, we will investigate ways to measure power differences between coalitions, and how to approach problems of fair-division like rent-sharing.

HSEM 2515H. Experiencing Local Environmental Solutions. (; 2 cr. ; A-F only; Periodic Fall)

This is a topical, field-trip-based course. This seminar will address some of the solutions to the environmental problems that affect our society by examining the science and by experiencing the solutions that are used on campus or in the neighboring community. Each week will focus on a solution to a different environmental issue (see schedule below). We will visit the places designed as environmental solutions, hear from the experts, and discuss the engineering and human aspects of these solutions. We will go to areas of campus that you would normally not visit or be able to visit. The field-trip destinations are accessible by campus bus, city bus, or train. The class will involve weekly reading and writing assignments. There will also be a semester-long, hands-on project to devise a realistic, potential solution to an environmental issue.

HSEM 2516H. Slow Death by Rubber Duck: Chemicals We Use and Their Effects on the Environment and Us. (; 2 cr. [max 3 cr.] ; A-F only; Periodic Spring)

We use chemicals every day. We bathe in chemicals. We apply chemicals to our lawn. Chemicals are sprayed to control insects. While chemicals are an important part of modern life, these chemicals wind up in the environment and in our bodies. This seminar will examine how our use of chemicals drives our exposures

and ultimately, where these chemicals wind up in the environment and what their impacts are. This seminar is designed for you to look at how you use chemicals in your daily life and how this influences your exposure to chemicals, environmental releases of chemicals, and the impact of chemicals on humans and the environment.

HSEM 2528H. The Quantum Century. (; 3 cr. ; A-F only; Periodic Fall)

This seminar has a STEM and a humanities component. The STEM component consists of a rigorous but algebra-based introduction to the basic formalism of quantum mechanics. This formalism is much easier to learn than most of its applications in physics (which typically require a fair amount of calculus). And mastering this basic formalism suffices to understand some of the key ideas behind such exciting recent applications as quantum computing and quantum cryptography (which will also be addressed in this seminar). The humanities component consists of a critical review of the history of the debates over the foundations of quantum mechanics from the late 1920s to the present. The seminar thus has two main objectives. The first is to introduce students with a wide variety of backgrounds to an exciting area at the intersection of physics, mathematics, and computer science challenging our understanding of the physical world but at the same time suggesting new ways of harnessing nature for our purposes. The second is to combat simplistic views of "The Scientific Method" by tracing in a concrete and engaging example how science is actually done?warts and all.

HSEM 2529H. Explanation and Evidence in Crime Fiction and in Science. (; 3 cr. ; A-F only; Periodic Fall)

Sherlock Holmes, in solving his cases, is relying on a pattern of reasoning known as Inference to the Best Explanation (acronym: IBE). Holmes's explanation of how some crime was committed tends to be so convincing that it counts as evidence that it was actually committed that way. Although our use of it is seldom as clever as Holmes's, we rely on IBE all the time in everyday life. So do scientists. In science, however, IBE tends to be less reliable. That a theory explains a range of phenomena does not make that theory true. In other words, we cannot simply take a theory's explanatory power as evidence for it. Yet, scientists tend to put great emphasis on their theories' explanatory power if they want to convince others of it. Which raises the question: What exactly is the relation between explanation and evidence in science? In this seminar, we will examine this relation, using examples from everyday life, crime fiction and the history of science (involving such luminaries as Copernicus, Newton, Darwin and Einstein). To improve our understanding of IBE we will contrast it with a probabilistic account of evaluating evidence known as Bayesianism.

HSEM 2540H. Understanding the Russian Land. (ENV,HIS; 3 cr. ; A-F only; Periodic Spring)

Encompassing more than 6.5 million square miles, Russia is an immense and ecologically diverse country. The environment of the frigid and heavily forested heartland of early Russian civilization, as well as that of the "wild field" (the Eurasian steppe) on its border, have posed a series of challenges to Russians and have left an indelible mark on modern Russian culture. In this interdisciplinary seminar, we will study how Russians have conceived of and used nature from the medieval period to the dissolution of the Soviet Union. Articulating a particular approach to nature has been integral to several ideological and cultural projects in Russian history, including the formation of a literary tradition, the establishment of a multi-ethnic empire encompassing several biomes, and the development of a vision of Soviet science conquering and reshaping nature and the world. In the period we will study (the fifteenth century to 1991 Russia) underwent several profound epistemological shifts, and a particular focus of this course will be how the ways Russians created natural knowledge changed over time. Knowledge is power, and we will study how natural knowledge was used to strengthen and expand the state in the medieval, imperial, and Soviet periods. Another major focus of this course is the ravages that nature and humankind have inflicted on one another, and we will study how the environment influenced the development of Russia's form of agricultural slavery, serfdom, as well as the history of environmental degradation, including deforestation, the establishment of heavy industry, and nuclear disaster.

HSEM 2541V. Campus Obscura: A University of Minnesota Cabinet of Curiosity. (HIS,WI; 3 cr. ; A-F only; Periodic Fall)

This course examines the history of science, technology, and medicine through physical objects - maps, rare books, artifacts, instruments, specimens, manuscripts and considers how they are used to write history, produce public exhibits, and create identities. Short readings will introduce ideas about how experts have used these materials to write history, to produce public exhibits, and to create identities, and the focus of the course will be on objects themselves and having students do research that facilitates their understanding of historical context. The University of Minnesota has many significant collections of artifacts and other items that are rich resources for the exploration of historically significant material culture, and continue to shape the University of Minnesota. Students will visit the Wangensteen Historical Library of Biology and Medicine, the Goldstein Museum of Design, the University Archives, the Weisman Art Museum, and the College of Biological Science's Conservatory, among other sites.

HSEM 2621H. Environmental Futures: Climate Change Impacts and Strategies for Building Resilience. (; 2 cr. ; A-F only; Periodic Fall)

?Climate change is the most serious challenge that humanity has ever faced,? (Amitav Ghosh). This seminar will focus on the future

of climate change, its emerging and far-reaching impacts on social and ecological systems, and the development of innovative strategies to address this challenge. The multidimensional problem of climate change will be examined through a variety of lenses, including the natural sciences, social sciences, and humanities, and the perspectives of indigenous peoples, environmental justice, and future generations. The emphasis is on the human dimensions of climate change. Throughout the course, a variety of techniques and exercises developed by futurists will be used to explore possible, plausible, and preferable environmental futures and develop environmental foresight expertise among attendees. Students will be challenged to build robust, agile and resilient policy options to achieve valued climate change outcomes. The purpose of this course is to prepare students to anticipate and design alternative climate change futures and create effective decisions and policies to achieve them.

HSEM 2623H. Biopiracy and seed for the post apocalypse: Genebanks, Genetic Diversity, and Identity. (TS; 3 cr. ; A-F only; Periodic Spring)

Our world food supply faces a variety of threats: changing climates, precipitation, and disease pressures; evolving pathogens; depleted soils; even nuclear war. Our best methods for responding to these threats involve making use of crop biodiversity. To that end, genebanks collect and preserve diverse crop accessions. In order to be effective, genebank curators have to make decisions about what to preserve. Those decisions are both scientific and cultural and like any such decisions have their critics and detractors. We will discuss genetic markers and measures for population diversity and how such tools can be leveraged to gain knowledge about crop diversity, make management decisions, and create improved varieties. However, food is cultural, and for many our relationship to crops is central to identity. Therefore, we will also examine who is privileged and left out of dominant narratives, and explore alternate ways of understanding crop diversity and preservation. Finally, we will explore two case studies. The first is Seed Savers in Decorah Iowa and its ties to Midwest Agrarianism. The second is two related Peruvian organizations: The International Potato Center and Parque de la Papa. Both of these organizations preserve Peruvian native potatoes, one as part of an international NGO using the latest genetic techniques and one using traditional agricultural practices in six associated Quechua communities.

HSEM 2624H. "Reality 101" - A Survey of the Human Predicament. (; 4 cr. ; A-F only; Periodic Fall)

How is the economy like a hurricane? Where does money come from? Will economic growth last forever? What is wealth? How many hours would it take you to generate the same amount of energy in a gallon of gasoline? Why are you so confident in your own beliefs? Why do you spend so much time on social media? Why do we want 'more' than our neighbors? What do all of these questions have to do with the

environment? With your future? And what if our most popular societal beliefs about these issues turn out to be myths? Reality 101 will delve into these questions and unify them as they apply to the major challenges humanity faces this century, among them: slow economic growth, poverty, inequality, addiction, pollution, ocean acidification, biodiversity loss, and war. The course will provide students with a broad exposure to the foundational principles central to addressing these interrelated issues. The readings and lectures will cover literature in systems ecology, energy and natural resources, thermodynamics, history, anthropology, human behavior, neuroscience, environmental science, sociology, economics, globalization/trade, and finance/debt with an overarching goal to give students a general understanding of how our human ecosystem functions as a whole. Such a systems overview is necessary to view the opportunities and constraints relevant to our future from a realistic starting point. Though the hard science relating to sustainability will be surveyed, few answers will be presented and it is hoped that creativity and group dialogue will lead to emergent ideas on how these big themes fit together. While the class material is daunting and intense (reflecting our world situation), the course itself will be enlightening and deeply informative, with an open, engaging, and entertaining class atmosphere.

HSEM 2635H. Germs and Civilization. (; 2 cr. ; A-F only; Periodic Fall)

This course explores the interaction of human, animals, and microbes and examines how microbes, pathogenic microbes in particular, have influenced human evolution and civilization. The course expects to expose students to the thinking from a historic and interdisciplinary perspective that microbes, especially those causing pandemics and epidemic for centuries, may have played critical roles in influencing human history and shaping modern civilization, although social, cultural, technical, and other factors have been major players. Emphasis will be placed on a few microbes, such as plague, smallpox, yellow fever, malaria, tuberculosis, retrovirus, and influenza and their impacts on important events in human history. Microbes may also impact human evolution as a fraction of human genome is from retrovirus and some genetic diseases including cystic fibrosis in humans may arise from resistance to epidemics of deadly microbes. Knowledge of general microbiology will be introduced but is not a requirement.

HSEM 2637H. Small but Impactful: Insects and the Environment. (ENV; 3 cr. ; A-F only; Periodic Spring)

Harvard biologist E. O. Wilson referred to insects and other invertebrates as the "little things that run the world". Insects may be small but are numerous, diverse and present almost everywhere ? as humans we encounter them not matter where we are and what we do! In this course, Honors students and the Instructor will jointly explore influences of insects as pollinators, ?recyclers?, and as invasive species that lead to environmental

pollution; adaptations that enable insects to handle diverse environmental conditions including climate change; and impacts on humans of insects on planet earth. The course will include brief interactive lectures, select readings and videos for providing background and context related to a specific topic. Students will then explore each topic by engaging in open conversations, small/large discussions using active learning approaches such as think-pair-share, jigsaw discussion groups, and debates for sharing their perspectives based on individual backgrounds/major/interests.

HSEM 2707H. Battling the Bugs: Anthrax, Ebola, and Everyday Life - PubH Strategies for Prevention & Control. (; 3 cr. ; A-F only; Periodic Fall)

We share the planet with a myriad of living things. The smallest of those are the ones that may impact our lives the most. These creatures are in the news nearly every day: Ebola virus in Western Africa, measles outbreak among visitors to Disneyland, foodborne outbreaks on cruise ships, Zika virus precautions for pregnant women. This course will focus on the importance of infectious disease prevention, control, and treatment to the health and well-being of the global community. Students will explore the many facets of public health response operations and decision-making which are often behind the scenes and not well understood by the general public.

HSEM 2709H. Climate Change: Indisputable Science, Unprecedented Consequences, and Transformative Responses. (; 3 cr. ; A-F only; Periodic Spring)

Climate change presents an almost unimaginable crisis to our existence. Its profoundness is coupled with an urgency to find solutions that contribute to collective and transformative actions. There is scientific consensus that the existence of human beings (and many other species) on the planet is in danger because of fossil fuel emissions. Human activity has led to increasing greenhouse gases (especially carbon dioxide) and a warming planet. A warming planet has negative consequences in terms of environmental degradation, extreme weather events, and social disruption?all of which have health and economic consequences. While the basic problem is acknowledged by scientists in diverse fields, many of the proposed responses to the current and projected climate-related changes are contrary to powerful political, cultural, industrial, and economic interests. The challenges posed by these interests, as well as the complexity (and sometimes imprecision and uncertainty) of the science, make it difficult for individuals to clearly understand the threats and the opportunities that must be addressed in the next several decades if the earth is to remain habitable for almost 9 billion species. Hearts and minds must change quickly. Public and professional educational efforts must be massive, with clear messages of hope, urgency, and direction. Local, national, and global adaptation and mitigation responses must thus be palatable and accessible to diverse communities as well as to powerful economic and political

entities. Policies, programs, services, and educational efforts must necessarily be created by multidisciplinary teams using community-focused approaches. These efforts must reach all affected individuals and entities, especially those who are most vulnerable to the negative sequelae of climate change. They must also effectively address the many political, social, and cultural barriers to the kind of transformative actions that are necessary to maintain the habitability of the planet. The course will take a multidisciplinary perspective to encourage students to learn and critically evaluate information about three major content areas: (1) the science of climate change and its public health contextualization; (2) the existing, and projected, consequences of climate change to the environment, to human health, and to institutions and infrastructures that affect public health; and (3) public health mitigation and adaptation responses for industries, governments, communities, and individuals.

HSEM 2716V. Social Justice and Health. (DSJ,WI; 3 cr. ; A-F only; Periodic Spring)

This seminar explores matters of social justice related to health. Class sessions predominantly focus on discussion of specific practical issues such as the promotion of race-specific therapies as an approach to ameliorating health disparities, the inclusion of homeless persons in research providing free access to health care, and the allocation of HIV medications in impoverished developing countries. Readings from multiple disciplinary perspectives ground examination these social justice issues. Discussions incorporate consideration of these issues? institutional and broader social contexts.

HSEM 2719H. Mass Incarceration and Public Health: An American Crisis. (; 3 cr. ; A-F only; Periodic Fall)

Mass incarceration is one of the major public health challenges facing the United States. Each year, millions of people cycle through the criminal justice system. Justice-involved people experience far higher rates of chronic health problems, substance use, and mental illness than the general population. Further, our country's prisons and jails are often ill-equipped to handle these complex health conditions, perpetuating health inequities. Mass incarceration contributes to powerful health disparities in the United States, affecting the health of entire communities and across generations. This course will examine the intersections of mass incarceration and public health. We will explore individual and community-level health impacts of incarceration, with a focus on the relationship between mass incarceration and health disparities, particularly in communities of color. This course will consider specific populations at particularly high risk, including detained youth, pregnant incarcerated women, and the elderly. Students will have an opportunity to tour local correctional facilities and hear directly from experts in the field, including formerly incarcerated people.

HSEM 2719V. Mass Incarceration and Public Health: An American Crisis. (WI; 3 cr. ; A-F only; Periodic Fall)

Mass incarceration is one of the major public health challenges facing the United States. Each year, millions of people cycle through the criminal justice system. Justice-involved people experience far higher rates of chronic health problems, substance use, and mental illness than the general population. Further, our country's prisons and jails are often ill-equipped to handle these complex health conditions, perpetuating health inequities. Mass incarceration contributes to powerful health disparities in the United States, affecting the health of entire communities and across generations. This course will examine the intersections of mass incarceration and public health. We will explore individual and community-level health impacts of incarceration, with a focus on the relationship between mass incarceration and health disparities, particularly in communities of color. This course will consider specific populations at particularly high risk, including detained youth, pregnant incarcerated women, and the elderly. Students will have an opportunity to tour local correctional facilities and hear directly from experts in the field, including formerly incarcerated people.

HSEM 2721H. Introduction to Medicine. (; 2 cr. ; A-F only; Periodic Fall)

This is a course designed for undergraduate students who are interested in medicine. Students will get a broad introduction to the field of medicine via core lectures, book reading, movies, and interactive group discussion, group presentation, and writing a review paper on pain medicine. Emphasis will be placed on pros of cons of medicine as a career, medical school admission requirement, research projects, simulation lab visit, hand on ultrasound experience, understanding the life of a physician and medical student, and practice opportunities in various specialties. Students will meet with medical students, physicians, and clinical scientists who will share their experiences. In addition, the student will have opportunities to explore research in a medical research laboratory. NOTE: Course is taught First Half of Term only

HSEM 2722H. Human Disease Influenced by Environmental Factors. (; 3 cr. ; A-F only; Periodic Fall)

This seminar aims at understanding whole organisms and cellular functions in response to various macro-environmental events, i.e. radiation, food carcinogens, global warming, pollution etc., that promote the disease process. Cells are consistently exposed to changing conditions, and they are programmed to effectively respond to diverse stimuli or insults under normal physiological condition. However, when such conditions exceed cell's inner capacity, cells can undergo apoptosis, or become senescent or in some cases, they can acquire pathological properties, which lead to the progression of various human diseases. In particular, environmental changes such as climate change caused by human activities can significantly affect human health and ecosystems, and there are growing concerns about emerging new disease that is a threat to human health.

HSEM 2724V. The Sex Talk You Should Have Had: Controversies in Sexual Health.

(CIV,WI; 3 cr. ; A-F only; Periodic Spring)
Reproductive and sexual health is an increasingly important topic in community settings. Pharmacists can play a vital role in promoting safe and healthy practices that will improve the health of their communities and are an important source of reproductive and sexual health information and advice. This course is designed to expand and enhance community-based reproductive and sexual health knowledge and skills while preparing students to be informed and active participants in ethics driven debates surrounding reproductive and sexual health. The Sex Talk You Should Have Had covers three important sections in sexual health that interface in the community pharmacy setting. These topics include the HPV vaccine, contraception, and Sexually Transmitted Infection/Disease (STI/STD) testing and treatment options. Each of these sections is addressed in weekly modules that provide thorough introduction to the topic, an overview of how the treatments or medications work, and related contemporary topics of debate. This is a hybrid course with extensive online discussion with limited in-class meetings.

HSEM 2725H. Zombies and their Souls: Philosophy, Bioethics and the Undead. (; 3 cr. ; A-F or Audit; Periodic Spring)

We want money, love and fame. They want brains. Who is to say that our values are superior? This seminar will use zombie movies as a way of exploring fundamental issues in bioethics, the philosophy of mind and the philosophy of psychology. Are zombies conscious? Do they have free will? Should they have rights? If zombies could be safely controlled, would it be unethical to make them slaves or pets? What about experimenting on them, or using their organs for transplantation? If I were to become a zombie, would I still be me, or would I be something else?

HSEM 2801H. Think Like a Lawyer: The Art and Adventure of Torts. (CIV; 3 cr. ; A-F only; Periodic Fall)

Law is the foundation of modern society. The ability to understand our legal system is invaluable in any profession, ranging from business and health to science or art. This seminar offers an introduction into legal thinking: Not merely what the laws are, but why we have them and, more importantly, how we come up with them. As a focus, we will be grounding ourselves in torts, a fundamental area of legal education that covers the civil wrongs. Students will have an opportunity to get a feeling for the law school experience as we use the case method, along with some Socratic method and ample discussion. We will focus on the basics of legal analysis, and learn how to apply that to critical thinking. Students successfully completing this seminar will be mentally armed and dangerous.

HSEM 2802H. Cinematic Representations of American Law. (DSJ; 3 cr. ; A-F only; Periodic Spring)

Representations of American law in 20th century American films offer unique

perspectives that help us understand the larger context in which the legal system operates-- and offer a visual supplement to traditional ways--case law and statutory interpretation of reading the law. This course will discuss how cinematic interpretations of American law have been perceived and accepted inside and outside Hollywood, inside and outside the legal community, and inside and outside the United States. The course will begin by teaching and discussing some fundamentals of American law, using legal films to illustrate the doctrinal concepts and processes involved in civil procedure, criminal law and procedure, jury trials, evidence, contracts, torts, constitutional law, the First Amendment, legal ethics, professional responsibility, etc. Using clips from of cinematic masterpieces, we will visualize and discuss sophisticated legal concepts. This interdisciplinary approach-teaching law through film-- will engage students visually, to help them better understand and discuss legal concepts. It will also help students appreciate the broader humanities and arts context in which legal discourse evolves, especially in a today's global era. Course readings will include statutes, legal cases, historical documents, novels, and commentaries. Viewings will include classic legal films.

HSEM 2803H. Making Your Voice Heard on Climate Change. (; 3 cr. ; A-F only; Periodic Fall)

Climate change will be a part of the rest of your life. No matter where you live, climate change will have an impact. No matter your career, adapting to a new climate will be part of it. How can you make your voice heard to help your community and workplace adapt to, and mitigate, the effects of climate change and associated Grand Challenges? And how can you do so in a fair and equitable manner? Everyone is aware of young activists like Greta Thunberg. Whether you want to be organizing large activism campaigns or become an effective advocate for local issues, this course will go over some of the basic frameworks for advocacy and change-making. Basics of climate change will be covered. The course will feature guest speakers from various campaigns and organizations. Students develop their own advocacy campaigns as a way to center theoretical learning. The focus of this class is on climate change but these basic tools and frameworks are useful for any issue.

HSEM 3013H. Caravaggio: Bad Boy of the Baroque. (AH; 3 cr. ; A-F only; Periodic Spring)

This seminar examines the life and art of Michelangelo Merisi da Caravaggio (1571-1610), one of the most arresting and controversial painters in the history of art. Our examination will range from issues of self-fashioning and self-portraiture to questions of biography, patronage, and iconography, and will include a viewing of Simon Schama's 2006 film, *Caravaggio*. Special emphasis will be given to problems of methodology and to various ways of "reading" and viewing his complex and provocative works. During Spring Break the seminar will incorporate a Study Abroad component in Rome, where we will

be able to see some of his most important paintings, in context, as well as works by many other Baroque masters.

HSEM 3023H. Race: The History of an Idea in North America. (DSJ,SOCS; 3 cr. ; A-F only; Periodic Fall)

This Honors seminar explores the roots and rationales presented when constructing and upholding the idea of race. This class examines processes of racial formation in science, law, history, immigration policy, education, leisure, adoption, marriage, and medicine. The course investigates how Americans came to mythologize, understand, identify, and codify the importance of race since the mid-nineteenth century. Racial formations and classifications shift according to political climates, such that immigration debates, changing gender norms and concerns over interracial marriage transform how we imagine racial groups. We will also look at how race has been used to pathologize, eroticize, vilify, fetishize, and medicalize purported ? problem people, ? like immigrants, the poor, and the sick. For instance, seeing people of color as particular hazards during pandemics, like the 1918 Influenza or 2020 COVID-19 crises, has deep roots in longstanding racial theories. Using memoirs, legal cases, history of medicine, laws, photographs, oral histories, and secondary source readings, this class traces the history of America's fascination with race and how race came to define so many aspects of American life during the twentieth century.

HSEM 3031H. Art, Power, and Politics: Bernini and His Transformation of Baroque Rome. (AH; 3 cr. ; A-F only; Periodic Spring)

This seminar explores the transformation of Rome in the seventeenth century. Our lens for understanding the remaking of the Baroque city will be the works of Gian Lorenzo Bernini (1598-1680), one of the most remarkable, influential, and powerful artists in the history of Western art. Our examination will focus on Bernini's sculpture and architecture that he carried out on behalf of popes and cardinals, with special emphasis given to their political, religious, and social meanings. We will also explore Bernini's biography and examine the style and iconography of his sculpture, architecture, and painting. We will view Simon Schama's 2006 film, *Bernini*, and, during the Spring break, have the extraordinary opportunity to study Bernini's works first-hand in Rome.

HSEM 3054H. Minds, Brains, and Innovation. (; 3 cr. [max 6 cr.]; A-F only; Periodic Spring)

This seminar course will examine recent research findings from psychology and cognitive neuroscience to arrive at a better understanding of the conditions that foster, or impede, flexible thinking or 'mental agility.' Two key questions will be examined throughout. First, what are the relative roles of predominantly controlled or deliberate modes of cognitive processing versus more automatic (or spontaneous) processes in enabling and sustaining creatively adaptive thinking?

Second, how do mental representations at differing levels of specificity highly abstract versus highly specific contribute to flexible thinking?

HSEM 3056H. Malignant Political Aggression, Heroic Resistance, and Trumpism. (; 3 cr. ; A-F only; Periodic Fall)

This seminar begins with an examination of the role of conformity, denial, and obedience in perpetrating malignant political aggression. We will examine personal and situational forces, social dynamics of small group norms and behaviors, and broader social and institutional arrangements, which interact to induce individuals and groups to participate in various forms of malignant political aggression. We will examine the role of dehumanization, compartmentalized thinking, and perception, personality predispositions, etc. To counterbalance the pessimism inherent in this focus, we will also examine political heroism and altruism, which often arise in response to malignant political aggression. Are these resisters ordinary or extraordinary people, and how do they differ from perpetrators? How many ethical 'kudos' do they deserve and why? What is their role in instantiating the larger norms of ethical conduct in our political system? In examining these more general forces, we will rely on specific examples such as the holocaust, the massacre at My Lai, the rescuers of Le Chambon, and several others. Finally, through the lens developed in this seminar, we will assess U.S. government actions, and resistance to those actions, of the last four years.

HSEM 3064H. Historians Write Autobiography. (; 3 cr. ; A-F only; Periodic Fall)

Historians who write autobiography face some obstinate challenges. As professional historians they know their sources are necessarily selective and incomplete, and that every perspective brings its own bias. Their own flawed memory tells them as much. Yet they intend to capture something about their own lived experience that, when recounted with as much candor as possible, will illuminate their personal past in ways that speak to others. When historians bring their skills of critical historical analysis to their own lives, what kinds of autobiographies do they produce? How is their understanding of the craft of history, its methods and its limitations, reflected in their personal life stories? We will explore how historians have engaged in what can be called a writing of the self, with a focus on the second half of the 20th century. We will examine how they place themselves into particular social and political contexts as historical figures with a valuable perspective on their life and times. Students will research and write their own short autobiographical pieces.

HSEM 3065H. Trust, Technology and Human Communication. (; 3 cr. ; A-F only; Periodic Fall)

Trust is a central component of our lives. Without trust, we could not function as individuals, and we would not have functioning social and civic systems. How and why

do humans trust? Whether face-to-face or mediated by technology, one-on-one or in groups, the basis for how we build trustworthy, durable relationships is our communication. For millennia, this communication took place with our bodies: via gestures, facial expressions, sounds, movements, and eventually, through spoken language. Later, writing and its technologies supplanted earlier forms, creating new opportunities for trust. In this seminar, we will explore the relationship between trust, technologies, and human communication by a) reviewing research from sociology, rhetoric, psychology, and other fields to understand the nature of trust; b) exploring the history of communication technology, from the oral cultures to the first forms of writing to the printing press to the Internet; c) investigating trust, technology, and communication in specific contexts, with a focus on social media and the Internet and key features such as the confirmation bias and the changing nature of expertise. These contexts will include medical/health communication; social actions; online communities; political and scientific reporting.

HSEM 3066H. The Tale of Genji: A View of Aristocratic Culture in Early Japan. (; 3 cr. ; A-F only; Periodic Fall)

The early eleventh-century novel *The Tale of Genji* by the Japanese court lady Murasaki Shikibu is thought by many to be the first novel in world history and the first major work by a known woman author. In this class, we will read the entire work in Royall Tyler's English translation and explore its literary qualities, its ways of representing character, and its methods of plot construction. Can this book be treated as a modern novel, or can it only be understood as a product of its times? Does the existence of a large community of writing women at this point allow us to explore a distinctive female perspective on this period? How did women and men express themselves and communicate through literature, and how did gender difference express itself in what they wrote?

HSEM 3069H. Literature and Medicine. (; 3 cr. ; A-F only; Periodic Fall)

The sign carved above the door to the ancient Library at Thebes read: "Medicine for the Soul." This course focuses on the intersection of literature and medicine, both from the point of view of the medical field and from a literary standpoint—medicine in literature, but also literature in medicine. For example, both narrative and storytelling are essential components of literature but they can also help doctors understand patients' stories. Likewise, the recent documentary *Still Dreaming* tells the story of a production of Shakespeare's *A Midsummer Night's Dream* by residents in a nursing home, revealing the benefits of the literary arts for health and happiness. Throughout the semester, we will examine works that connect the world of science with the long history of recorded human experiences in the literature of illness, the body, and death. Through analysis of novels, short stories, memoirs, poetry, drama, film and television, we will explore the intersection of literary works, narrative studies, and medical

narratives to address the healing power of words. This course should interest students who care about how literature makes a difference in the world, and who are curious about how medicine is related to the arts. The course may include guest speakers as well as a visit to the Center for Humanities in Medicine at the Mayo Clinic.

HSEM 3071H. People, Pines, and Fire: Shaping the forested landscapes of Minnesota and the Great Lakes. (ENV; 3 cr. ; A-F only; Periodic Fall)

Wildland fire as an agent of renewal, vegetation change, and maintenance has been a critical process in the pine forests of the Upper Great Lakes. The vast pineries, so sought after by settler-colonialists as a commodity evolved over millennia with fire. Fires were both natural, ignited by lightning strikes, and fire was applied judiciously by Native American groups to manage landscapes and improve resources. It was an act of reciprocity: carefully tending the land to keep it healthy, while utilizing resources in return. However, the advent of effective fire suppression to protect forests first as a commodity and later for recreational enjoyment has led to substantial changes in forest communities while at the same time erasing an important cultural activity from the landscape. This seminar course explores the deep connections between fire and the emergence of Great Lakes forests, as well as the cultural use of fire as a tool. In this course, we will explore the development of effective fire suppression, the emergence of fortress-ecology/conservation, and the impacts of reduced fire activity on forest resilience. We will also discuss the concept of wilderness and traditional ecological knowledge and the relationship with fire management today, particularly within the framework of a changing climate. This course is meant to merge interdisciplinary topics in ecology, climatology, and geography to explore the important connections between humans and their physical environment in the Upper Great Lakes pine landscapes. The course will be discussion based with frequent visits from resource professionals and the instructor's Indigenous research collaborators.

HSEM 3075H. Humans and Rights in Historical Perspective. (CIV; 3 cr. ; A-F only; Periodic Fall)

In the second half of the twentieth century, in the wake of World War II and decolonization, a language of human rights developed that emphasized rights as individual and universal. Many of us now take this particular notion of human rights as a given. In this seminar, we will explore the complicated and multi-faceted history of how societies in different parts of the world have defined what it is to be human, the treatment owed to humans, and various kinds of rights. Some of these philosophies are grounded in religion and others in secularism. Some identify the nation-state as the adjudicator of rights, while others would empower international organizations or grassroots movements. For some, the individual is sacrosanct, while for others, persons are inextricably embedded in social

webs. We will study how these concepts have changed over time as the globe has become increasingly interconnected and consider their relevance and application in our contemporary society. The semester will be divided into five mini units. In the first, we will explore concepts of the human and of rights in major faith traditions. In the second, we will examine the debates that emerged from European colonialism in the Atlantic world. In the third, we will study the emergences of an explicit language of human rights after World War II. In the fourth, we will look at human rights issues in the United States. And in the final unit, you will pursue your own research and collaborate in small groups to make presentations and facilitate discussion around common themes.

HSEM 3076H. Children and Cinema: The Child's Mind, the Child's Eye, and the Moving Image. (; 3 cr. ; A-F only; Periodic Fall)

We often think that children perceive the world differently from adults. In cinema, this perceived difference has led, on the one hand, to anxiety about film's effects on youth. On the other hand, it has led to a search for cinematic forms that respond to children's visual and cognitive uniqueness. Indeed, throughout the world, childhood vision has long served as impetus and metaphor for re-envisioning cinema: for honing what it looks like, how it is produced, and how it is circulated and exhibited. This seminar examines these provocative and fruitful intersections between childhood and cinema. We will ask how the child viewer has been understood cognitively, politically, and socially, and analyze films made for children or inspired by understandings of children's minds and eyes. We will also explore how childhood and youth have sparked institutional developments in cinema, and influenced film and media studies as a discipline. Our subjects include, among others, research on children and the movies (e.g., the interwar Payne Fund Studies); the intersections between developmental psychology and children's films; childhood perception, the avant-garde, and animation; youth and postwar new waves; and children's film studios as pedagogical spaces for filmmakers. Films and readings are drawn from the United States, United Kingdom, Eastern and Western Europe, the Middle East, Africa, and Asia.

HSEM 3076V. Children and Cinema: The Child's Mind, the Child's Eye, and the Moving Image. (WI; 3 cr. ; A-F only; Periodic Fall)

We often think that children perceive the world differently from adults. In cinema, this perceived difference has led, on the one hand, to anxiety about film's effects on youth. On the other hand, it has led to a search for cinematic forms that respond to children's visual and cognitive "uniqueness." Indeed, throughout the world, childhood vision has long served as impetus and metaphor for re-envisioning cinema: for honing what it looks like, how it is produced, and how it is circulated and exhibited. This seminar examines these provocative and fruitful intersections between childhood and cinema. We will ask how the

child viewer has been understood cognitively, politically, and socially, and analyze films made for children or inspired by understandings of children's minds and eyes. We will also explore how childhood and youth have sparked institutional developments in cinema, and influenced film and media studies as a discipline. Our subjects include, among others, research on children and the movies (e.g., the interwar Payne Fund Studies); the intersections between developmental psychology and children's films; childhood perception, the avant-garde, and animation; youth and postwar "new waves;" and children's film studios as pedagogical spaces for filmmakers. Films and readings are drawn from the United States, United Kingdom, Eastern and Western Europe, the Middle East, Africa, and Asia.

HSEM 3077H. Myths and Legends of the Polar North. (LITR; 3 cr. ; A-F only; Periodic Fall)

This course is a global comparative investigation of the traditional myths, legends, and folktales that have been produced by diverse communities ringing the northern polar regions; we will draw a circle around the top of the world (approximately the 58th or 60th parallel) and see what we find. Thus, we will study many cultures and their literatures and beliefs that are not often combined: the indigenous cultures of North America and beyond; the Russian and Baltic regions; the Scandinavian countries and Finland; Ireland, England, Scotland, and Wales. We will draw attention to similarities and differences in these literatures and cultures; we will examine the phenomenon of cultural contact and the migration of stories and beliefs across cultures; we will explore the world of traditional oral folktales and poetry. We will also survey a broad time span: although some of our tales were only first written down and recorded in the nineteenth and twentieth centuries, much of our material reaches back into the premodern past.

HSEM 3079V. Art and Revolution.

(AH,WI,GP; 3 cr. ; A-F only; Periodic Fall)
This class will explore the relationship between political revolution and artistic expression. The primary focus will be on the Soviet Union and Mexico, both famous for the dramatic artistic developments that accompanied their radical political transformation. As secondary points of comparison, the class will also study the art arising from other revolutions in other countries, including the United States, France, Cuba, and Algeria. The main concern will be with the visual arts, especially cinema and painting, although some consideration will be given to sculpture, printmaking, architecture, and design, as well as to literature. To frame the overall topic, we will also do some readings that address the historical and conceptual issues associated with the idea of revolution.

HSEM 3081V. Anthropology of Place and Displacement in the Contemporary World. (GP,WI; 3 cr. ; A-F only; Periodic Fall)

This course asks questions about the meaning of place, the relationship of space to place, the relationship of identity to place, and the relationship of place to environmental change in the event of industrial pollution, development

projects, natural disasters and climate change. Theories of and ethnographic accounts of space and place in Cultural Anthropology and Geography will be discussed. In addition to foundational texts in the topic, we will also read contemporary accounts of non-western places.

HSEM 3082H. Race and Sport. (DSJ; 3 cr. ; A-F only; Periodic Spring)

This class examines how race, gender, and sport intersect as sites of resistance and reform in twentieth-century American life. With the intensification of Jim Crow coinciding with the professionalization and commercialization of sports, athletes of color became central to American debates about science, citizenship, class, ethnicity, sexuality, social mobility, belonging, culture, and entitlement. This seminar will be particularly interested in how athletes of color forced a place for themselves in sports like baseball, boxing, football, golf, and basketball by exercising different models of political protest, citing an urgent need for social justice reforms that spread beyond the realm of sport.

HSEM 3083H. Language and Food. (; 3 cr. ; A-F only; Periodic Spring)

What could be more central to our lives than language and food? We learn language (together with gesture) and the tastes (textures, smells, visual features, and sounds) that we associate with food early in our lives, and both form an important part of our identities. In this course, we will address the following questions: 1) How do we organize our language and bodies around food, i.e., how do we use them to get to and from the table and to proceed in a meal (e.g., at a sushi restaurant)? 2) How do we use language to taste, identify and assess food, and how do these fine distinctions and discriminations define us as people and relate to our identity? 3) How do we talk about our experience of food and tell stories about food? 4) What metaphors do we have for food? 5) How does language relate to gender in the context of food? 6) How is language used to socialize children around food? We will explore the relation between language and food by analyzing actual conversations among people eating a variety of foods. The conversations will be in a variety of languages (including English, Japanese, Chinese, Lao, Kri, Eegimaa, Wolof, Italian, Persian, German, Danish, French, Russian, Swedish, Dutch and Spanish). The class will be most rewarding for students who like to cook/eat, talk about food, and educate their palate.

HSEM 3087H. History through Memoir. (; 3 cr. ; A-F only; Periodic Fall)

This honors seminar uses memoirs "non-fictional life stories narrated in the first person?" as a lens into the past and, just as importantly, as a way to investigate what counts as "history" itself. The relationship between personal narratives and professionally produced histories is often fraught or confused, even though both can reasonably be understood as forms of creative non-fiction. Is the memoirist responsible to the historical record in the same way as an historian? Does the historian know how to assess and appreciate the power of personal memory? What kinds of memoirs do

historians write? We will examine a range of memoirs that speak variously about historical and emotional truths, about memory and identity and place, about the ability of individual experience to illuminate a broader social and political history. We will attend to the narrator's voice and explore how certain kinds of writing enable (even produce) certain kinds of discoveries. Throughout, we will discuss the gains and the limitations of using personal stories to understand past experience. A note of clarification: while autobiographies tend to be chronological narratives of most of a person's life (without the ending, of course), memoirs focus more selectively--and often without regard to linear chronology--on crucial moments or themes in the narrator's experience. This course prioritizes memoirs over autobiographies, and it takes most of its examples from the boom in memoir writing over the last three decades. It does not offer a history of memoir as a genre. In particular, it features memoirs that go beyond the experiences of an individual narrator to reveal broader social and political contexts.

HSEM 3087V. History through Memoir. (WI; 3 cr. ; A-F only; Periodic Fall)

Memoirs?non-fictional life stories?offer an intriguing lens into the past. They vividly portray personal experiences, but they also raise questions about the reliability of the narrator. What kinds of histories are memoirs? Is the memoirist responsible to the historical record in the same way as a professional historian? What kinds of memoirs do historians write? We will examine memoirs written in the last two decades that explore ethnicity, identity, migration, memory, and belonging, and that use individual experience to illuminate a broader social and political history in the United States. We will attend to the narrator's voice and writing strategies. In addition to writing short analytical and reflective pieces, you will research and write your own (8-10 page) personal narrative, placing a personal experience into its historical context and creating a sense of specific time and place. Seeing history through the lens of memoir shows how lives are shaped by specific historical circumstances, even as people make choices about how to frame and narrate their experiences.

HSEM 3092H. Music, Revolution, War. (; 3 cr. ; A-F only; Periodic Spring)

From Beethoven to Woodstock, from the French Revolution to the protests that brought down Communist regimes at the end of the 1980s, music has played a central role in inspiring political and social change. In an even longer tradition, music has summoned soldiers to risk their lives, even as it likewise, whether in a sacred ceremony or on the political stage, has inspired mass action in peace. This course will proceed historically, examining moments when revolution, ideological conflict, or war suggested vast changes were underway in society and culture, reflected in, but also instigated by music.

HSEM 3092V. Music, Revolution, War: From Napoleon to Trump. (AH,WI,CIV; 3 cr. ; A-F only; Periodic Spring)

From Beethoven to Woodstock, from the French Revolution to the protests that brought down Communist regimes at the end of the 1980s, music has played a central role in inspiring political and social change. In an even longer tradition, music has summoned soldiers to risk their lives, even as it likewise, whether in sacred ceremony or on the political stage, has inspired mass action in peace. This course will proceed historically, examining moments when revolution, ideological conflict, or war suggested vast changes were underway in society and culture, reflected in, but also instigated by music. No prerequisites and no musical background assumed.

HSEM 3203H. An Understanding of Place: Historic, Cultural, and Personal Investigations. (; 3 cr. ; A-F only; Periodic Spring)

Who we are as designers and planners is a culmination of personal experiences, historical and cultural influences. Many times these influences interact in ways that guide our thoughts and designs without our reflection on the impact they can have on us and without an understanding of the implicit bias they can extend and impart to our work. The goal of this class is to use personal reflection essays, combined with explorations of cultural influences on our understanding of place to help reveal the lenses through which we evaluate the world and that guide our efforts and expectations as place-makers.

HSEM 3205H. Environmental Justice and Climate Futures: the Mississippi River Corridor. (; 3 cr. [max 6 cr.] ; A-F only; Periodic Spring)

The urgent pressures for equity and justice, and for a response to the changing climate, are complex, intertwined, "wicked problems." The Mississippi River, a storied part of the American landscape that is literally and figuratively the center of the North American continent, provides a profound space to explore how the river and American society have shaped each other. The seminar uses an Environmental Justice lens to examine the past, present, and potential futures of the river's biological, physical, and socio-cultural systems in a changing climate. The seminar will bring together knowledge from a number of academic disciplines, as well as community and cross-sector professional and agency perspectives.

HSEM 3308V. Incarceration and the Family. (WI; 3 cr. ; A-F only; Periodic Spring)

It is now estimated that more than 2.7 million children have a parent currently behind bars, and more than 5 million children have experienced a parent's incarceration in their lifetime. When parents are incarcerated, there are collateral consequences for children, families, communities, and society. Children of incarcerated parents are at risk for a number of adverse outcomes, including behavior problems, academic difficulties, substance abuse, and criminal activity. As a liberal education course with an explicit focus on Diversity and Social Justice in the United States, we will use an interdisciplinary

perspective to explore the issue of mass incarceration, focusing on the impact of incarceration on children and families. This class will include opportunities to visit local correctional facilities and engage with community-based programs serving families impacted by incarceration. Topics will include parent-child contact during incarceration, intersections between incarceration and child welfare, systemic disparities by race and class, and intergenerational cycles of incarceration. prereq: [Jr or sr] honors student

HSEM 3327H. Resilience in Children and Youth: Global Perspectives on Overcoming Trauma and Disaster. (; 3 cr. ; A-F only; Periodic Fall)

How do children overcome hazardous experiences to succeed in life? What do we know about the processes that reduce risk and promote resilience in young people confronted with the increasing hazards of war, disaster, migration, homelessness, and other extreme adversities around the world? This course examines the global literature on resilience in children and youth, highlighting the origins, methods, findings, controversies, and implications of resilience science for intervention, policy, and humanitarian action to prepare and protect young people against adversity.

HSEM 3413H. The Corporation in Question. (; 3 cr. ; A-F only; Periodic Fall)

In the wake of the financial crisis of 2008, anti-corporate rhetoric in the U.S. reached a crescendo. Corporations ? especially financial corporations ? were blamed for the crisis and the misery it left in its trail. But this anger was just a spike in a long tradition of distrust and suspicion of corporations. Their legitimacy has always been in question. One of the legacies of this tradition is the rich lode of epithets applied by Americans to corporations and their bosses including robber barons, trusts, economic royalists, malefactors of great wealth, merchants of death. The portrayal of corporations in popular entertainment ? take Hollywood, for example -- is uniformly negative. The news media's relations with corporations are predominantly adversarial. Running against corporations is a well-established way of running for elected public office. One of the events that did the most to crystallize public anger was the U.S. Supreme Court's decision in Citizens United v. FEC (2010) that overturned limits on corporate spending to influence elections to federal office. In that case, a pro-business Court was widely seen as having used an arcane legal doctrine ? about legal personhood -- to hand a victory to corporate interests. Perhaps mistakenly, the issue became defined as whether corporate persons qualified for the same constitutional Free Speech rights as natural persons. A bumper sticker at the time read: ?I'll believe a corporation is a person when the state of Texas executes one.? And presidential candidate Mitt Romney was greeted with derision when he told an audience at the Iowa State Fair that ?Corporations are people, my friend.? ? Of course they are,? he said. ?Everything corporations earn ultimately goes to people.

Where do you think it goes?? The case offers an opportunity to examine both the nature of the corporation and the sources of the hostility to it. This Honors seminar will try to solve is ? why in America?? Why is it that, in probably the most thoroughly capitalist nation in the world, corporations are the most reviled? Of course, that the critics of corporations might answer that that is precisely the point. Is it because it is in the United States that corporations have been left most free to plunder? The privileges in question are said to have enabled corporations to accumulate wealth. They include (1) limited liability, (2) legal personhood, (3) perpetual life, and (4) the free transferability of interests. You can see where these arguments are leading. If corporations owe their very existence to government and/or if corporations' wealth is made possible by special privileges, then in return (it can be argued) society has the right to demand that corporations put the public interest ahead of the private interests of its shareholders. This is just a sampling of the controversies that swirl around the corporation. By studying these controversies, you will gain a far deeper and more multilayered understanding of the nature of the corporation and its place in our economy and society. But the debate(s) over the corporation will also shine a light on ourselves ? and our fears and hopes -- by means of our reactions to corporations.

HSEM 3414H. "Was the \$84,000 price tag for a cure to hepatitis C corporate greed or a humanitarian triumph?". (; 2 cr. ; A-F only; Periodic Fall)

In the 1930s, antiwar activists used the epithet ?merchants of death? to denounce armaments manufacturers and their financiers. In a curious twist, today it is the turn of what might be called ?merchants of life? ? for-profit drug companies which have saved hundreds of millions of lives ? to be a pariah industry. The rage against drug companies is bipartisan. In the 2016 Presidential race, Trump said that drug companies were getting away with murder and Clinton charged that they were making a fortune out of people's misfortune. The main complaint against drug companies is, of course, that they are price gougers. They abuse their government-enforced monopolies to charge extortionate prices that deny some Americans access to treatment for life-threatening illnesses, bankrupt middle-class Americans, and place intolerable strains on state budgets. This seminar will use a cure for hepatitis C (Sovaldi) to evaluate the claim that drug companies charge exorbitant prices and (optimistically?) to try to answer the question of what is a just price for a life-saving drug. Or, in other words, how should we price priceless goods? Note: In fall 2022, this course will be offered as an A-Term 2 credit course.

HSEM 3415H. Are corporations persons? Can they pray? Controversial Supreme Court Cases. (CIV; 3 cr. [max 6 cr.] ; A-F only; Periodic Fall)

Alexis de Tocqueville noted in 1835 that "[s]carcely any political question arises in the United States that is not resolved, sooner

or later, into a judicial question." Rightly or wrongly, in the US many highly-charged issues ultimately get resolved in the Supreme Court. This seminar uses the courts as a lens through which to examine the relationship between business and society. It employs recent Court opinions in business cases like *Citizens United* and *Masterpiece Cakeshop* (ruling expected in summer 2018)--supplemented by transcripts of oral arguments, commentary in law reviews and legal blogs. The seminar should be of interest to pre-law students and all students who wish to gain a better understanding of the place of business in our society.

HSEM 3511H. Science Court: Strengthening Democracy through Rational Discourse.

(CIV; 3 cr. ; A-F only; Periodic Fall)
Science Court is a mock trial system designed to promote democratic norms by investigating controversial societal issues, based on facts and sound scientific research, in front of a judge and jury of citizens. Students work together in three teams (Science, Legal and Media) to plan, research, execute, and report a SciCourt case.

HSEM 3636H. On Vaccines and Vaccinations: Needleless Needles?. (; 3 cr. ; A-F only; Periodic Spring)

Human and animal health has been significantly advanced by the creation and application of vaccines to control infectious diseases. Nevertheless, there remain impactful diseases that cannot be controlled by vaccination for a variety of reasons, and global geopolitical factors often complicate public health initiatives. Further, vaccines have become controversial in some western societies, and debates have raged regarding potential negative aspects of routine vaccinations, scientific misconduct, and individual rights. This course will provide a scientific and historical background on immunity as a prelude to interdisciplinary discussion of vaccines and vaccinations. Seminars will combine didactic lectures with structured peer-to-peer interactions and debates. Students will consume both print and electronic media from multiple perspectives in order to reach their own conclusions regarding vaccines and vaccine safety. A final term paper will also inform peers as to various biological, public health, economic, regulatory, or cultural aspect of vaccines.

HSEM 3701H. Exercise is Medicine. (; 2 cr. ; A-F only; Periodic Spring)

Regular exercise is essential for good health and is important in the prevention and treatment of many diseases. The benefits of exercise and fitness, however, are frequently overlooked and under-emphasized in American health care delivery. Similar to other medical interventions, exercise has indications, contraindications, and potential complications and side effects. This seminar will explore these issues as well as related ones such as musculoskeletal concerns, nutrition, and sedentary physiology. Seminar format will include lectures, assigned readings, discussions, tests, and participant presentations. All seminar participants will

research a different pre-approved aspect of exercise as medicine and present their findings at the seminar.

HSEM 3705H. Nanotechnology: A Blessing or Curse to Society. (ENV; 3 cr. ; A-F only; Periodic Fall)

Despite extensive commercial applications, a clear understanding of the adverse effects of Engineered Nanoparticles (ENPs) is lacking. A survey of the literature indicated the available information to be incomplete, independently unverified, and some may have been over-interpreted. Deep uncertainties currently pervade every step of the risk assessment of ENPs, making the procedure incapable of properly serving its purpose. The current conventional risk assessment strategies are not applicable for ENPs because of their unique properties and toxicity that may not conform to the norms of classic toxicology laws. Therefore, implementing some non-conventional tools in the risk assessment framework may be needed to reduce uncertainties and deliver accurate risk characterization of ENPs. This would enable current regulation to adequately reflect the risks of ENPs and protect the environment and the community. Therefore, the students registered for this seminar will learn some general features of ENPs, how the general public might be exposed to ENPs, and their potential health effects so that they can make an informed decision regarding the safe use of ENPs. With a serious information gap regarding ENPs safety, whether ENPs are a blessing or a curse is debatable.

HSEM 3715H. Doctors Behaving Badly: The Causes and Consequences of Medical Research Scandals. (; 3 cr. ; A-F only; Periodic Fall)

This course will take students on a tour of the deadliest and most controversial research scandals in recent medical history. Some of these episodes are well-known, such as the exploitation of poor African American men with syphilis in Tuskegee, Alabama, and the injection of the hepatitis A virus into mentally disabled children at the Willowbrook State School in New York. But such well-known cases represent only a small fraction of ethically contentious medical research. In the 1960s, for example, at the world-renowned Allen Memorial Institute at McGill University, the CIA paid psychiatric researchers to use mentally ill subjects in "mind control" experiments involving LSD, intensive electroconvulsive therapy, and drug-induced comas for up to three months at a time. In 1996, during a meningitis epidemic in Nigeria, researchers for the pharmaceutical company Pfizer conducted a study of an unapproved antibiotic on children without the informed consent of their parents, resulting in eleven deaths. In 2013, two neurosurgeons at the University of California-Davis were forced to resign after authorities discovered that they had intentionally implanted bacteria in the brains of cancer patients. Today, the University of Minnesota itself is under investigation after for the case of Dan Markingson, a mentally ill young man who nearly decapitated himself after allegedly being coerced into

an AstraZeneca-funded psychiatric study. In this course, we will explore questions such as: What cultural and institutional forces allowed the scandals to occur? What were the best ethical arguments in favor of allowing the research to proceed? How were the scandals exposed? What was the role of investigative reporters, regulatory authorities, and whistleblowers? Should we have confidence that research abuse is not occurring today?

HSEM 3718H. Women's Reproduction: History, Policy, and the Health Care System. (DSJ; 3 cr. ; A-F only; Periodic Spring)

Understanding women's reproductive health requires consideration of the intersections of gender, race, class, culture, geography, economic status, and nation within a historical and sociopolitical context. This course will build upon our current understanding of major conditions affecting the reproductive health of women, e.g. pregnancy, parenting, reproductive control, and menopause by raising challenges from a feminist perspective and encouraging expanded models that address the complexity of women's reproductive health in today's society.

HSEM 3801H. Modern China: Law, History, and Culture. (GP; 3 cr. ; A-F only; Periodic Fall)

This course will provide a comprehensive overview of law and politics of 20th and 21st-century China, in their historical and cultural contexts. It will introduce undergraduate students to distinctive paradigms and discursive patterns of law and politics in China, with the intention of fostering comparative analysis and critical thinking. The course will focus on high profile legal cases and major political events in the People's Republic of China today. The course will conclude by examining current issues in Chinese law from both sides, and by looking into China's argument for the "Beijing Consensus," essentially a new type of capitalism, without Western-style rule of law. The classes will progress by way of interactive discussion and critical readings of historical documents and legal texts. This course is designed to break through the traditional Chinese learning/western learning dichotomy and interpret legal cases, political events, and cultural phenomena from a comparative perspective. It will bring to light the hidden rationales underscoring historical and ideological narratives, and will explain how frequent misunderstandings can occur when comparing cultures. Students will be encouraged to use critical thinking to argue, to test whether the incommensurability of paradigms can be reconciled, and to explore how different political systems and cultures can communicate with each other and exchange ideas effectively.

HSEM 3803H. The Politics of Legal Policy. (; 3 cr. ; A-F only; Periodic Fall)

The Politics of Legal Policy seminar will focus on several controversial issues involving courts and/or the types of issues they deal with. Class discussions will focus on five policy issues involving either the use and role of courts or areas in which the courts

play a major role in policy administration: access to legal services, medical malpractice, scientific expert testimony, sexual predators, and judicial selection. Beyond these specific topics, students will select a specific policy issue to delve into on their own, and produce two papers: a short background memo on the nature of the issue and what is known about the facts that may make it an area in need of change, and a policy memo suggesting and advocating for possible changes. During the last three weeks, students will present their policy briefs to the seminar. The goal of the course is to understand the factual reality behind some major issues confronting the courts and the challenges of making policy changes to address these issues. Each of the five topics will be dealt with over two sessions of the seminar with the first session examining the issue from a policy perspective and the second session examining the issue from the perspective of differing political interests. Some of the sessions on policy change will involve students in the seminar debating the issue drawing upon the policy discussions from the previous week as well as their own research into the issue; other sessions may involve a guest speaker.

HSEM 3804H. Women who Rock (the Boat): Leadership and the Nobel Peace Prize. (GP; 3 cr. ; A-F only; Periodic Spring)

Lawyers, nuns, social workers, and schoolgirls have won the Nobel Peace Prize. In achieving this distinction, they hone their leadership skills to a fine art. They face personal danger, inner conflicts, social challenges, and pointed criticism. Succeeding despite their flaws, their ability to inspire courageous, innovative action cuts across age-groups, decades, borders, and nationality. Students in this Honors Seminar will touch and experience that inspiration. Students will intensively study several extraordinary women from different cultures who have won the Prize; e.g., Aung San Suu Kyi, Leymah Gbowee, Sharin Ebadi, Mother Teresa, and Malala Yousafzai. What characterizes their leadership? What have they accomplished and at what price? How do they survive their successes, failures, and controversies? How applicable are their approaches to a student's everyday life and future? This highly interactive class will examine these questions through biographies, videos, lectures, writing, student presentations, and group discussions.

HSEM 3805H. Revolutionary Paris since 1789. (; 3 cr. ; A-F only; Periodic Spring)

This seminar looks at issues of political and military conflicts in which France has been engaged. What constitutes the culture and society that may be seen in Paris; issues of French identity, including the diversity of the city of Paris, traditions of rebellion and resistance, the architectural monuments in the French capital, and spatial transformations that have come to Paris over the years since the French Revolution.

HSEM 3807H. Understanding Police Use of Force. (; 3 cr. ; A-F only; Periodic Fall)

Police use of force incidents are at the forefront of contemporary discussions of law, politics, and culture in the United States

and in Minnesota. In this course we will examine legal and cultural issues related to the use of force by police in the United States both from a historical perspective and by examining present-day cases and events nationally and in Minnesota. We will learn and discuss law enforcement use of force decision making through the lenses of the United States Constitution and the cases that have interpreted its meaning. Because all uses of force by law enforcement officers against free citizens is governed by 4th Amendment standards, we will begin with an understanding of 4th Amendment applicability and how it relates to policy, training, supervision, the decision to use force, and the evaluation that takes place thereafter by the courts and law enforcement policy makers. We will learn about the use of force investigative process and the litigation process that oftentimes results from a law enforcement use of force incident, particularly those incidents that result in death. Analysis of specific cases will involve the review of public law enforcement data which will include police body worn camera video of graphic and violent incidents as well as relevant events occurring in the aftermath of use of force incidents.

HSEM 3941H. The Nature of the Cosmos. (; 3 cr. ; A-F only; Periodic Spring)

One of the defining features of every human civilization is its collective understanding of how the natural phenomena present to all earth dwellers ? stars, planets, the earth and its transformations, plant, animal, and human life, etc. ? are conceptualized into systems of knowing. ?Cosmology? is the term we use to describe these shared understandings, and this interdisciplinary course proposes a comparative study of different cosmologies in different civilizations and historical periods. We will explore the nature of the cosmos by first examining the category itself and what is involved in trying to study cosmology comparatively with sensitivity to cultural difference. We will then look at some different understandings of the nature of the cosmos (i.e. cosmologies) offered by different peoples in the past and around the world. We will start with two ancient, non-Western cosmologies: the Sanskrit Hindu and Buddhist traditions and the traditions of the native peoples of North America. We will then examine the history of Western cosmological thinking by looking at Greco-Roman Antiquity, Medieval Christian and Islamic cosmology, and the birth of modern, scientific cosmology in the Scientific Revolution (Galileo, Newton, etc.). Our overall goal will not be to establish a single, absolute, and universal understanding of the cosmos, but, rather, to develop an understanding of the value and power of each of the different cosmologies we will encounter and the consequences that follow from accepting one or the other of them as our point of view. Ultimately this course should help you to think more deeply, reflectively, and humanistically about the cosmologies present in our own modern globalized society today.

HSEM 3953H. History and Science of Eating. (; 3 cr. ; A-F only; Periodic Fall)

Eating is both an everyday, mundane activity and a complex act that is linked to internal and external factors. Using the lenses of the humanities and sciences, we will explore topics from the full continuum of human eating. We move from hunger, starvation, and dieting to food choice and obesity, to eating's relationship to contemporary politics, culture, and racial diversity. Overarching these topics are common themes of gender roles and changing cultural norms. We will investigate how and why diets vary as well as how food has emerged as a central political problem. Students will leave this class better able to judge evidence used in diet advice and with more understanding of their own beliefs about what they should eat.

Horticultural Science (HORT)

HORT 1001. Plant Propagation. (BIOL; 4 cr. ; Student Option; Every Fall & Spring)

Principles and techniques of propagating plants by seeds, cuttings, grafts, buds, layers, and division. Lectures on principles; labs on practice of various propagating techniques.

HORT 1003. Organic Gardening: From Balconies to Backyards. (; 3 cr. ; Student Option; Every Spring)

This fully online course focuses on the principles and practices of growing fruits, vegetables, and herbs with an ecological approach. You'll explore basic botany, soils and compost, species and variety selection, planning and design, container gardening, pest management, season extension, and more so you can approach your gardening projects with confidence. This introductory course focuses on the principles and practices of growing fruits, vegetables, and herbs with an ecological approach. You'll explore basic botany, soils and compost, species and variety selection, planning and design, container gardening, pest management, season extension, and more so you can approach your gardening projects with confidence. We will begin by taking a look at the fundamentals of organic gardening, then move on to an overview of basic plant science principles. Following this introduction, course content will focus on how these principles can be applied practically in the planning and management of an organic garden, whether that be in your yard, on your patio, or at a school or community site. This course isn't so much about memorizing facts as it is about you becoming a well-informed gardener who can make educated decisions and seek out reliable answers to questions or problems that might come up. The course is presented entirely online and makes extensive use of discussions, interactive activities, worksheets, and multimedia projects that get you immersed in a host of gardening topics. Short video segments in each module highlight key topics and provide information to guide you as you work through the readings, activities, and assignments.

HORT 1014. The Edible Landscape. (TS; 3 cr. ; Student Option No Audit; Every Fall)

Tracing our relationship with edible landscapes traces to our hunting-gathering origins.

Technological/social changes that have distanced us from our food. Integrating food plants into pleasing, sustainable, and edible landscapes in yards, neighborhoods, and cities.

HORT 1015. Plant Families for Plant People.

(; 4 cr. ; Student Option No Audit; Every Fall)
The most recent surveys reveal there are 347,298 vascular plant species in the world! During this course, you will acquire the skills that will allow you to identify many plants you encounter day-to-day in Minnesota and around the world. By the end of the term, you will have been introduced to over 150 woody and herbaceous plants and learned the key distinguishing features for identifying some of the most important ones. You will be introduced to plant families that are important from a human perspective, where in the world they are most commonly found, some of the problems they can experience or create, and some of the ways they are used by humans.

HORT 1031. Vines and Wines: Introduction to Viticulture and Enology. (; 3 cr. ; Student Option; Periodic Fall & Spring)

This course is an introduction to the principles of growing grapes (viticulture), making wine (enology), and an appreciation of the historical, geographical, and sensory diversity of wine. The course is taught in part with 20-50 minute online lectures; usually 2 or 3 of these are covered each week. The class also meets once a week for a combination lecture and wine tasting/sensory session. Guest lecturers will be involved to explore certain aspects of the course including grape vine biology, morphology, genetics and breeding, as well as sensory evaluation and wine components, and the subject of soils and so-call "terroir" or regional identity, including the relation between grape cultivar, soil, climate, and cultural practices. Prerequisite: Enrollees must be 21 yrs of age by date of 1st class meeting Enrollment Restrictions: Open enrollment to undergraduate students ONLY; graduate students, masters students, and others will need instructor permission.

HORT 1061. The Sustainable Lawn. (; 3 cr. ; Student Option; Every Fall)

Common turfgrasses. How to manage home lawn in sustainable way. Maintaining quality turf areas with reduced inputs.

HORT 1090. Topics In Horticulture. (; 1-4 cr. [max 14 cr.] ; Student Option; Every Fall, Spring & Summer)

Topics vary with instructor. prereq: instr consent or department permission

HORT 1113. Floral Design. (; 3 cr. ; Student Option; Every Fall & Spring)

Design for use in commercial flower shops and at home. Principles and elements of design. Wedding arrangements. Corsages. Decorative use of dried materials.

HORT 2121. Agricultural Biochemistry. (; 3 cr. ; A-F only; Every Fall)

Chemical/biochemical foundation for agricultural disciplines. Concepts in organic, analytical, and biological chemistry. Chemistry, metabolism, and development of plants. Prerequisites: [CHEM 1015, CHEM 1017] or

[CHEM 1061, CHEM 1065] *Note for those students considering graduate school - We highly recommend you consult your academic advisor for appropriate chemistry coursework.

HORT 3093. Directed Study. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

HORT 3094. Directed Research. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

HORT 3131. Student Organic Farm Planning, Growing, and Marketing. (3 cr. ; Student Option; Every Fall)

Organic fruit and vegetable production has been one of the fastest growing segments of the US economy for almost two decades, stimulating an overwhelming number of biological and ecological innovations to produce food using organic approaches. This course aims to increase student's knowledge of ecological concepts as applied to managing organic systems, with an emphasis on soil nutrient cycles and plant-soil-microbe interactions that serve as the cornerstone of organic systems. Students in this course will learn tools needed to manage an organic diversified vegetable operation. The course consists of two components. The lecture session is designed to help students think about concepts and principles that are useful in planning and managing production strategies on organic farms. We spend a significant amount of our time reviewing soil nutrient cycling and its critical importance for organic farms, including how to effectively use soil and organic nutrient inputs such as cover crops, manure and fertilizers, to provide vegetable crops with the nutrients they need to grow. We also learn about successful marketing strategies for organic produce. Finally, near the end of the semester we will discuss pest management, including both weeds and disease/insect pests, and compare different tillage options available to organic producers. What we learn is then applied to planning

next year's season of the UMN student organic farm. Throughout, we will use case studies, guest speakers, games, and active learning discussion approaches to move these classroom sessions "beyond the lecture" and allow students to engage with the material in a meaningful way. The lab is designed to allow a space to put into action some of the concepts students learn in lecture, including soil organic matter analysis, microgreen propagation, calculation of organic fertilizer rates, and operation of driven and walk-behind tractors.

HORT 3480. Topics in Sustainable Horticulture. (; 1-4 cr. [max 24 cr.] ; Student Option; Every Fall, Spring & Summer)
Various topics

HORT 4061W. Turfgrass Management. (WI; 3 cr. ; A-F only; Fall Even Year)
Biology of turfgrasses, ecology of landscape systems. Installation, management, and culture of turfgrass communities and landscape plant systems. Sod production, industrial grounds, lawn care, park/recreation areas, athletic field/business management. Case studies. prereq: 1001 or instr consent

HORT 4062. Turfgrass Weed and Disease Science. (; 3 cr. ; A-F only; Fall Odd Year)
Turfgrass weed/disease problems. How to deal with these problems using an integrated approach. Biology, identifying features, and management strategies for several turfgrass diseases/weeds. How to apply IPM principles to turfgrass weed/disease problems.

HORT 4063. Turfgrass Science. (; 3 cr. ; A-F only; Periodic Fall & Spring)
Ecology, physiology, and theory of turf population dynamics. Specialized management situations such as golf course, commercial sod production, and fine turf athletic settings. prereq: 4061

HORT 4071W. Applications of Biotechnology to Plant Improvement. (WI; 3 cr. [max 4 cr.] ; A-F or Audit; Spring Odd Year)
This online course with required synchronous meetings is designed to provide a foundation in the theory and application of plant biotechnology used in crop improvement. The online lecture meets twice per week to introduce and discuss the basic concepts of plant genetics, molecular biology, DNA manipulation, plant tissue culture, gene introduction, and analysis of gene expression. The diversity of perspectives surrounding the application of biotechnology to plant improvement will be discussed. Course content consists of lecture, reading assignments, practice writing, peer review, discussions, and group work. prereq: [Biol 1009 or equiv or grad student], instr consent

HORT 4096W. Professional Experience Internship. (WI; 1 cr. [max 2 cr.] ; A-F only; Every Fall)

This course provides an opportunity for professional experience in plant science and food systems achieved through a supervised practical experience. Students must complete a non-credit prerequisite Canvas module on pre-and reflection during the summer internship experience. Upon successful completion of this

prerequisite, students will receive a permission number to register for HORT 4096W in the fall. In 4096W, students will produce a final publication that is focused on writing for lay audiences. This writing project will start toward the end of the internship and end at the conclusion of the 7-week online fall course. prereq: CFANS undergrad

HORT 4110. Spring Flowering Bulbs. (1 cr. ; A-F only; Spring Odd Year)

Geophytes are early harbingers of spring. In this course we will examine the variety of herbaceous perennial spring-flowering crops with underground storage organs (geophytes). As spring progresses, different genera and species predominate in the flowering landscape. In contrast, greenhouse production of potted plant and cut flower geophytic crops can be simultaneous rather than sequential. This course will consist of hands-on taxonomic identification of geophyte crops, their uses in landscape design, and production essentials. The laboratory will be hands-on, experiential learning with many visits of outdoor landscape, gardens, production greenhouses, and interiorscapes.

HORT 4112. Flowering Trees and Shrubs. (1 cr. ; A-F only; Periodic Spring)

Need an excuse to spend a few hours outside at the height of the spring flowering season? Want to spend more time amidst the expansive and beautiful University of Minnesota Landscape Arboretum plant collections? Do you want to be able to identify more woody landscape plants, in flower? Here's your chance to expand your plant identification skills and learn the names and flowering characteristics for approximately 150 woody landscape plants. Flowering Trees and Shrubs is a practitioners course, designed to give you a hands-on opportunity to learn to identify woody landscape trees, shrubs, ground covers, and vines, including the common and scientific names for each. We will study the plants as family assemblages, noting features common to each family which will assist you in identifying unknown plants in Minnesota and other geographical locations in the future. In addition to identification; common landscape uses, cultural specificities, problems, and notable cultivars will be highlighted.

HORT 4141W. Scheduling Crops for Protected Environments. (WI; 4 cr. ; A-F only; Every Spring)

The purpose of this course is to acquaint students with the identification, scheduling, and cultural requirements of commercially produced vegetables, herbs, ornamental flowers, and foliage plants, gain experience in growing them, and conduct experiments to understand current problems. The course builds on knowledge obtained in Hort 1001 or Hort 1015, by adding in additional factors of plant growth coupled with scheduling and growing of crops which commercial growers would experience. The role of ornamental plants in the human environment will be discussed, with special emphasis on future issues. Writing is an integral component of this course; one major paper is revised and

expanded multiple times plus other course writing fulfill the writing intensive requirement. Through the use of interactive learning, field trips, written assignments, and in-class discussions students learn crop requirements and the interactions between the marketing distribution system of breeders, producers, distributors, growers, retailers, and consumers. Prerequisites: HORT 1001/6011 Additional Preferred Courses: HORT 1015

HORT 4461. Horticultural Marketing. (3 cr. ; A-F only; Every Spring)

Major areas in horticultural marketing. Difference between horticultural products and commercial commodities. Core marketing components that should be used by every small horticultural business. Approaches to consumer research.

HORT 5007. Advanced Plant Propagation.

(3 cr. ; Student Option; Spring Odd Year) Control of growth/development in sexual/asexual reproduction of plants. Effects of environment, plant growth substances. Protocols on dormancy, origin, development of adventitious structures. Specialized propagation techniques. Lecture, lab. prereq: 1001 or BIOL 2022

HORT 5023. Public Garden Management. (2 cr. ; Student Option; Every Spring)

Overview of knowledge/skills necessary to manage a public garden. History of public gardens. Development of mission and vision. Planning and design. Operations. Education and research. Fund raising, business management, personnel, marketing, conservation.

HORT 5031. Fruit Production and Viticulture for Local and Organic Markets. (3 cr. ; A-F or Audit; Fall Odd Year)

Principles of fruit production. Temperature fruit crops. Integrated management of fruit cropping systems. Site selection, cultural management practices, taxonomic classification, physiological/environmental control of plant development. Writing. prereq: [1001, 3005] or instr consent

HORT 5033. Growing Fruit & Vegetables for Local and Organic Markets. (4 cr. ; A-F or Audit; Every Spring)

This course will focus on production of fruits and vegetables for local and organic markets in the Upper Midwest. Most fruit and vegetable growers in Minnesota operate diversified production systems for local and organic markets (fresh market--not processing), and so we explore production within this specific framework, although examples from large-scale systems will be highlighted in order to compare and contrast different production features and challenges. During the first two weeks, we will explore the specialty crop industry, trends, consumer behavior, and marketing, including organic regulations and certification programs. We will make distinctions between annual and perennial crop production and climatic considerations-- with an emphasis on the upper Midwest and cold climates. We will explore fruit and vegetable production within the framework of sustainable

agriculture, which encompasses agricultural productivity, economic viability, environmental conservation, and social equity, and how this relates to the regulatory framework supporting organic certification. Farms are very diverse, and we will compare and contrast aspects of sustainability within these systems and recognize current challenges in improving sustainability. The systems involved in developing, producing, and marketing fruit and vegetable crops are neither static nor independent?rather, quite dynamic in their relationships. This should be considered as we progress through the various study areas so that you can integrate and explore the connections between them. For example: site selection, land preparation, environmental interaction, specialized equipment, plant reproductive biology and plant genetics, seed selection and seed saving, cultural management practices during crop growth and development, water management, control of insects, diseases and weeds, post-harvest handling and food safety, marketing and commodity use will all be explored. The format of this class is 70% discussion, 30% lecture. prereq: SOIL 2125 and [HORT 1001 or AGRO 1101 or BIOL 1009 or BIOL 1001 or another applicable biological science equivalent]

HORT 5071. Ecological Restoration. (4 cr. ; Student Option; Every Fall)

Each ecosystem restoration is the product of a myriad of decisions made in response to existing site conditions (biotic and abiotic), anticipated effects from the surrounding landscape, predictions about future events, logistical realities, and, of course, desired conditions. During this course, you will learn about the ecological and social factors that affect ecosystem recovery and how people intervene to reverse ecosystem degradation. The course includes examples from ecosystems around the world, with emphasis on those found in the Midwestern US. Field trips. PREREQUISITES: This course presumes previous courses in basic ecology and plant science.

HORT 5093. Directed Study. (1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

HORT 5094. Directed Research. (1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable

credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

HORT 5114. Knowing and Naming the Plants We Eat. (; 1 cr. ; A-F only; Every Fall)
The 1-credit course HORT 5114 ?Knowing and naming the plants we eat? focuses on identification, taxonomy and characteristics of plants, and plant parts commonly contributing to human diets. Course modules emphasize culinary fruits, vegetables and herbs plus grains, pulses and oilseeds grown for food use. This online course meets synchronously for lecture and discussion on Wednesdays from 5pm to 6pm. Weekly lectures are posted online for asynchronous study. Students develop a portfolio of their course work where they document and reflect upon characteristics and taxonomic relationships among the plants addressed in this course. As a 5xxx-level course, students with less than 60 credits completed in their program (typically underclassmen) will need to request a permission number to enroll. prereqs: junior or senior; Biol 1001 or Biol 1009 or HORT 1001 or HORT 1015

HORT 5131. Student Organic Farm Planning, Growing, and Marketing. (; 3 cr. ; Student Option; Every Fall)
Students plan/implement cropping/marketing strategies for organic produce/flowers from Student Organic Farm on St. Paul campus. prereq: 1001 or AGRO 1101 or AGRO 1103 or BIOL 1001 or BIOL 1009 or instr consent

HORT 5480. Topics in Horticultural Science. (; 1-4 cr. [max 24 cr.] ; Student Option; Every Fall, Spring & Summer)
Topics vary.

Housing Studies (HSG)

HSG 3462. Housing and Community Development. (; 3 cr. ; A-F or Audit; Every Fall)
Meaning/significance of neighborhood/community, residential neighborhood change, impact of housing on neighborhood conditions. Gentrification, displacement, racial segregation, suburbanization, community-based revitalization.

HSG 4193. Directed Study in Housing Studies. (; 1-4 cr. [max 8 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Independent study in Housing Studies under tutorial guidance. prereq: Undergrad, instr consent

HSG 4196. Internship in Housing Studies. (; 1-4 cr. ; S-N or Audit; Every Fall, Spring & Summer)
Supervised work experience relating activity in business, industry, or government to the student's area of study. Integrative paper or project may be required. prereq: Completion of at least one-half of professional sequence, plan

submitted/approved in advance by [adviser, internship supervisor], written consent of faculty supervisor, instr consent

HSG 4461. Housing Development and Management. (; 4 cr. ; A-F or Audit; Every Spring)
Housing development process/financing. Management of multifamily housing. Emphasizes housing for low-income families/specific populations (e.g., older residents).

HSG 4465. Housing in a Global Perspective. (; 3 cr. ; A-F or Audit; Spring Odd Year)
Demographic changes, economic connections, and public policies for housing around the world. Sustainable development, rural-to-urban migration, land distribution, economic globalization, and civil conflict and war.

HSG 4467W. Housing and the Social Environment. (WI; 4 cr. ; A-F or Audit; Every Fall)
Housing choices in context of social environment. Emphasizes special needs of elderly, disabled, minorities, large families, female-headed households, and low-income households. Students conduct a post-occupancy evaluation of housing.

HSG 5193. Directed Study in Housing Studies. (; 1-4 cr. [max 8 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Independent study in Housing Studies under tutorial guidance. prereq: Jr or sr or grad student

HSG 5462. Housing and Community Development. (3 cr. ; A-F only; Every Fall)
An examination of the linkages between housing and community development. The process of residential neighborhood change and the impact of housing on neighborhood conditions is explored. The course considers theories of neighborhood change, trends in residential development, and concepts of community building in the built environment. Private sector, community-based, and governmental efforts at neighborhood revitalization and their effectiveness will be studied. Related issues such as racial discrimination in housing, gentrification and the displacement of low-income residents are discussed. Course includes an engaged group project to access housing and amenities in a specified neighborhood.

HSG 5463. Housing Policy. (; 3 cr. ; A-F or Audit; Every Spring)
Institutional/environmental settings that make up housing policy in the United States. Competing ideas about solving housing problems through public intervention in the market. Federal/local public sector responses to housing problems. prereq: [[2401 or DHA 2401], [2463 or DHA 2463]] or instr consent

HSG 5467. Housing and the Social Environment. (; 4 cr. ; A-F or Audit; Every Fall)
Housing choices in context of social environment. Emphasizes special needs of elderly, disabled, minorities, large families, female-headed households, and low-income households. Students conduct a post-occupancy evaluation of housing.

Human Factors (HUMF)

HUMF 5001. Foundations of Human Factors/Ergonomics. (3 cr. ; A-F or Audit; Periodic Fall)
Variability in human performance influenced by interaction with designs of machines/tools, computers/software, complex technological systems, jobs/working conditions, organizations, sociotechnical institutions.

Conceptual, empirical, practical aspects of human factors/ergonomics. prereq: Grad HumF major or minor or instr consent

HUMF 5193. Directed Study in Human Factors and Ergonomics. (1-4 cr. [max 8 cr.] ; A-F only; Every Fall, Spring & Summer)
Independent study in human factors/ergonomics under tutorial guidance. prereq: instr consent

HUMF 5211. Human Factors and Work Analysis. (; 4 cr. ; A-F or Audit; Every Fall)
Human factors engineering (ergonomics), methods engineering, work measurement. Displays, controls, instrument layout, supervisory control. Anthropometry, work physiology, biomechanics. Noise, illumination, toxicology. Operations analysis, motion study, time standards.

HUMF 5874. Human Centered Design to Improve Complex Systems. (4 cr. ; A-F or Audit; Every Spring)
Class participants will work together using design thinking frameworks to discover, define, develop, and propose solutions to help solve complex system problems. The class will use cognitive design methods and research to guide in developing prototypes that foster improved experiences in information delivery, processes of systems, and technology. Teams will tackle complex real-world problems. Projects may focus on a variety of areas ranging from retail to health care. Coursework will primarily focus on team-based projects. Participants will immerse themselves the following activities while working towards remediating their chosen problems. ? insights gathering/research methods ? cognitive design methods and principles ? identifying strengths/weaknesses in actual vs. proposed systems ? implementation (prototyping) considerations/strategies The course will be highly interactive with little lecture. It will strive to foster critical thinking and will offer an environment where creativity can thrive. Students are expected to come to class fully prepared to interact during class time with the readings and research consumed outside class. Material from course readings will focus on cognitive design, systems thinking principles and will be interwoven during the discussions and class activities. This course is designed for students from a variety of backgrounds and programs, including students from Human Factors, the Academic Health Center, Graphic Design, Product Design, Retail, Interior Design, Landscape Architecture, Architecture, Biomedical Engineering, Mechanical Engineering, Industrial Engineering, and the Carlson School. Human Factors students

working toward a Plan C Master's degree may use this course as one of the two courses required to be 50% project-based.

Human Resources/Indus Rel (HRIR)

HRIR 3021. Human Capital Management. (3 cr. ; A-F only; Every Fall, Spring & Summer) This course will focus on the people side of business. We will look at how, through managing and leading people, we can create an engaged, productive workforce in order to achieve organizational strategic objectives. The content of this course is complementary to any major or minor. Major topics in this course: - Managing people in an ethical, legal way that is aligned with corporate strategy and helps organizations reach their goals; - Successfully attracting, recruiting, and selecting talented people; - Creating interesting, engaging jobs and giving meaningful feedback in order to retain great employees; - Rewarding and motivating people through intrinsic and extrinsic methods to encourage the most effective and "right" kind of employee behaviors to create an engaged, productive workforce through people strategies and practices.

HRIR 3021H. Honors: Human Resource Management and Strategy. (3 cr. ; A-F only; Every Spring)

Human capital is an essential role in today's organizations. If you plan to be a manager or organizational leader, or if you plan to major or minor in HR, this course is an essential introduction to the role of human resource management in organizations. In this class you will learn: How to recruit and select the best people. How to evaluate performance and give employees feedback. How to help individuals improve when their performance is subpar, and how to conduct terminations when those efforts do not work. Methods that are used to develop individuals so they can move into higher leadership roles. How to examine turnover problems and retain employees. How large companies set pay levels to ensure internal and external equity. Recent issues around worker rights and unions. The basics of employment law. Contemporary human resources issues that employers are dealing with, such as labor market shortages and sexual harassment policies. This class is for honor's students only. prereq: ECON 1101, ECON 1102, PSY 1001

HRIR 3031. Staffing and Selection: Strategic and Operational Concerns. (2 cr. ; Student Option; Every Spring)

Introduction to theory/practice of staffing decisions. Recruitment, selection, promotion, demotion, transfer, dismissal, layoff, retirement. Staffing analyzed from strategic/operational perspectives. Legal issues.

HRIR 3032. Training and Development. (2 cr. ; Student Option; Every Spring)

Introduction to theory/research/practice of design/implementation/evaluation of employee training/development programs. Training as process for influencing individual/organizational outcomes.

HRIR 3041. The Individual and the Organization. (2 cr. ; Student Option; Every Fall)

The purpose of this course is to understand both the impact and experience of the individual in an organizational setting. We will discuss the influence that individual differences and behaviors play within an organization, focusing on the employee as the key factor through which organizations function and grow. An employer's success is largely attributable to the motivation and performance of those they employ. The factors that influence both their motivation and performance will be the focus of our content. We will explore topics such as personality, values, perceptions, and diversity among others. Each topic covered will enrich our understanding of the complex relationship between the individual and the organization. Recommended prerequisite: HRIR 3021

HRIR 3042. Organizational Behavior: Groups and Teams. (2 cr. ; Student Option; Every Fall)

The purpose of this course is to understand both the impact and experience of the individual, leaders, and teams in an organizational setting. We will discuss the influence that individual differences and behaviors play within work teams, and how leadership may shape team experiences, focusing on the team as the key factor through which organizations function and grow. An employer's success is largely attributable to the motivation and performance of those they employ. The factors that influence group, team, and organizational performance will be the focus of this class. We will explore topics such as communication, conflict, negotiation, leadership, organizational structure and change, among others. Each topic covered will enrich our understanding of the complex relationship between the individual, team, and the organization. Recommended prerequisite: HRIR 3021

HRIR 3051. Compensation: Theory and Practice. (2 cr. ; Student Option; Every Fall)

Introduction to compensation/reward programs in employing organizations. Theories of organizational/employee behavior used in design/implementation of pay programs. Design, implementation, job evaluation, salary surveys, skill-based pay, merit-based pay, other compensation programs.

HRIR 3071. Union Organizing and Labor Relations. (2 cr. ; Student Option; Every Spring)

Analysis of labor unions, employee associations, collective bargaining within framework of contemporary American legislation/policy. Forming/organizing labor unions. Management strategies/responsibilities, historical influences on policy/practice in private/public sectors.

HRIR 3072. Collective Bargaining and Dispute Resolution. (2 cr. ; Student Option; Every Spring)

Collective bargaining, contract administration, grievance processing, interest/rights arbitration, strikes, related policies/practices of employers,

workers, labor unions in private/public sectors. Impact/transfer of practices to non-union sector.

HRIR 3111. Human Resource Analytics. (2 cr. ; A-F only; Every Spring)

This course is designed to provide students with opportunities to develop data manipulation, analysis, and visualization skills using Excel and Tableau by taking a data driven approach to core HR areas, including recruitment, compensation, talent development, and turnover. In the course students will get exposure to working with a variety of data sources, including administrative records, survey, and text-based data from resumes and interviews as well as an introduction to predictive analytics tools. Emphasis will be placed on data visualization and communication of findings to practitioners. Prerequisites: HRIR3021 or HRIR3021H or IBUS 3021 and SCO 2550 or equivalent statistics course

HRIR 4100W. HRIR Capstone: Personal and Organizational Leadership. (WI; 4 cr. ; A-F only; Every Spring)

This course is a writing intensive capstone course for undergraduates majoring in HR. Given the emphasis of the Society for Human Resource Management (SHRM) on the critical need for HR professionals to both be leaders and understand leadership development, we focus this capstone class on the topic of leadership within the context of the SHRM competency model. The first part of the course provides students with a solid understanding of leadership needs within organizations and current tools, vendors, and techniques that can be used to develop leadership bench strength and capability within companies. The second part of the course features guest speakers from different areas of HR and student presentations based on the SHRM competency model. The course will help students reflect upon the extreme importance of leadership, how to develop organizational leaders, and will provide means to develop their own first level leadership and human resources competencies. prereq: 3021, 6 HRIR credits, [senior status or dept consent]

HRIR 5000. Topics in HRIR. (2 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Topics in human resources/industrial relations. HRIR MA student must register A-F, 3021, [CSOM or HRD junior or senior or dept consent]

HRIR 5222. Creating and Managing Diversity and Inclusion. (2 cr. ; Student Option; Every Fall & Spring)

This course covers the challenges and rewards associated with managing today's increasingly diverse workforce. Diversity has the potential to benefit employees and organizations alike, yet the benefits of diversity are only realized in organizations with effective diversity management practices. In this course, we will discuss the power of inclusion as it relates to the employee experience. We will study effective strategies for building diverse and inclusive companies, and will address the

barriers that can often exist. We will look at approaches to organizational design that limit unconscious bias and produce more objective decisions across the employee experience? from engaging and hiring candidates to retaining employees and helping them thrive. Finally, we will dive into how to create inclusive cultures and a sense of belonging, across local and global contexts. Student engagement and willingness to share diverse perspectives are critical to the success of this course. prereq: HRIR MA student must register A-F, 3021, [CSOM or HRD junior or senior or dept consent]

HRIR 5252. Employment and Labor Law for the HRIR Professional. (2 cr. ; Student Option; Every Fall & Spring)

Application of statutes/case law to work settings. Civil rights/equal opportunity. Discrimination/harassment. Compensation/benefits. Employee protection/privacy. Labor relations. Emphasizes application/ability to recognize legal aspects of HRIR issues. prereq: HRIR MA student must register A-F, 3021, [CSOM or HRD junior or senior or dept consent]

HRIR 5442. Employee Performance Management: Strategies, Systems, and Skills. (2 cr. ; Student Option; Every Fall)

Performance management strategies. Components of effective performance management systems. Alignment with HR strategy. Integration with HR practices. Measurement/appraisal. Feedback, coaching. Legal issues. prereq: HRIR MA student must register A-F, 3021, [CSOM or HRD junior or senior or dept consent]

HRIR 5443. Principles of Effective Coaching. (2 cr. ; A-F only; Every Fall)

Skills/competencies required to coach, mentor, develop employees/leaders. Managing coaching process. Planning coaching relationship. Coaching as leadership development strategy. Coaching executives. prereq: HRIR MA student must register A-F, [CSOM or HRD junior or senior or dept consent] with HRIR 3021

HRIR 5450. Change in the Workplace. (; 2 cr. ; A-F only; Every Spring)

Change is the only constant in our world today. This course focuses on how to lead in a VUCA world of Volatility, Uncertainty, Complexity, and Ambiguity. Specifically, this course covers models & frameworks, strategies, best practices, and challenges to leading change management. We will discuss preparing and planning for change, implementing change, communicating change, and sustaining & reinforcing change. We will also explore how to apply these concepts in various personal & professional situations.

HRIR 5655. Public Policies on Work and Pay. (3 cr. ; Student Option; Every Spring)

Analysis of public policies regarding employment, unions, labor markets. Public programs affecting wages, unemployment, training, worker mobility, security, quality of work life. Policy implications of changing nature of work. prereq: HRIR MA student must register

A-F, ECON 1101, [CSOM or HRD junior or senior or dept consent]

HRIR 5662. Personnel Economics. (2 cr. ; Student Option; Every Fall & Spring)

Application of economic tools to issues in human resources/industrial relations. Incentives/imperfect information. Incentive-based pay. Promotions/tournaments. Human capital/training. Screening/signaling. Applications/limitations. prereq: Prereq-HRIR MA student must register A-F, ECON 1101, [CSOM or HRD junior or senior or dept consent]

HRIR 5992. Independent Study in Human Resources and Industrial Relations. (1-8 cr. ; Student Option; Every Fall, Spring & Summer)

Individual readings or research topics. prereq: dept consent or instr consent

Human Sexuality (HSEX)

HSEX 4950. Topics in Sexuality and Sex Education. (; 1-3 cr. [max 12 cr.] ; A-F only; Periodic Fall, Spring & Summer)

Topics in Sexuality and Sex Education

Industrial Engineering (IE)

IE 1101. Foundations of Industrial and Systems Engineering. (4 cr. ; A-F only; Every Fall)

This course will provide you with an introduction to Industrial and Systems Engineering with an emphasis on models and solution methods used in system design, planning, and operation. The course will also provide you with an introduction to important problems Industrial and Systems Engineers solve in systems arising in supply chains, transportation, manufacturing, retail, and healthcare delivery, among others. Additional emphasis will be given to various relevant emerging technologies, business practices, and government regulations. CSE student

IE 2021. Engineering Economics. (4 cr. ; A-F only; Every Fall)

Cost/design process, cost estimation models, cash flow analysis, interest rate models, time value of money, evaluation of projects, internal rate of return, depreciation/income taxes, price changes/inflation, capital budgeting, decision making under uncertainty. prereq: [MATH 1372 or equiv], CSE student

IE 3011. Optimization Models and Methods. (4 cr. ; A-F only; Every Fall)

Linear, nonlinear, integer, and network optimization models and their tractability; Sensitivity analysis; Solution with software; Introduction to solution methods; Simplex method and Dijkstra's algorithm. prereq: MATH 2374, MATH 2142, or equivalent, Upper Division CSE

IE 3013. Optimization for Machine Learning. (4 cr. ; A-F only; Every Fall)

Machine learning has been widely used in areas such as computer vision, search engines, speech recognition, robotics, recommendation systems, bioinformatics, social networks, and finance. It has become

an important tool in prediction and data analysis. This course introduces some fundamental solution methods for solving various optimization models arising in the context of machine learning.

IE 3521. Statistics, Quality, and Reliability. (4 cr. ; Student Option; Every Fall, Spring & Summer)

Random variables/probability distributions, statistical sampling/measurement, statistical inference, confidence intervals, hypothesis testing, single/multivariate regression, design of experiments. Applications to statistical quality control and reliability. prereq: MATH 1372 or equiv

IE 3522. Quality Engineering and Six Sigma. (4 cr. ; A-F only; Every Spring)

Methods for Quality Engineering and Six Sigma, including Statistical Process Control, DMAIC improvement framework, Control Charts, Process Capability, Measurement System Capability, Designed Experiments, and FMEA. prereq: MATH 2374, MATH 2142 or MATH 2373 or equivalent , 3521 or Stat 3021, CSE Upper Division

IE 3553. Simulation. (4 cr. ; A-F only; Every Fall)

This course is an introduction to Monte Carlo and Discrete Event Simulation. Student will learn fundamentals of simulation modeling, including generation of pseudo-random numbers, generation of random variables, input probability distributions, variance reduction techniques, analysis of simulation output, and comparison of system configurations using experimental design. Students will implement simulation models using a software package such as Simio. Applications to problems in manufacturing, service operations, healthcare, finance, and transportation. prereq: CSCI 1133, IE 3521 or equivalent, CSE Upper Division

IE 4011. Stochastic Models. (4 cr. ; A-F only; Every Spring)

Models for describing/evaluating random systems. Formulating/analyzing stochastic models for business. Discrete-time/continuous-time Markov chains. Poisson processes. Markovian/non-Markovian queueing theory. Inventory management, manufacturing, reliability. prereq: MATH 2374, MATH 2142 or MATH 2373 or equivalent, 3521 or Stat 3021, CSE Upper Division

IE 4041W. Senior Design. (WI; 4 cr. ; A-F only; Every Spring)

Students work in small teams to address open-ended problems in Industrial and Systems Engineering. Each team works with a faculty advisory and industry mentor. prereq: IE 1101, 2021, 3011, 3521, 3522, 3553, 4011, 4511, 4541W, 4551, ISyE senior

IE 4043W. Industrial Assignment II. (WI; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Solution of system design problems that require developing criteria, evaluating alternatives, and generating a preliminary design. Final report emphasizes design communication and describes design decision process, analysis, and final recommendations. prereq: 3041

IE 4044. Industrial Assignment III. (2 cr. ; A-F only; Every Fall, Spring & Summer)
Industrial work assignment in engineering co-op program. Evaluation based on student's formal written report covering semester work assignment. prereq: IE 4043, registration in ME co-op program

IE 4091. Independent Study. (1-4 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)
Independent study of topic(s) involving industrial and systems engineering and operations research.

IE 4094. Directed Research. (1-4 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)
Research with faculty adviser on a topic in industrial and systems engineering or operations research. Student contacts adviser to develop project description prior to registering for course.

IE 4096. Curricular Practical Training. (1 cr. [max 3 cr.] ; S-N only; Every Fall, Spring & Summer)
Industrial work assignment in engineering intern program. Evaluation based on student's formal written report covering semester's work assignment.

IE 4511. Human Factors. (4 cr. ; A-F only; Every Fall)
Human factors engineering (ergonomics), methods engineering, work measurement. Human-machine interface: displays, controls, instrument layout, supervisory control. Anthropometry, work physiology/biomechanics. Work environmental factors. Methods engineering. prereq: CSE Upper Division

IE 4541W. Project Management. (WI; 4 cr. ; A-F only; Every Fall)
Introduction to engineering project management. Analytical methods of selecting, organizing, budgeting, scheduling, and controlling projects. Risk management, team leadership, program management. prereq: ISyE senior

IE 4551. Production, Inventory, and Service Operations. (4 cr. ; A-F only; Every Spring)
Methods for managing production, inventory, supply chain, and service operations. Demand forecasting, inventory control, production planning/scheduling, supply chain coordination, manufacturing flow analysis, and service waiting line management. Implications of emerging technologies, business practices, and government regulations. prereq: MATH 2374, MATH 2142, or MATH 2373 or equivalent, 3521 or STAT 3021, CSE Upper Division

IE 4894. Directed Senior Honors Thesis. (2 cr. ; A-F only; Every Fall, Spring & Summer)
Writing thesis under direction of ISyE faculty member.

IE 5012. Discrete Optimization Methods and Applications. (4 cr. ; A-F only; Every Spring)
Discrete and combinatorial optimization techniques; heuristics; dynamic programming; handling uncertainty in optimization models. Applications in logistics, healthcare, data analysis. (Previously offered as IE 3012.) prereq: (i) MATH 2374, MATH 2142 or MATH 2373 or equivalent, (ii) Upper Division CSE, (iii) CSCI 1133 or equivalent

IE 5080. Topics in Industrial Engineering. (; 1-4 cr. [max 8 cr.] ; Student Option; Periodic Fall & Spring)
Topics vary each semester.

IE 5111. Systems Engineering I. (; 2 cr. ; A-F or Audit; Every Fall)
Overview of systems-level thinking/techniques in context of an integrated, design-oriented framework. Elements of systems engineering process, including lifecycle, concurrent, and global engineering. Framework for engineering large-scale, complex systems. How specific techniques fit into framework. prereq: CSE upper div or grad student

IE 5113. Systems Engineering II. (; 4 cr. ; A-F or Audit; Every Spring)
Systems engineering thinking/techniques presented in 5111. Hands-on techniques applied to specific problems. Topics pertinent to effectiveness of design process. Practices and organizational/reward structure to support collaborative, globally distributed design team.

IE 5441. Financial Decision Making. (4 cr. ; A-F only; Every Fall, Spring & Summer)
Cash flow streams, interest rates, fixed income securities. Evaluating investment alternatives, capital budgeting, dynamic cash flow process. Mean-variance portfolio selection, Capital Asset Pricing Model, utility maximization, risk aversion. Derivative securities, asset dynamics, basic option pricing theory. prereq: CSE upper div or grad student

IE 5511. Human Factors and Work Analysis. (; 4 cr. ; A-F or Audit; Every Fall)
Human factors engineering (ergonomics), methods engineering, and work measurement. Human-machine interface: displays, controls, instrument layout, and supervisory control. Anthropometry, work physiology and biomechanics. Work environmental factors: noise, illumination, toxicology. Methods engineering, including operations analysis, motion study, and time standards. prereq: Upper div CSE or grad student

IE 5513. Engineering Safety. (; 4 cr. ; A-F or Audit; Every Fall & Spring)
Occupational, health, and product safety. Standards, laws, and regulations. Hazards and their engineering control, including general principles, tools and machines, mechanics and structures, electrical safety, materials handling, fire safety, and chemicals. Human behavior and safety, procedures and training, warnings and instructions. prereq: Upper div CSE or grad student

IE 5522. Quality Engineering and Reliability. (; 4 cr. ; Student Option; Periodic Fall & Spring)
Quality engineering/management, economics of quality, statistical process control design of experiments, reliability, maintainability, availability. prereq: [4521 or equiv], [upper div or grad student or CNR]

IE 5524. Process Transformation through Lean Tools. (2 cr. ; A-F only; Every Fall)
Lean is a systematic methodology that improves processes by identifying and removing sources of waste in an organization. Lean tools, such as value stream mapping,

Kaizen, kanban systems, visual systems, and 5S, improve processes by identifying and removing sources of waste. In this course, you will learn and utilize key Industrial Engineering methodologies to identify opportunities, prioritize these opportunities, develop solutions and create cost models of the solutions effectiveness. Applications of lean process improvement in areas such as manufacturing, healthcare, service operations, and business processes will be considered.

IE 5531. Engineering Optimization I. (; 4 cr. ; Student Option; Every Fall)
Linear programming, simplex method, duality theory, sensitivity analysis, interior point methods, integer programming, branch/bound/dynamic programming. Emphasizes applications in production/logistics, including resource allocation, transportation, facility location, networks/flows, scheduling, production planning. prereq: Upper div or grad student or CNR

IE 5532. Stochastic Models. (4 cr. ; Student Option; Every Fall)
Introduction to stochastic modeling and stochastic processes. Probability review, random variables, discrete- and continuous-time Markov chains, queueing systems, simulation. Applications to industrial and systems engineering including production and inventory control. prereq: Undergraduate probability and statistics. Familiarity with computer programming in a high level language.

IE 5533. Operations Research for Data Science. (3 cr. ; A-F only; Periodic Fall)
This course combines data, modeling, and decision-making to provide students with experience solving practical problems in a variety of application areas, including healthcare and medical decision-making, supply chains and e-commerce, and finance and revenue management. To this end, case studies will be used to illustrate the sequence of problem definition, data analysis, model building, and decision support. The example problems are realistic in terms of size and complexity and the data sets are realistic in that the quality of the data is less-than-perfect. The first part of the course focuses on deterministic models while the second part of the course covers stochastic models. A high-level programming language such as R is used for data manipulation and for predictive analytics. An algebraic modeling language such as AMPL is used for models that require linear/integer programming. The solutions and their sensitivity to changes in parameters are interpreted to aid decision-makers. Throughout the course, the methodologies are kept in perspective with the overall goal of making better decisions.

IE 5541. Project Management. (; 4 cr. ; A-F only; Every Fall & Spring)
Introduction to engineering project management. Analytical methods of selecting, organizing, budgeting, scheduling, and controlling projects, including risk management, team leadership, and program management. prereq: Upper div or grad student

IE 5545. Decision Analysis. (; 4 cr. ; Student Option; Periodic Fall & Spring)
Single-person and group decision problems. Structuring of decision problems arising in personal, business, and public policy contexts. Decision-making under uncertainty, value of information, games of complete information and Nash equilibrium, Bayesian games, group decision-making and distributed consensus, basics of mechanism design. prereq: 3521 or equiv

IE 5551. Production and Inventory Systems. (; 4 cr. ; Student Option; Every Spring)
Inventory control, supply chain management, demand forecasting, capacity planning, aggregate production and material requirement planning, operations scheduling, and shop floor control. Quantitative models used to support decisions. Implications of emerging information technologies and of electronic commerce for supply chain management and factory operation. prereq: CNR or upper div or grad student

IE 5553. Simulation. (; 4 cr. ; Student Option; Periodic Fall & Spring)
Discrete event simulation. Using integrated simulation/animation environment to create, analyze, and evaluate realistic models for various industry settings, including manufacturing/service operations and systems engineering. Experimental design for simulation. Selecting input distributions, evaluating simulation output. prereq: Upper div or grad student; familiarity with probability/statistics recommended

IE 5561. Analytics and Data-Driven Decision Making. (4 cr. ; Student Option; Every Spring)
Hands-on experience with modern methods for analytics and data-driven decision making. Methodologies such as linear and integer optimization and supervised and unsupervised learning will be brought together to address problems in a variety of areas such as healthcare, agriculture, sports, energy, and finance. Students will learn how to manipulate data, build and solve models, and interpret and visualize results using a high-level, dynamic programming language. Prerequisites: IE 3521 or equivalent; IE 3011 or IE 5531 or equivalent; proficiency with a programming language such as R, Python, or C.

IE 5571. Reinforcement Learning and Dynamic Programming. (4 cr. ; Student Option; Fall Odd Year)
Topics are methods for solving problems in sequential decision making. We will introduce the modeling framework of Markov Decision Processes (MDP), and the classic solution approach of dynamic programming. We will discuss the traditional solution approaches to dynamic programming of value and policy iteration. We will then move onto model free methods of finding optimal policies for MDPs such as Monte Carlo and Temporal Difference methods. We will discuss the extension of these methods to problems with large state spaces where it is necessary to introduce parametric approximations such as deep neural networks. Examples will be drawn from problems in navigation, medicine, game

play, and others. Prerequisites: Knowledge of probability, optimization, and linear algebra at the undergraduate level.

IE 5773. Practice-focused Seminar. (1 cr. ; S-N or Audit; Every Fall)
Industry and academic speakers, topics relevant to analytics practice.

IE 5801. Capstone Project. (4 cr. ; A-F only; Every Fall)
Students work on ISyE Analytics Track capstone project in small teams of two or three. Projects are supervised by industry mentor and faculty adviser. Projects involve application of techniques from Analytics Track curriculum. Prerequisites: ISyE Analytics Track MS Student; IE 5531; IE 5561; Stat 5302; CSci 5521 or 5523.

Information Networking (INET)

INET 1001. Survey of Information Technology. (1 cr. ; A-F or Audit; Every Fall & Spring)
Major classifications of information technology (IT). Business uses with focus on data, systems, networks. IT as career, including degrees, certifications, trends, opportunities, lifelong learning.

INET 3011W. Social Impact of Information Technology. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)
Information and Communication Technology (ICT) has a profound impact on society in many different ways. Some of these ways -- for example, in a business or in terms of specific employment activities -- you will study in other courses; INET 3011W asks you to think about the ethical decision-making that goes into ICT activities and their impact within and beyond the ICT world. What ethical choices must individuals make when designing new software or applications? What sorts of problems and competing interests can arise during work in organizational teams or across an industry, and how can they be resolved? More fundamentally, what impact does ICT, along with the ethical decisions made by those working in the field, have on the larger world -- the communities in which it is deployed, the environment on which it operates, and the governments and economies in which it plays an ever-increasing role? To address these and related questions, INET 3011W will require you to examine ICT's impact from three different perspectives: (1) the individual decision-maker; (2) the team or organizational dynamic; and (3) the stakeholders at the social, and even global, level. prereq: None

INET 3101. C Programming: Language and Applications. (; 2 cr. ; A-F or Audit; Every Fall)
Syntax of C language. How other languages use C to interact with operating system. Debugging. Assignments build upon real-world programming examples to demonstrate how/where to use C. Scripting using languages such as UNIX shell and Perl. prereq: Programming experience or completed coursework in [Java or C+ or similar programming language]

INET 3102. Web Infrastructure. (; 2 cr. ; A-F or Audit; Every Fall)
Infrastructure of the web, from its fundamental protocol (HTTP) to the organization and use of large-scale components and services. Cloud offerings (compute, storage, queuing) and platforms (AWS, Google Apps, Heroku). prereq: [3101, CSCI 2021] or equiv IT experience

INET 4001. Foundations of Operating Systems. (4 cr. ; A-F or Audit; Every Fall)
Although the concept of an operating system has some core components, such as I/O, storage, CPU scheduling, process, and synchronization, the ways we use computing devices are radically changing. With the advent of concepts like IoT (internet of things), we need to not just simply take a single concept of a computer (PC or server) as de facto standard, we must adapt and understand how the core components that make up an operating system change how we need to use these components. We also have the ability to consume OS resources via networking like never before. What is commonly called "cloud computing" has now stretched what we think of a compute device across the globe as a connected system of services/processes. This course will start from the beginning of computing (briefly) to ground what we are actually trying to do with compute devices. From here, we'll understand the foundation of operating system components, but not just from a single platform. An introduction to cloud computing is essential as well, as there are many components we consume via compute devices that are across a WAN circuit as a "service." Prerequisites: CSci 2021 or EE 2361

INET 4002. Foundations of Networking. (3 cr. ; A-F or Audit; Every Fall & Spring)
Basics of data communications and computer networks. Foundations of network protocols, data communications models, networking devices, and network types. Local area, wide area, and wireless networks and their uses in business applications. Network monitoring, troubleshooting, security, and management fundamentals, including their application in enterprise networking. 3 credits. No prerequisites, but basic knowledge of computer architecture and operating systems is recommended. Note that credit will be granted for either INet 4002 or CSci 4211, but not both.

INET 4007. Security II: Cyber Security. (4 cr. ; A-F only; Every Fall)
An exploration of information security, how it applies to current networking technologies, and ways these technologies are used and consumed. New authentication methods for securing user data, such as telemetry, biometrics, and N factor authentication, will be surveyed. The course will also look at recent instances of information breaches that have put a spotlight on security, especially as they relate to cloud services, virtual environments, and Internet standards. No prerequisites. Basic knowledge of security issues and processes (detection, risk assessment, technology, secure design, business continuity, forensics, and legal aspects) is recommended. If you have

taken INet 4165, you will be well prepared. If you are unsure about whether your knowledge is sufficient for success in this class, contact the instructor.

INET 4011. Networking I: Network

Administration. (4 cr. ; A-F or Audit; Every Fall)

A combination of networking theory (lecture and expert guest speakers) and application (lab work). Topics include network architecture, switching, routing, algorithms, protocols, infrastructure hardware, cable plant, security, and network management. prereq: CSCI 4211-Introduction to Computer Networks or equivalent networking knowledge and understanding.

INET 4021. Dev Ops I: Network

Programming. (; 4 cr. ; A-F or Audit; Every Spring)

Network and distributed programming concepts. Design using C, Java, and other higher-level programming languages. Sockets, TCP/IP, RPC, streaming, CORBA, .NET, and SOAP. Labs use UNIX/Linux and MS Windows operating systems. prereq: major admission requirements completed.

INET 4031. Introduction to Systems. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Overview of systems administration. Integration of hardware, software, and operational practice. Role of a systems administrator in today's infrastructure world, the environment within which the administrator operates, and various components that influence decision-making criteria. Ways these technologies are implemented in practice are conveyed through industry speakers, tours, and demonstrations. Hands-on labs when possible. prereq: Secure knowledge of operating systems, such as provided by INet 4001 or CSci 4061.

INET 4032. Systems I: Storage. (4 cr. ; A-F or Audit; Every Fall)

Information is one of the most valuable commodities of the 21st century. This course deals with the proper care and handling of enterprise data, whether the ?enterprise? is a large multinational corporation, a family home, or something in between. Topics include storage network architecture and storage system design. We will examine data storage technology; local, network, and distributed storage; storage history; data protection policy and implementation (including redundancy, replication, backup, and archive storage); security; compression and encryption; and emerging technologies like Big Data, Cloud storage, AWS, Google, and vCloud Air. prereq: Fundamental understanding of an operating system such as Microsoft Windows, Linux, or Apple OSX, in the areas of file systems, I/O, computer architecture, and basic administration.

INET 4041. Networking II: Emerging

Technologies. (; 4 cr. ; A-F or Audit; Every Fall)

Emerging networking concepts, technologies, and applications. Topics will evolve to reflect current trends and expertise of the faculty, such as high speed networking, ATM, network security, wireless networks, multimedia, and

electronic commerce. Each technology is considered for the underlying theory; the driving technological and business needs; the applications; the competing alternative technologies; and the design, implementation, and configuration of such systems. Case studies may be used to identify and analyze strategic issues and problems. Concepts and tools from this and previous ITI courses are applied to solve these problems and design realistic programs of action. Hands-on labs are included when possible. Industry speakers, tours, and demonstrations show practical applications. prereq: CSci 4211 or equivalent, or professional experience, to comprise a basic understanding and knowledge of operating systems, computer architecture, and probability theory. Senior status preferred.

INET 4051. IT Infrastructure Operations:

Capstone. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Comprehensive review of major aspects of IT infrastructure and operations: networks, databases, servers, storage, project management, governance, compliance, monitoring, and more. This course merges these discrete disciplines into an operational pattern, preparing you to quickly integrate yourself into a productive working IT environment.. You'll learn how to map and develop processes, collect and analyze operational metrics, plan tactically and strategically, plan for capacity, secure the infrastructure, and scale the topics to fit an organization's size. Because IT infrastructure operations are almost always the function of a team, there will be two case study assignments that will challenge you and your group members to use your knowledge about the course material against a current industry issue. prereq: INet 4002 or CSci 4211 or instructor consent, Senior.

INET 4061. Data Science I: Fundamentals.

(4 cr. ; A-F or Audit; Every Fall & Spring) Introduction to data science. Design strategies for business analytics: statistics for machine learning, core data mining models, data pipeline, visualization. Hands-on labs with data mining, statistics, and in-memory analytics software. prereq: Basic statistics and programming skills, laptop

INET 4082W. IT Infrastructure Projects and Processes. (WI; 3 cr. ; A-F or Audit; Every Fall)

This course presents an IT management perspective on business partnerships, project management and lifecycles, methodologies, processes, and organizational structures. It covers scope definition, resource estimating of time and cost, quality considerations, and metrics and risk analysis. Project management best practices are emphasized. All the concepts will be tied together with project simulation assignments. As a writing intensive designated course, it will spend significant time focusing on the writing process. Writing is crucial to this discipline because clear, accurate, and professional communication is essential to each element in the process of project management. The inability to write well,

clearly, and in terms of specified audiences can, in the professional world, lead to not only miscommunication between team members but also, and more largely, to a failure of projects and the companies and employees they represent. prereq: 45 cr recommended

INET 4083W. Systems II: Analysis and

Design. (WI; 3 cr. ; A-F or Audit; Every Spring) Requirements management, analysis, and design of computer system solutions that meet business objectives. Materials and resources are intended to prepare students to be effective business analysts and systems analysts. Topics include the systems development life cycle, analysis and design tools and techniques, and communication strategies. As a writing intensive course, INET 4083W focuses especially on writing in information technology and the writing process and uses a case study and in-class exercises to develop analytical, technical, and communication skills. Students can expect to spend significant time in and out of class developing writing skills, thinking through the writing process, and drafting and revising written work. Prereq: INet 4082W (or equivalent project management experience) is recommended.

INET 4121. DevOps II: Development

Strategies. (4 cr. ; A-F or Audit; Every Fall)

DevOps (Development and Operations) is the term used to describe the collaboration of software engineers with the quality assurance and operations teams who test, deploy, and operate new systems. Its goal is to generate better and more continuous feedback regarding what is being developed, consumed, and operated, in order to increase delivery and deployment speed while maintaining system stability. Topics include configuration management, application deployment, monitoring of application and infrastructure performance, version control, and testing and building systems. Professional software engineering tools for the continuous integration tool chain are surveyed, and the Python language, combined with operating system and web functions, is used to develop tools for automating DevOps practices. (Though assignments are in Python, students with only Java or C++ should be able to learn Python quickly.) prereqs: CSCI 4061 or operating system knowledge, basic knowledge of Python

INET 4153. Introduction to Security: Policy and Regulation. (; 4 cr. ; A-F or Audit; Every Fall)

Explores the significant domestic and international regulatory demands faced by information technology management (IT) in business and industry, with attention to the effects of those regulations on IT Infrastructure policy, technology management, and decision making. Several major U.S. and international regulatory documents will be studied. IT governance, risk and compliance management frameworks, best practices, and common approaches used to meet today's regulatory challenges and support common business functions will be examined, as well as IT policies, procedures, and processes in highly regulated business sectors. prereq: experience with Windows/Internet; 45 semester credits

INET 4165. Security I: Principles. (3 cr. ; A-F or Audit; Every Spring)

An in-depth look at the information security profession. Focuses on real-world IT security issues and processes rather than any particular technology or product solution. Topics include risk assessments/pen testing, ethics, malicious code, preservation of business continuity/disaster recovery, security policies and procedures, security awareness, encryption, privacy and legal issues, intruder detection, forensics, secure web design, incident response, vulnerability assessment, and security audits. prereq: CSCI 4061 or equiv experience with operating systems

INET 4193. Directed Study. (; 1-4 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Independent project. Topic arranged with and supervised by ITI faculty. prereq: ITI student, dept consent

INET 4596. Internship. (; 1 cr. [max 3 cr.] ; A-F only; Every Fall, Spring & Summer)

Provides students with the opportunity to gain hands-on experience working in a professional IT setting and get an insider's view of information technology applications in the workplace. In consultation with a faculty adviser, students apply classroom learning, contribute to knowledge of best practices, and prepare for the transition from school to full-time employment in the IT field. Students seeking credit for the internship are expected to find employment that primarily draws upon the intern's academic knowledge in field-relevant level tasks and allows for new learning in these areas. prereq: [ITI major or certificate student], [jr or sr], dept consent

INET 4707. Introduction to Databases. (; 4 cr. ; A-F or Audit; Every Fall)

Overview of relational database and big data (NoSQL) technologies. Topics include entity relation modeling, relational databases, SQL, data warehouse, transaction and recovery, data security, distributed databases, key-value and column family, distributed transaction management, document databases, graph databases, Hadoop, and polyglot persistence. Case studies present a real-world perspective. The course provides enough background into the functions, advantages, and disadvantages of each technology to enable an understanding of which technology or combination of technologies is appropriate for implementing a given business system. prereq: INet 4001 or CSci 4061, at least 45 cr completed; CSci majors contact CSci Dept before registering.

INET 4709. Data Management I: Fundamentals. (3 cr. ; A-F or Audit; Every Spring)

This course provides insight into concepts and techniques for installing and managing highly scalable relational databases: storage, protection, structure, tuning, and access. Students will learn how to integrate business requirements into specific database policies and procedures. Topics include selection of hardware and software components, backup and disaster recovery, performance metrics, high availability, and monitoring techniques.

Hands-on lab exercises will utilize core concepts covered in lecture: installation of MySQL, backup and recovery, import and export, security, transaction management, data partitioning, and database replication. prereq: INet/CSci 4707 and CSci 4061, or professional experience with SQL and basic operating systems.

INET 4710. Data Science II: Big Data Analytics. (4 cr. ; A-F or Audit; Every Spring)

Scales machine learning models and data analysis to a Big Data platform. Map Reduce and Spark frameworks are introduced as approaches to parallel algorithm development. Hands-on labs. Prerequisites: Basic programming knowledge (Java, Python, R). Linear algebra strongly recommended, especially matrix operations (e.g., MATH 2243, Linear Algebra and Differential Equations)

INET 4711. Data Management II: Distributed Systems. (4 cr. ; A-F or Audit; Every Fall)

Introduction to distributed programming and systems concepts in high-scale environments with a focus on application to commercial systems in the data center. Discussion of key protocols and algorithms as well as best-practice implementations on platforms commonly associated with big data in the enterprise. Hands-on experience in the design and engineering of distributed systems on cloud-oriented technologies. prereq: INET 4031 and 4707 or consent of instructor.

Information and Decision Sci (IDSC)

IDSC 3001. Information Systems & Digital Transformation. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Digital transformation through new technologies such as artificial intelligence, enterprise systems, electronic commerce, Internet of things, social media; IT strategy and data-driven decision making; privacy and security issues related to the Internet; a must take for students who want to be prepared for the rapidly changing technological landscape as successful professionals

IDSC 3001H. Honors: Information Systems for Business Processes and Management.

(; 3 cr. ; A-F or Audit; Every Fall) Digital transformation through new technologies such as artificial intelligence, enterprise systems, electronic commerce, Internet of things, social media; IT strategy and data-driven decision making; privacy and security issues related to the Internet; a must take for Honors students who want to be prepared for the rapidly changing technological landscape as successful professionals.

IDSC 3101. Introduction to Programming. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to Programming introduces students to a number of fundamental programming concepts, including: variables, decision structures, programming functions, and repetition structures. These concepts, which are widely applicable to different programming languages, are introduced using Python.

IDSC 3102. Intermediate Programming. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Programming concepts to develop large, full-featured applications. Object-oriented programming, database applications, Web applications. Style, performance, UI design.

IDSC 3103. Data Modeling and Databases. (; 2 cr. ; A-F only; Every Fall & Spring)

Concepts for designing, using, and implementing database systems. Normalization techniques. Structured Query Language (SQL). Analyzing a business situation. Building a database application.

IDSC 3104. Enterprise Systems. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Management aspects of Enterprise Systems. Vendor/vendor management options. Technologies, organizational readiness. Hands-on access to software solutions from ERP software provider. End-to-end processes. Measurement of key performance indicators. Analytics, workflow. prereq: 3001

IDSC 3202. Analysis and Modeling of Business Systems. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Improving/automating key business processes in manufacturing and service industries. Roles of business management and MIS. Selecting business process opportunities, business process analysis, process modeling of work/data flow, decomposition, software tools. Traditional/object analysis methods. prereq: 3001

IDSC 3511. Pitching Business Strategy. (2 cr. ; A-F only; Every Fall)

Contemporary business strategy drives growth across industries and geographies. Thus, effectively selling an approach to an ambiguous business situation is an important skill for those entering the business world - either as a consultant or a staff member wishing to sell ideas to senior management. You will learn how to approach an opportunity and how to communicate your approach and an action plan to management with appropriate emphasis and structure. The class consists of a series of hands-on workshops and real-world, global business cases (which serve as proxies for real-life consulting and staff experiences). Prereq: IDSc 3001 or I-Core (completed or concurrent), or Instructor permission.

IDSC 4110. Data Engineering for Business Analytics. (2 cr. ; A-F only; Every Fall)

Modern organizations increasingly base their decisions on data which is becoming more abundant by each day. The first step of using data for decision making is to prepare data in a suitable format for analysis, a step commonly known as data engineering. Typical data engineering tasks may include data acquisition, parsing, handling missing data, summarization, augmenting, transformation, subsetting, sampling, aggregation, and merging. Data engineers also frequently use basic data visualization tools to detect and fix data issues. Most recently, there is increasing demand for data engineers to handle big data and unstructured data. A good data engineering process ensures quality, reliability, and usability

of data. In fact, data engineering is such a critical and time-consuming step of data-driven decision making that many data scientists and analysts spend more than 60% of their time doing data engineering related tasks.

IDSC 4161. Python for Business

Applications. (2 cr. ; A-F only; Every Spring) According to recent industry surveys, Python is a highly popular tool used by organizations for business tasks. This course is designed for students who already have an intermediate programming background such as IDSC 3101/3102 (or equivalent Computer Science programming courses) and would like to explore using Python for tasks such as text processing, data analysis, and website scraping. This course focuses on business-oriented applications of Python without requiring students to learn formal computing concepts. Participants will then learn how to apply functionality from powerful and popular libraries. We will spend most of our class time completing practical hands-on exercises.

IDSC 4204W. Strategic Information

Technology Management. (WI; 4 cr. ; A-F or Audit; Every Fall & Spring) Information services as service function. Investing resources to support strategy. Managing IS resources. Project Management, Human Capital Management, Infrastructure Management. Emphasis on cloud/big data infrastructures, outsourcing.

IDSC 4210. Interactive Data Visualization for Business Analytics. (2 cr. ; A-F only; Every Fall)

IDSC 4210 is an elective course for the undergraduate Business Analytics minor at the Carlson School of Management. It focuses on the fundamental and widely used exploratory data analysis technique of interactive visualization that is integral to modern business analytics. The key goal of this course is to prepare students for the rapidly changing digital environment faced by companies as it pertains to data-driven decisions. The students will also have hands-on experience with interactive data visualization using modern, state-of-the-art software on real-world datasets.

IDSC 4301. MIS in Action: A Capstone

Course. (2 cr. ; A-F only; Every Fall & Spring) The course is designed for students to integrate a large number of concepts they have studied in previous course work within the department and school. The class uses a live-case/project-based design that requires students to identify and develop a detailed managerial analysis of an information technology and/or management information system (IT, MIS) project for a local corporation.

IDSC 4310. Prescriptive Analytics. (2 cr. ; A-F only; Every Spring)

Prescriptive Analytics answer the question "What should I do?" This class of analytical techniques focuses on moving beyond simply analyzing the data to providing an optimal action plan. Prescriptive techniques combine learnings from the descriptive and predictive disciplines with a new layer of insight and computer algorithms that suggests an action plan rather than just describing the data or

predicting what might happen. prereq: IDSc 4110 & 4210 recommended.

IDSC 4401. Information Security. (; 2 cr. ; A-F only; Every Spring)

Concepts/issues of security and data integrity threats that undermine utility, robustness, and confidence in electronic technologies in facilitating business transactions. prereq: 3001

IDSC 4411. Information Technology Governance and Assurance. (; 2 cr. ; A-F only; Every Fall)

Information technology audit function, internal control, audit process, smart operations, network security, systems development life cycle, enterprise resource planning risk, compliance issues. IT governance, business continuity, frameworks/methodologies. Lectures, case studies, real-world examples. prereq: 3001

IDSC 4441. Electronic Commerce. (; 2 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Issues/trends in applying e-commerce initiatives. Technological infrastructure, revenue models, web marketing, business-to-business strategies, online auctions, legal and ethical aspects, hardware/software, payment systems, security. Conceiving, planning, building, and managing e-commerce initiatives. prereq: 3001

IDSC 4444. Descriptive and Predictive

Analytics. (; 2 cr. ; A-F only; Every Spring) Descriptive and Predictive Analytics exposes students to a number of data mining and machine learning methods, including: exploratory methods (such as association rules and cluster analysis), predictive methods (such as K-NN and decision trees), and text mining methods. The course combines theoretical lectures with lab lectures, where the methods are practically implemented using the software R. prereqs: IDSC 3001; non-MIS majors also need IDSC 4110

IDSC 4455. Web 2.0: The Business of Social Media. (; 2 cr. ; A-F only; Every Fall)

Business use of social media technologies. Blogs, wikis, online social networks. Readings, forum discussion, case analyses. How technologies engage consumers, market products or services, benefit from open innovation, foster collaboration among employees. prereq: 3001

IDSC 4471. Agile Methods. (2 cr. ; A-F only; Every Spring)

With the changing landscape of MIS methodologies, it is important to prepare for the future. This course will cover modern lightweight, and interactive IT development practices. Topics will include methodologies (RUP, Scrum, Kanban, and others); requirements gathering processes (Epics, User Stories); tools (burn-down chart, Kanban visualization); and leadership concepts (Scrum master, team member, sponsor). This class is appropriate for those with project-oriented career goals, in IT organizations as well as consulting roles.

IDSC 4490. Information Systems Special Topics. (; 2 cr. [max 10 cr.]; A-F or Audit; Periodic Fall & Spring)

Discussion and analysis of current topics and developments in information systems.

IDSC 4491. Independent Study in Information Systems. (; 1-4 cr. [max 8 cr.]; A-F only; Periodic Fall, Spring & Summer) Independent study in information systems. prereq: instr consent

IDSC 4493. Directed Study. (1-4 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer)

Student-initiated project or directed study to be completed with a faculty member. prereq: Instructor consent

IDSC 4590. Business Analytics Special Topics. (; 2 cr. [max 6 cr.]; A-F only; Every Spring)

Discussion and analysis of current topics and developments in business analytics.

Insurance and Risk Management (INS)

INS 4101. Employee Benefits. (; 2 cr. ; Student Option; Every Fall)

Design/administration of employee benefit plans/pension. Health insurance, disability plans. Salary reduction/deferred compensation programs. Multiple employer trusts. Alternative funding methods, including self-insurance. Ethical issues, legal liability, compliance.

INS 4105. Corporate Risk Management. (; 2 cr. ; Student Option; Every Fall & Spring)

Theory applied to corporate risk management and insurance practices. Identification, measurement, and treatment of an organization's financial risks integrated with its property, liability, workers compensation, and human resource risks. Selection and application of risk control and risk financing tools: risk retention, reduction and transfer, including insurance.

INS 4200. Insurance Theory and Practice. (; 2 cr. ; Student Option; Every Spring)

Risk theory is applied to practices in health, liability, life, property, and workers compensation insurance. Insurance marketing, pricing, underwriting, and claims administration, with adverse selection and moral hazard effects. Policy issues of tort versus no-fault compensation systems. Self-insurance and integrated risk financing methods.

Inter-College Program (ICP)

ICP 3000. Career Skills in the Professional Environment. (; 2 cr. ; Student Option; Every Spring & Summer)

Career planning and job search processes appropriate to business/professional careers in corporate culture. prereq: 60 cr

ICP 3093. Directed Study. (1-15 cr. ; A-F only; Every Fall, Spring & Summer)

Independent, directed study. prereq: instr consent

ICP 3101W. Proposal Development. (WI; 2 cr. ; A-F only; Every Fall & Spring)

A required course for Inter-College Program (ICP) and Health and Wellbeing Sciences

(HWS) students. Provides the opportunity to explore together the three sections of the individualized degree proposal: Goals, Background, and Course of Study. Students will derive content for the proposal, select curriculum, and prepare developmental drafts and a final draft for program/departmental review. Peer review, discussion, and writing exercises will enhance the proposal development process and the final product. prereq: Admission to the Inter-College Program or Health and Wellbeing Sciences major

ICP 3201. Career and Internship

Preparation. (; 1 cr. ; A-F only; Every Fall & Spring)

Self exploration, networking, industry research, job/internship search, resumes, cover letters, interviewing, salary negotiation, goal setting. prereq: Soph or jr or sr or grad student

Interior Design (IDES)

IDES 1601. Interior Design Studio I. (4 cr. ; A-F or Audit; Every Fall)

Theories used to solve interior design problems related to human behavior. Design process. Communication skills that are required for interior design profession. prereq: Interior design pre-major or interior environments minor

IDES 1602. Interior Design Studio II. (4 cr. ; A-F only; Every Spring)

Introduction to interior design programming as method for understanding behaviors/requirements of humans in spaces. Use of color in three-dimensional environments. Developing communication skills. Problem-solving. prereq: [1601 or DHA 1601] with grade of at least C-, interior design pre-major

IDES 2196. Work Experience in Interior Design. (; 1-4 cr. [max 8 cr.]; S-N only; Every Fall, Spring & Summer)

Supervised work experience in business, industry, or government, related to student's area of study. prereq: Plan submitted/approved by [adviser, internship supervisor], written approval of supervisor, instr consent

IDES 2603. Interior Design Studio III. (; 4 cr. ; A-F only; Every Fall)

Expanding presentation skills, visual communication of design process. Design of interior environment as influenced by neighborhood, adjacent structures, regional context, diverse cultures. prereq: [1602 or DHA 1602] with grade of at least C-, pass portfolio review, interior design major

IDES 2604. Interior Design Studio IV. (4 cr. ; A-F or Audit; Every Spring)

Relationship between exterior/interior design as it pertains to building construction. Methods/materials, principles of structure, building systems, construction details. Interface of electrical, HVAC, plumbing systems in buildings. prereq: [2603 or DHA 2603], 2613

IDES 2612. Interior Materials and Specifications. (ENV; 4 cr. ; A-F or Audit; Every Spring)

Environmental issues, from global to interior spaces. Effect of building codes/legislation,

social awareness. Functional/aesthetic relation of materials/resources to interior design.

prereq: [Pass portfolio review, interior design major] or interior environments minor or design minor or instr consent

IDES 2613. Interior Structures, Systems, and Life Safety. (4 cr. ; A-F only; Every Fall)

Codes, standards, regulations, and guidelines that govern design of interior space and support life safety. Integration of building systems. Structures for non-residential/residential occupancy. Building/energy codes. Lectures, guest speakers, field trips.

IDES 2622. Computer Applications I. (; 2 cr. ; A-F only; Every Spring)

Computer-aided design, its role in interior design. Use of software applications for construction drawings, two-/three-dimensional representation. Modeling for interior design problem-solving/presentation. prereq: Interior design major

IDES 3161. History of Interiors and Furnishings: Ancient to 1750. (GP; 4 cr. ; A-F or Audit; Every Fall)

Study of European and American interiors and furnishings, including furniture, textiles, and decorative objects.

IDES 3162. History of Interiors and Furnishings: 1750 to Present. (HIS; 4 cr. ; A-F or Audit; Every Spring)

European/American interiors/furnishings, including furniture, textiles, and decorative objects.

IDES 3196. Field Study: National or International. (; 1-4 cr. [max 10 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Faculty-directed field study in national or international setting. prereq: instr consent

IDES 3605. Interior Design Studio V. (; 4 cr. ; A-F only; Every Spring)

Advanced interior design problems dealing with small to medium scale spaces. Emphasizes special-needs populations.

IDES 3606. Interior Design Studio VI. (; 4 cr. ; A-F only; Every Fall)

Interior design problems dealing with medium-scale spaces. Focuses on medium office design. prereq: IDes 3605

IDES 3612. Lighting Design. (3 cr. ; A-F only; Every Fall)

Lighting as dynamic design element. Psychological aspects of light color/quality/sources. Photometrics, codes, daylighting, energy conservation. How lighting impacts health/well-being. Integrating lighting with interior/architectural elements. Lighting/fixture design. Computer visualization. Lecture, assignments, projects.

IDES 3614. Interior Design Ethics and Professional Practice. (CIV; 4 cr. ; A-F only; Every Fall)

Business of interior design, professional ethics, and responsible design. Ethical theory/conduct. Responsibility to business, clients, colleagues, and community at large and globally. prereq: 2604 or DHA 2604; or Interior Environments Minor

IDES 3622. Computer Applications II. (2 cr. ; A-F only; Every Fall)

Advanced concepts/terms in computer modeling. Computer graphics, three-dimensional modeling, rendering, animation to provide representation strategies for interior design problem-solving/presentation. Applications such as Autodesk Revit, AutoCAD, Autodesk 3ds Max Design. prereq: 2622

IDES 4193. Directed Study in Interior Design. (; 1-4 cr. [max 8 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Independent study in interior design under tutorial guidance. prereq: Undergrad, instr consent

IDES 4196. Internship in Interior Design. (; 1 cr. ; S-N only; Every Fall, Spring & Summer)

Supervised work experience relating activity in business, industry, or government to student's area of study. Integrative paper or project may be required. prereq: 4607, instr consent

IDES 4607. Interior Design Studio VII. (4 cr. ; A-F only; Every Fall)

Advanced interior design problems dealing with large scale spaces. Historic precedent, adaptive use, renovation. prereq: [IDes 2604] or [DHA 2604] with grade of at least C-

IDES 4608. Interior Design Thesis. (; 4 cr. ; A-F only; Every Spring)

Comprehensive independent interior design project developed from student-conducted research/program developed in 4615W. prereq: [4615W or DHA 4615W], [4607 or DHA 4607] with grade of at least C-

IDES 4615W. Interior Design Research. (WI; 3 cr. ; A-F only; Every Fall)

Research methods for programming interior design solutions. Developing comprehensive program. Issues that affect interior design research/practices. prereq: 3605 or DHA 3605

IDES 4616. Sustainable Commercial Interior Design. (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Intent, requirements, submittals, technologies/strategies to achieve LEED CI standards in existing, new construction, or tenant improvement projects.

IDES 4617. Lighting Design Innovations and Technological Advances. (; 3 cr. ; A-F only; Every Spring)

This course deepens students' understanding of the relationship between interior and architectural lighting design issues, strategies, and methods in contemporary practice. It investigates an integrated approach to lighting design to consider lighting innovations and emerging trends in health and comfort, smart technologies, energy and performance, metrics and standards, and assessment processes and tools. Assignments incrementally introduce students to related lighting issues to enable students to gain hands-on knowledge and application of related design issues through a small design project. Field studies and guest lectures provide insights into innovations in industry and professional perspectives on emerging technologies and systems integration.

IDES 5193. Directed Study in Interior

Design. (; 1-4 cr. [max 8 cr.]; A-F or Audit; Every Fall, Spring & Summer)
Independent study in interior design under tutorial guidance. prereq: Jr or sr or grad student

IDES 5196. Work experience (lighting internship).

(3 cr. [max 10 cr.]; A-F or Audit; Every Fall, Spring & Summer)
Faculty-directed internship

IDES 5612. Lighting Design.

(3 cr. ; A-F only; Every Fall)
Lighting as dynamic design element. Psychological aspects of light color/quality/sources. Photometrics, codes, daylighting, energy conservation. How lighting impacts health/well-being. Integrating lighting with interior/architectural elements. Lighting/fixture design. Computer visualization. Lecture, assignments, projects.

IDES 5616. Sustainable Commercial Interior Design.

(3 cr. ; A-F or Audit; Every Spring)
Intent, requirements, submittals, technologies/strategies to achieve LEED CI standards in existing, new construction, or tenant improvement projects.

IDES 5617. Lighting Design Innovations and Technological Advances.

(; 3 cr. ; A-F only; Every Spring)
This course deepens students' understanding of the relationship between interior and architectural lighting design issues, strategies, and methods in contemporary practice. It investigates an integrated approach to lighting design to consider lighting innovations and emerging trends in health and comfort, smart technologies, energy and performance, metrics and standards, and assessment processes and tools. Assignments incrementally introduce students to related lighting issues to enable students to gain hands-on knowledge and application of related design issues through a small design project. Field studies and guest lectures provide insights into innovations in industry and professional perspectives on emerging technologies and systems integration.

International Business (IBUS)**IBUS 1400. International Programs Elective.**

(1-4 cr. [max 8 cr.]; S-N only; Every Fall, Spring & Summer)
Education abroad program elective.

IBUS 3002. Strategic Management

Accounting. (4 cr. ; A-F only; Every Fall)
Costing techniques, including activity-based costing. Applying costing methods to determine costs of products, services, and production processes. Use of costs in operating/strategic decisions. This education abroad course provides an overview of managerial accounting concepts with a lens towards how different cultural contexts might influence the decisions that managers make around the world or in within different organizational cultures. prereq: ACCT 2051 or 2050

IBUS 3004. International Internship:

Personal and Professional Development

in the Global Workplace. (; 1 cr. ; S-N only; Every Summer)

This course offers the opportunity for students to observe and explore the business culture of your host country through their full-time internship placement. Students will develop intercultural communication and leadership skills through observation and structured reflection. Students in this course are participating on a Carlson education abroad program where they intern with a company, organization, or government agency related to their academic discipline of interest (e.g. marketing, finance, human resources, supply chain, MIS, etc.). Students intern at their placement about 40 hours per week for 8 weeks. prereq: Acceptance in Business Internship Program through the Carlson Global Institute

IBUS 3006. Global Career Skills.

(2 cr. ; A-F only; Every Spring)
The focus of this education abroad course is to increase your awareness, knowledge and skills associated with the career and job search process both domestically and globally. The course includes career exploration and discovery, as well as the tactical pieces of a job search. You will be exposed to a variety of individuals, organizations, and cultures in Minnesota and internationally who will give you different perspectives on the process such as recruiters from multi-national organizations, students who have completed an internship, and presenters abroad. You will also learn to use the Carlson School of Management Undergraduate Business Career Center (UBCC), On Campus Recruiting, and GoldPASS Powered by Handshake. This development will increase your ability to undertake a successful career and job search during college and beyond. This course is designed to be taken prior to or concurrent with enrollment in I-CORE. Prereq: an approved education abroad application and CSOM BSB students only.

IBUS 3010. Introduction to Global Entrepreneurship.

(4 cr. [max 12 cr.]; A-F only; Every Spring)
This course is an introduction to the fundamentals of entrepreneurship. Students will learn entrepreneurship concepts and apply them to opportunities in a variety of global contexts including China, Cuba, Brazil, and others. Students will interact virtually with global entrepreneurs and leaders. After engaging with international entrepreneurs students will apply their experience to future entrepreneurship opportunities.

IBUS 3019. Striving for Equity in International Business.

(4 cr. ; A-F only; Every Fall)
This course addresses gender in the workplace, including the complex reasons for the lack of representation of women in senior leadership positions?within the United States and in the larger global context? ?gendered? communication at work, and work-life effectiveness for both women and men. Other topics that we will touch on include gender-based differences in negotiation, teamwork,

communication, conflict management, and leadership. Historical and cross-cultural perspectives are integrated into the course.

IBUS 3021. Human Capital Management.

(4 cr. ; A-F only; Every Spring)
This course will look at how, through managing and leading people, we can achieve organizational strategic objectives. The class will learn about managing people in an ethical, legal way that is aligned with organizational strategy and helps organizations reach their goals through recruiting, selecting, training, rewarding, coaching, motivating, and developing the people within the organization. Overall the course will prepare the students to be managers and leaders in an increasingly complex, global business environment.

IBUS 3033W. Business Communication in a Global Context.

(WI; 4 cr. ; A-F only; Every Spring)
Written/oral communication skills for effective participation in contemporary organizations. From basic principles to communication strategy. Communication technology. Cases, simulations of "real-world" situations in a domestic and global context. Global perspectives of focus have included India, Spain, South Korea and Japan. prereq: Fr composition, CSOM upper-div, at least 60 cr

IBUS 3055. Innovating with Technology: Global IT Entrepreneurship in Action.

(4 cr. ; A-F only; Every Spring)
This course provides state-of-the-art knowledge about information technologies and fundamentals of entrepreneurship with an international perspective. It also provides a comprehensive overview of current and emerging technologies in several different areas of IT, focusing on the needs of the modern net-enhanced organizations and IT adaptation to local markets. In particular, the course covers basics of consumer electronics, Internet and mobile communications, web technologies, cloud computing, cyber-security, social network, etc. Students will be trained to use sprints to evaluate ideas, risk, costs, and culturalization needs of IT solution for local markets. We will look at how technology leaders/entrepreneurs in the rest of the world are addressing these opportunities. This class will teach students to use sprints to answer pressing business questions. First, students will map out the problem and pick an important place to focus. Second, they will sketch competing IT solutions on paper. Third, they will need to make decisions and turn their ideas into testable hypothesis. Fourth, they will develop a real or conceptual model for a prototype. Lastly, they will prepare to test out the ideas or pitch them to the partner companies.

IBUS 3081. Sustainability and Corporate Social Responsibility in Costa Rica.

(4 cr. ; A-F only; Every Fall)
Study abroad course focused on sustainability and corporate social responsibility. This course will utilize these constructs to introduce students to an overview of emerging approaches to business and its relationship with the environment. CSR and corporate

approaches to sustainability will be explored from a global perspective.

IBUS 3090. International Business Special Topics. (; 2-4 cr. [max 12 cr.] ; A-F only; Periodic Fall, Spring & Summer)

Discussion, analysis, site visits, and experiential learning of current topics and developments in international business. Topics will vary.

IBUS 3092. Understanding International Business. (2 cr. ; A-F only; Every Fall & Spring)

This course is an experiential introduction to global business. This course focuses on how international organizations innovate their business models to adapt to new markets and how global entrepreneurs launch businesses. Students will seek to understand diverse philosophies and cultures within and across societies and understand the role of creativity, innovation, discovery, and expression. They will deepen their own cultural awareness through the CQ Assessment. Students will interact virtually with South American business leaders to conduct their own research and experiential projects. prereq: Carlson School undergraduate students with at least 90 cumulative credits

IBUS 3101. Undergraduate Semester: CIMBA (Consortium of Universities for International Studies). (0-18 cr. [max 54 cr.] ; Student Option; Every Fall & Spring)

Semester of study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. For current offerings, contact Carlson Global Institute. prereq: 60 cr

IBUS 3400. International Programs Elective. (1-4 cr. [max 8 cr.] ; S-N only; Every Fall, Spring & Summer)

Elective course for education abroad.

IBUS 3401. International Programs Elective. (1-4 cr. [max 8 cr.] ; S-N only; Every Fall, Spring & Summer)

Elective course for education abroad.

IBUS 3402. International Programs Elective. (1-4 cr. [max 8 cr.] ; S-N only; Every Fall, Spring & Summer)

Elective course for education abroad.

IBUS 3500. International Business: Undergraduate Exchange - BLOCK. (0-18 cr. [max 90 cr.] ; S-N or Audit; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 3501. International Business: Undergraduate Exchange. (0-18 cr. [max 90 cr.] ; Student Option; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 3502. International Business: Undergraduate Exchange. (0-18 cr. [max 90 cr.] ; Student Option; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 3503. International Business: Undergraduate Exchange. (0-18 cr. [max 90 cr.] ; Student Option; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 3504. International Business: Undergraduate Exchange. (0-18 cr. [max 90 cr.] ; Student Option; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 3505. International Business: Undergraduate Exchange. (0-18 cr. [max 90 cr.] ; Student Option; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 3506. International Business: Undergraduate Exchange. (0-18 cr. [max 90 cr.] ; Student Option; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 3507. International Business: Undergraduate Exchange. (0-18 cr. [max 90 cr.] ; Student Option; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 3508. International Business: Undergraduate Exchange. (0-18 cr. [max 90 cr.] ; Student Option; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 3509. International Business: Undergraduate Exchange. (0-18 cr. [max 90 cr.] ; Student Option; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 3510. International Business: Undergraduate Exchange. (0-18 cr. [max 90 cr.] ; Student Option; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 3601. Undergraduate Summer Exchange. (0-4 cr. ; S-N only; Every Summer)

Summer study abroad exchange to one of Carlson Global Institute's partner universities.

IBUS 3602. Undergraduate Summer Exchange. (0-4 cr. ; S-N only; Every Summer)

Summer study abroad exchange to one of Carlson Global Institute's partner universities.

IBUS 3603. Undergraduate Summer Exchange. (0-4 cr. ; S-N only; Every Summer)

Summer study abroad exchange to one of Carlson Global Institute's partner universities.

IBUS 3700. London School of Economics Summer Program. (0-18 cr. ; S-N only; Every Summer)

Summer study abroad at London School of Economics. Students select one or two sessions based on their academic needs/interests.

IBUS 3701. Vienna Summer Program in International Business (Undergraduate). (0-18 cr. ; S-N only; Every Summer)

Summer study abroad at one of Carlson's School's international exchange partner universities, Vienna University of Economics/ Business Administration. Students select intensive/enrichment courses based on academic needs/interests.

IBUS 3702. Copenhagen Summer Program in International Business (Undergraduate). (0-18 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Summer study abroad at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. For current offerings, contact Carlson International Programs. prereq: 60 cr

IBUS 3703. Norway Summer Program in International Business (Undergraduate). (0-18 cr. ; S-N only; Every Summer)

Summer study abroad at one of Carlson School's international exchange partner universities, BI Norwegian School of Management. Three-week program. Focuses on Scandinavian management/Norwegian life/society.

IBUS 3704. Shanghai Summer Program in International Business (Undergrad). (0-18 cr. ; S-N only; Every Summer)

Summer study abroad at one of Carlson School's international exchange partner universities, Antai College of Economics and Management. This is a three week summer program integrating intense business education in China context with corporate experience.

IBUS 3800. CIMBA Summer Program. (0-18 cr. ; Student Option; Every Summer)

Consortium Institute of Management/Business Analysis (CIMBA) Summer Program in Italy. Four-week program.

IBUS 3999. Self-Designed International Research Experience. (1 cr. ; S-N only; Every Fall, Spring & Summer)

In meeting the international experience requirement through a self-design students will develop reflective research component. Through this course, students are expected to gain meaningful exposure to an international setting that allows for cultural interaction, in-depth study, research, and reflection. This experience would serve as a catalyst for students to attain a broader mindset and to gain deeper understanding of cultural norms and expectations of others. Contact the Carlson Global Institute (cgi@umn.edu)

to discuss the application process. prereq: approved proposal and dept consent.

IBUS 4050. Management of Innovation and Change. (4 cr. ; A-F only; Every Fall)

Applying theories/research on how new organizational programs, products, technologies are developed/implemented. Diagnostic skills. How innovation unfolds. prereq: [Mgmt 1001 or 3001 or 3010], approved application

IBUS 4082W. Brand Management. (WI; 4 cr. ; A-F only; Every Spring)

How do firms build great brands, such as Apple and Nike? How do firms leverage their popular brands to expand into new markets, new products, and new countries? This course focuses on questions like these to help students understand how to use brand strategies to successfully build, measure, and manage brands. Students participate in a course-long project to research and evaluate brand strategies used by a brand of their choosing. The course includes lectures, cases, and project check-ins between group members and their instructor. prereq: MKTG 3010 and MKTG 3040

IBUS 4125. Global Banking: A Survey of Regulatory and Competitive Developments Post Financial Crisis. (4 cr. ; A-F only; Every Fall)

This course provides students with an understanding of the functions of large, global banking organizations. We will start with a review of the impact of the financial crisis on the regulatory landscape, and identify some of the key differences between US, European, and global regulatory frameworks; discuss the different business models adopted by banks in Europe compared to the United States. We will look at how those different business models are reflected in financial statements, and learn how to interpret bank financial statements through ratio analysis. Finally, we will discuss the impact of digital disruption, and how it is forcing banks to consider new strategic directions. prereq: FINA 4121

IBUS 5090. Study Abroad Independent Study. (1-4 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)

Independent study coordinated by faculty member.

IBUS 5091. Shanghai Summer Program in International Business (Graduate). (0-18 cr. ; S-N only; Every Summer)

Summer study abroad at one of Carlson School's international exchange partner universities, Antai College of Economics and Management. This is a three week summer program integrating intense business education in China context with corporate experience.

IBUS 5110. Business and the Environment in Costa Rica. (4 cr. ; A-F only; Every Fall & Spring)

How businesses maintain/increase profits by taking care of environment. Sustainable development, environmental strategy. Travel to Costa Rica to join students from INCAE (partner school) for series of courses. Case studies, site visits, field trips. Taught in English. prereq: Sr or grad student

IBUS 5120. Global Business Practicum in Central and Eastern Europe. (4 cr. ; A-F only; Every Spring & Summer)

Rapidly changing business environment of Central/Eastern Europe. Students work in teams with students from WU-Vienna University of Economics/Business for two weeks in May/June in Central/Eastern Europe. prereq: Carlson grad student

IBUS 5130. France Seminar: Doing Business in the European Union (Graduate). (4 cr. ; S-N only; Every Fall, Spring & Summer)

Two-week study abroad program at Universite Jean-Moulin Lyon 3 in Lyon, France. Includes courses taught by international faculty, site visits, cultural excursions. prereq: Carlson grad student

IBUS 5140. Vienna Summer Program in International Business (Graduate). (0-18 cr. ; S-N only; Every Summer)

Summer study abroad program at Europe's largest business school (WU-Vienna). Students take three business classes, plus German language. Program participants from Europe, Asia, Latin America, United States. prereq: Carlson grad student

IBUS 5150. IBUS 5150: Building on Frugal Innovations to Complete in a Global Environment. (4 cr. [max 8 cr.] ; A-F only; Every Fall)

On this program, students will be exposed to concepts related to developing a global managerial mindset, with a particular focus on understanding global product/market innovation. A variety of successful examples highlights the potential of frugal innovation - the term used to describe cost-effective innovations devised to solve local problems in resource constrained markets - as being a very powerful source of ideas for new products and services. Products of frugal innovation, once proven locally, can be subsequently integrated into the broader R&D and product innovation processes within firms and become the base platforms for global products targeted at markets across the world. Students will choose an industry or domain of focus in class sessions and be exposed to global R&D practices in large local firms and then interact with startups and innovators working on frugal innovation projects on the ground in India. This is an education abroad program. Contact the Carlson Global Institute at cgi@umn.edu with questions. Prereq: approved application

IBUS 5160. Cologne Summer Program: European Management (Grad). (8 cr. [max 24 cr.] ; S-N only; Every Summer)

Summer study abroad at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interest. prereq: Carlson grad student

IBUS 5200. International Business: Undergraduate Exchange. (0-16 cr. [max 160 cr.] ; S-N or Audit; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 5201. International Business: Undergraduate Exchange. (1-6 cr. [max 60 cr.] ; S-N or Audit; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 5202. International Business: Undergraduate Exchange. (1-6 cr. [max 60 cr.] ; S-N or Audit; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests.

IBUS 5203. International Business: Undergraduate Exchange. (0.5-6 cr. [max 60 cr.] ; S-N or Audit; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 5204. International Business: Undergraduate Exchange. (1-6 cr. [max 60 cr.] ; S-N or Audit; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 5205. International Business: Undergraduate Exchange. (1-6 cr. [max 60 cr.] ; S-N or Audit; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 5206. International Business: Undergraduate Exchange. (1-6 cr. [max 60 cr.] ; S-N or Audit; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr, Carlson School International Programs consent

IBUS 5207. International Business: Undergraduate Exchange. (1-6 cr. [max 60 cr.] ; S-N or Audit; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Student's select courses based on academic needs/interests. prereq: 60 cr

IBUS 5208. International Business: Undergraduate Exchange. (1-6 cr. [max 60 cr.] ; S-N or Audit; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Student's select courses based on academic needs/interests. prereq: 60 cr

IBUS 5209. International Business: Undergraduate Exchange. (1-6 cr. [max 60 cr.] ; S-N or Audit; Every Fall & Spring)

Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: 60 cr

IBUS 5260. Sustainability: The New Management Paradigm. (4 cr. ; A-F only; Every Spring)

View of integrated reporting (sustainability reporting) as it relates to various fields of

business. Site visits, meetings with business executives/governmental agencies. Two weeks in the United Kingdom following commencement week, preceded by Spring B Term classes.

IBUS 5300. International Business:

Graduate Exchange BLOCK. (0-18 cr. [max 54 cr.]; S-N or Audit; Every Fall & Spring) Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. For current offerings, contact Carlson International Programs. prereq: Carlson grad student

IBUS 5301. Graduate Exchange in

International Business - BLOCK. (0-18 cr. [max 54 cr.]; S-N only; Every Summer) Summer study abroad at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: Carlson grad student

IBUS 5302. International Business:

Graduate Exchange. (0-18 cr. [max 180 cr.]; S-N or Audit; Every Fall & Spring) Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: Carlson grad student

IBUS 5303. International Business:

Graduate Exchange. (0-18 cr. [max 180 cr.]; S-N or Audit; Every Fall & Spring) Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: Carlson grad student

IBUS 5304. International Business:

Graduate Exchange. (0-18 cr. [max 180 cr.]; S-N or Audit; Every Fall & Spring) Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: Carlson grad student

IBUS 5305. International Business:

Graduate Exchange. (0-18 cr. [max 180 cr.]; S-N or Audit; Every Fall & Spring) Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: Carlson grad student

IBUS 5306. International Business:

Graduate Exchange. (0-18 cr. [max 180 cr.]; S-N or Audit; Every Fall & Spring) Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: Carlson grad student

IBUS 5307. International Business:

Graduate Exchange. (0-18 cr. [max 180 cr.]; S-N or Audit; Every Fall & Spring) Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: Carlson grad student

IBUS 5308. International Business:

Graduate Exchange. (0-18 cr. [max 180 cr.]; S-N or Audit; Every Fall & Spring) Study at one of Carlson School's international exchange partner universities. Students select

courses based on academic needs/interests. prereq: Carlson grad student

IBUS 5309. International Business:

Graduate Exchange. (0-18 cr. [max 180 cr.]; S-N or Audit; Every Fall & Spring) Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: Carlson grad student

IBUS 5310. International Business:

Graduate Exchange. (0-18 cr. [max 72 cr.]; S-N or Audit; Every Fall & Spring) Study at one of Carlson School's international exchange partner universities. Students select courses based on academic needs/interests. prereq: Carlson grad student

IBUS 5400. Global Business Practicum. (4 cr. [max 12 cr.]; A-F only; Every Spring)

This course is an experiential learning model designed to provide student with an opportunity to apply global business knowledge and hone cross-cultural skills through a live international business project. This is an education abroad program. Contact the Carlson Global Institute with questions. Prereq: approved application

IBUS 5600. Graduate Summer Exchange.

(0-4 cr. ; S-N only; Every Summer) Summer study abroad exchange to one of Carlson Global Institute's partner universities.

IBUS 5601. Graduate Summer Exchange.

(0-4 cr. ; S-N only; Every Summer) Summer study abroad exchange to one of Carlson Global Institute's partner universities.

IBUS 5602. Graduate Summer Exchange.

(0-4 cr. ; S-N only; Every Summer) Summer study abroad exchange to one of Carlson Global Institute's partner universities.

IBUS 5603. Graduate Summer Exchange.

(0-4 cr. ; S-N only; Every Summer) Summer study abroad exchange to one of Carlson Global Institute's partner universities.

IBUS 5604. Graduate Summer Exchange.

(0-4 cr. ; S-N only; Every Summer) Summer study abroad exchange to one of Carlson Global Institute's partner universities.

IBUS 5605. Shanghai Summer Program in International Business (Graduate). (0-18 cr. ; S-N only; Every Summer)

Summer study abroad at one of Carlson School's international exchange partner universities, Antai College of Economics and Management. This is a three week summer program integrating intense business education in China context with corporate experience.

Introduced Species, Genotypes (ISG)

ISG 5010. Risk Analysis for Introduced Species and Genotypes. (; 3 cr. ; A-F only; Every Fall)

Analytic-deliberative model of Ecological Risk Assessment (ERA). Components of ERA. Risk characterization. Evaluation of risk management decision processes. Use-risk communication, multi-stakeholder deliberation techniques. Cases. prereq: Grad student or [sr, instr consent]

Italian (ITAL)

ITAL 1001. Beginning Italian I. (; 5 cr. ;

Student Option; Every Fall & Spring) Ciao! Join us in learning Italian, the language of Dante, DaVinci, and la dolce vita! This melodic language spoken throughout the world in fields including music, fashion, cuisine, and fast automobiles will enrich you as a citizen of the world and allow you access to some of the most amazing art and culture on the planet! Beginning Italian, Italian 1001, is a proficiency-based course designed for students with little or no knowledge of the Italian language focusing on developing your intercultural, reading, listening, speaking, and writing skills. Preparatory activities designed to encourage students to analyze grammatical points in question need to be completed before class so class time can be primarily devoted to meaningful interactions in Italian. To further increase your confidence in communicating in Italian, you will also participate in several one-to-one online exchange with native speakers of Italian throughout the semester. Upon successful completion of this course, you will be able to enroll in Italian 1002. Expect an average of 1.5 hours of outside preparation for each class session hour.

ITAL 1002. Beginning Italian II. (; 5 cr. ;

Student Option; Every Fall & Spring) Bentornati! Ready to embark on a new journey to further develop your knowledge of our beautiful romance language, Italian? If you passed Italian 1001 or you have obtained DLI's consent, this course is for you! You will further develop your skills in Italian as you examine topics such as haute couture or alta moda and the phenomenon of Made in Italy, as well as music, from opera to hip hop. You will also learn about holidays, cultural celebration, and differences and similarities between the scholastic and healthcare systems in Italy and the US. Throughout the semester your learning will be continually enhanced by regular conversations with your Tandem partner in Italy. Preparatory activities designed to encourage students to analyze grammatical points in question need to be completed before class so class time can be primarily devoted to meaningful interactions in Italian. Italian 1002 is a five-credit course, so you should plan to spend an additional 10-15 hours a week on coursework outside the classroom. Upon successful completion of this course you will be able to enroll in Italian 1003. prereq: 1001 or instr consent

ITAL 1003. Intermediate Italian I. (; 5 cr. ;

Student Option; Every Fall, Spring & Summer) BENVENUTI AL 3° SEMESTRE D'ITALIANO! Throughout the semester in Italian 1003, you will be able to consider your own point of view while learning about various Italian perspectives as we examine topics ranging from housing and historical and contemporary urban design to responsible tourism, linguistic variety, and social problems. Upon completion of this course, you will be able to use Italian to communicate in everyday situations to share personal information about yourself,

express your opinions, wishes and desires, make suggestions and give advice, as well as appropriately use active vocabulary. You will continue to acquire basic cross-cultural pragmatic information to help you manage conversations in a culturally appropriate manner, and once again, you will expand your cultural knowledge by talking face to face with your Italian Tandem partner several times over the semester. As with other Italian language course, preparatory activities designed to encourage you to analyze grammatical points in question need to be completed before class so class time can be primarily devoted to meaningful interactions in Italian. Upon successful completion of this course you will be able to enroll in Italian 1004.

ITAL 1004. Intermediate Italian II. (; 5 cr. ; Student Option; Every Fall & Spring)
Benvenuti! We invite you to join us in learning the language spoken by one of the most beloved countries and leading destinations for learning abroad in the world! Italy, the cradle of the Renaissance and home to some of the most beautiful art and architecture on earth, boasts the world's seventh largest economy, a renowned creative design and fashion industry, as well as a rich and diverse history and heritage. In this course, you will engage directly with Italian culture and society through a variety of learning portals, including authentic short films and literature, in-class debates and presentations, and an array of assessment methods. Throughout the semester, vital current issues such the impact of technology, justice and politics, and changing inter-generational and interpersonal dynamics will be discussed within a comparative lens, inviting you to reflect on how your own experiences contrast with a sample of those within the Italian culture (Italy). The fourth semester of Italian is designed using a proficiency-based approach to help you develop the ability to communicate effectively in Italian in everyday situations that have real world relevance. Listening, reading, speaking, and writing are integrated into all activities and assessments. By means of self-study preparatory activities designed to encourage students to analyze grammatical points in question before class, so class time can be devoted to meaningful, dynamic interactions with classmates and your teacher in Italian. To further increase your confidence in communicating in Italian, you will also be able to participate in several one-to-one online exchanges with native speakers of Italian throughout the semester. You may end up with a lifelong friend in Italy! Upon successful completion of this course students will be able to demonstrate proficiency by successful completion of the Italian Language Proficiency Exam (LPE) and/or enroll in Italian 3015. prereq: ITAL 1003

ITAL 1022. Accelerated Beginning Italian. (; 5 cr. ; Student Option; Periodic Fall & Spring)
This is a fast-paced course that covers the first two semesters of Italian in one semester. Students will be able to move more quickly toward proficiency in Italian to fulfill requirements and/or enroll in advanced Italian courses or expand research options. At the end

of this course, you will be able to communicate about topics such as past times, food, family, school, health, sports and much more.

ITAL 1837. Imagining Italy: Italian and Italian-American Culture, History, and Society through Film. (AH,GP; 4 cr. ; Student Option; Every Fall)
Weekly guest lectures and critical readings expand from different disciplinary perspectives upon issues raised by films. Urban life, religion, nationalism, opera, violence, leisure, food, fascism, terrorism, family, emigration/immigration, ethnicity, Mediterranean culture.

ITAL 1912. Rome at the Movies from Fascism to Netflix. (; 3 cr. ; A-F only; Periodic Fall)
In this seminar, we will have the privilege to explore Rome through the gaze of Italy's most impactful directors and show-runners. Our cinematic explorations through the city of la dolce vita will be guided by recurring questions: How does visual culture shape place? In which ways do the moving images influence complex urban realities? How do they create connections between people from diverse backgrounds, while also establishing borders within public spaces and hierarchies regarding whom the city belongs to? By exposing unseen and unheard stories, can films and documentaries favor political change, inclusivity, and diversity? We will answer these questions through virtual site visits, screenings, readings, workshops, and guest lectures by filmmakers. By the end of the course you will have learned how to film the complex reality of a city in a way that is conducive to social justice and political progress. If the conditions allow, as final project for this course students will create a short documentary about the Twin Cities under the supervision of a local filmmaker.

ITAL 3015. Reading, Conversation, and Composition. (; 4 cr. ; Student Option; Every Fall & Spring)
How can a society manage an aging population? What steps can be taken to promote integration and overcome differences? Is technology helping or hindering our interpersonal relationship? Is history doomed to repeat itself? CONGRATULATION! You are about to embark into a rewarding journey to further deepen your Italian experience while developing your critical thinking skills. This class will increase your appreciation of Italian culture through engagement with articles, short films and literary extracts (of authors such as Nobel's prize Dario Fo, Salgari, Buzzati and Ginzburg) on contemporary cultural topics ranging from social problems to the use and misuse of technology to the impact of historical events on people's everyday lives. You will also have the opportunity to interact face to face online with Italian students to improve your language skills as well as expand your cultural knowledge while drawing comparisons and reflecting on the U.S. societal views of those topics. This intensive, intermediate course is designed for students who have passed Italian 1004 and have mastered basic Italian grammar. The course will include preparatory

activities that are designed to encourage students to analyze grammatical points in question. prereq: 1004

ITAL 3201. Reading Italian Texts: Poetics, Rhetoric, Theory. (; 3 cr. [max 9 cr.]; Student Option; Periodic Fall & Spring)
A basic course in understanding the rhetorical and poetic aspects of language and literature; interpretive methods and theoretical concepts. prereq: 3015

ITAL 3203. Italian Travelers: Borders and Travelers. (; 3 cr. [max 12 cr.]; Student Option; Periodic Fall)
Examines literary representations of travel, migration, immigration, exile, and tourism in Italy from the Enlightenment to the present. Taught in English

ITAL 3305. Staging the Self: Theater and Drama in Modern Italy. (; 3 cr. [max 12 cr.]; Student Option; Periodic Fall)
Theatrical representations of the self in modern Italy. Particular attention given to issues of identity, gender, and class in theatrical works ranging from Alfieri's *Mirra*, Pirandello's *Enrico IV* to Dacia Maraini's *Clytemnestra*. prereq: 3015

ITAL 3459W. Senior Project. (WI; 2 cr. ; Student Option; Every Fall & Spring)
Research/writing on issue/theme in Italian studies. Projects range from scholarly paper to artistic/creative writing or musical composition, photography, poetry, or fiction. Research/analytical component. prereq: completion of pre-requisite for major (3015) and eight electives for the sum of 30 credits

ITAL 3502. Making of Modern Italy: From the Enlightenment to the Present.. (; 3 cr. [max 12 cr.]; Student Option; Periodic Spring)
Italian literary, cultural, and symbolic practices from the Enlightenment to the present. prereq: 3015

ITAL 3550. Topics in 19th Century Italy. (; 3 cr. [max 12 cr.]; Student Option; Fall Odd Year)
Literature/culture of Italy in 19th century. Content varies depending on instructor. Literary, critical, cultural, historical, or social issues. Specific author, genre, or topic of interest. Readings. Specific content posted in department/listed in Course Guide. prereq: 3015 or instr consent

ITAL 3640. Topics in Italian Studies. (; 3 cr. [max 12 cr.]; Student Option; Periodic Spring)
Topics of interest in studies of Italian or Italian American culture of 20th century. Literary, critical, cultural, historical, or social issues, a specific author, a genre, or other topic. Content varies by instructor, see Course Guide. prereq: 3015 or instr consent

ITAL 3647. Urban Transformation in Italy. (GP; 3 cr. ; A-F only; Every Summer)
Building on our study of urban living, neighborhood cultures and traditions, and the decentralized nature of Italian geopolitics in ITAL 1003 and 1004, this global seminar will further explore the history, politics, aesthetics, and current status of urban revitalization, Italian-style, providing a lens through which we can understand the diversity of Italian

culture today. While concentrated largely on residential neighborhoods within the Capital, Rome, the seminar includes a three-day excursion to Matera and Alberobello, the former in the central-southern region of Basilicata and the latter in southeastern Puglia, enabling students to consider the implications of two Southern Italian local economies largely dependent on tourism for survival and ponder the sustainability of each area. The seminar culminates in an extended day-long excursions to Naples, which contains the only continually inhabited city center in Italy, and will present a counter-example to the processes of revitalization and neighborhood transition witnessed in Rome and elsewhere, as well as provide an opportunity to synthesize information gathered thus far and apply it in a different context.

ITAL 3837. Imagining Italy: Italian and Italian-American Culture, History, and Society through Film. (AH,GP; 4 cr. ; Student Option; Every Fall)

Weekly guest lectures and critical readings expand from different disciplinary perspectives upon issues raised by films. Urban life, religion, nationalism, opera, violence, leisure, food, fascism, terrorism, family, emigration/immigration, ethnicity, Mediterranean culture.

ITAL 3896. Internship for Academic Credit. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

An applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals, which may be related to a student's major field or area of interest. The work can be full or part time, paid or unpaid, primarily in off-campus environments. Internships integrate classroom knowledge and theory with practical application and skill development in professional or community settings. The skills and knowledge learned should be transferable to other employment settings and not simply to advance the operations of the employer. Typically the student's work is supervised and evaluated by a site coordinator or instructor.

ITAL 4001. Beginning Italian for Graduate Research I. (; 5 cr. ; Student Option; Every Fall & Spring)

Ciao! Join us in learning Italian, the language of Dante, DaVinci, and la dolce vita! This melodic language spoken throughout the world in fields including music, fashion, cuisine, and fast automobiles will enrich you as a citizen of the world and allow you access to some of the most amazing art and culture on the planet! Beginning Italian, Italian 4001, is a proficiency-based course designed for students with little or no knowledge of the Italian language focusing on developing your intercultural, reading, listening, speaking, and writing skills. Preparatory activities designed to encourage students to analyze grammatical points in question need to be completed before class so class time can be primarily devoted to meaningful interactions in Italian. To further increase your confidence in communicating in Italian, you will also participate in several one-to-one online exchange with native speakers

of Italian throughout the semester. Upon successful completion of this course, you will be able to enroll in Italian 4002. Expect an average of 1.5 hours of outside preparation for each class session hour. prereq: instr consent

ITAL 4002. Beginning Italian for Graduate Research II. (; 5 cr. ; Student Option; Every Fall & Spring)

Bentornati! Ready to embark on a new journey to further develop your knowledge of our beautiful romance language, Italian? If you passed Italian 1001 or you have obtained DLI's consent, this course is for you! You will further develop your skills in Italian as you examine topics such as haute couture or alta moda and the phenomenon of Made in Italy, as well as music, from opera to hip hop. You will also learn about holidays, cultural celebration, and differences and similarities between the scholastic and healthcare systems in Italy and the US. Throughout the semester your learning will be continually enhanced by regular conversations with your Tandem partner in Italy. Preparatory activities designed to encourage students to analyze grammatical points in question need to be completed before class so class time can be primarily devoted to meaningful interactions in Italian. Italian 4002 is a five-credit course, so you should plan to spend an additional 10-15 hours a week on coursework outside the classroom. Upon successful completion of this course you will be able to enroll in Italian 4003. prereq: instr consent

ITAL 4003. Intermediate Italian for Graduate Research I. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)

BENVENUTI AL 3° SEMESTRE D'ITALIANO! Throughout the semester in Italian 1003, you will be able to consider your own point of view while learning about various Italian perspectives as we examine topics ranging from housing and historical and contemporary urban design to responsible tourism, linguistic variety, and social problems. Upon completion of this course, you will be able to use Italian to communicate in everyday situations to share personal information about yourself, express your opinions, wishes and desires, make suggestions and give advice, as well as appropriately use active vocabulary. You will continue to acquire basic cross-cultural pragmatic information to help you manage conversations in a culturally appropriate manner, and once again, you will expand your cultural knowledge by talking face to face with your Italian Tandem partner several times over the semester. As with other Italian language course, preparatory activities designed to encourage you to analyze grammatical points in question need to be completed before class so class time can be primarily devoted to meaningful interactions in Italian. Upon successful completion of this course you will be able to enroll in Italian 4004. prereq: instr consent

ITAL 4004. Intermediate Italian for Graduate Research II. (; 5 cr. ; Student Option; Every Fall & Spring)

Benvenuti! We invite you to join us in learning the language spoken by one of the most

beloved countries and leading destinations for learning abroad in the world! Italy, the cradle of the Renaissance and home to some of the most beautiful art and architecture on earth, boasts the world's seventh largest economy, a renowned creative design and fashion industry, as well as a rich and diverse history and heritage. In this course, you will engage directly with Italian culture and society through a variety of learning portals, including authentic short films and literature, in-class debates and presentations, and an array of assessment methods. Throughout the semester, vital current issues such the impact of technology, justice and politics, and changing inter-generational and interpersonal dynamics will be discussed within a comparative lens, inviting you to reflect on how your own experiences contrast with a sample of those within the Italian culture (Italy). The fourth semester of Italian is designed using a proficiency-based approach to help you develop the ability to communicate effectively in Italian in everyday situations that have real world relevance. Listening, reading, speaking, and writing are integrated into all activities and assessments. By means of self-study preparatory activities designed to encourage students to analyze grammatical points in question before class, so class time can be devoted to meaningful, dynamic interactions with classmates and your teacher in Italian. To further increase your confidence in communicating in Italian, you will also be able to participate in several one-to-one online exchanges with native speakers of Italian throughout the semester. You may end up with a lifelong friend in Italy! Upon successful completion of this course students will be able to demonstrate proficiency by successful completion of the Italian Language Proficiency Exam (LPE) and/or enroll in Italian 3015.

ITAL 4022. Accelerated Beginning Italian for Graduate Research. (; 5 cr. ; Student Option; Periodic Fall & Spring)

This is a fast-paced course that covers the first two semesters of Italian in one semester. Students will be able to move more quickly toward proficiency in Italian to fulfill requirements and/or enroll in advanced Italian courses or expand research options. At the end of this course, you will be able to communicate about topics such as past times, food, family, school, health, sports and much more.

ITAL 4307. Novellistica. (3 cr. ; Student Option; Periodic Fall & Spring)

Introduction to historical, formal and theoretical study of the Italian novella genre (including such alternative forms as the ?racconto?) and the impact of this genre on world literature. The study of the birth and development of the novella genre in Italian. Readings from and discussion of novellas and tales from: The Novellino, Boccaccio, Sacchetti, Bandello, Bigolini, Basile, Verga, Deledda, Moravia, Morante, Calvino, Ferrante prereq: 3015, 3201 or permission from the Italian DUS

ITAL 4993. Directed Study. (; 1-4 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Meets unique requirements decided on by faculty member and student. Individual contracts list contact hours, number of credits, written and other work required. prereq: instr consent

ITAL 5289. The Narrow Door: Women Writers and Feminist Practices in Italian Literature and Culture. (4 cr. [max 16 cr.] ; Student Option; Periodic Fall & Spring)
Focuses on issues of gender, sexual difference, equality, and emancipation raised by Italian women writers and thinkers from the 19th century to the present.

ITAL 5502. Making of Modern Italy: From the Enlightenment to the Present. (; 3 cr. [max 12 cr.] ; Student Option; Periodic Spring)
Italian literary, cultural, and symbolic practices, from Enlightenment to present. prereq: grad student or instr consent

ITAL 5640. Topics in Italian Studies. (; 3 cr. [max 12 cr.] ; Student Option; Every Fall)
Topics of interest in studies of Italian and/or Italian American culture of the 20th century. Topics and readings may include literary, critical, cultural, historical, and/or social issues, a specific author, a genre, or other topics . Content varies by instructor. Specific content posted in the department and in the Course Guide. prereq: Ital 3015

ITAL 5970. Directed Readings. (; 1-4 cr. [max 16 cr.] ; Student Option; Every Fall & Spring)
Meets unique requirements decided on by faculty member and student. Individual contracts list contact hours, number of credits, written and other work required. prereq: instr consent

Japanese (JPN)

JPN 1011. Beginning Japanese I. (; 5 cr. [max 6 cr.] ; Student Option No Audit; Every Fall & Summer)
Introduction to speaking, reading, writing Japanese.

JPN 1012. Beginning Japanese II. (; 5 cr. ; Student Option No Audit; Every Spring & Summer)
Introduction to speaking, reading, writing Japanese. prereq: 1011

JPN 3021. Intermediate Japanese I. (; 5 cr. ; Student Option No Audit; Every Fall)
Intermediate speaking, reading, writing in Japanese. prereq: 1012 or instr consent

JPN 3022. Intermediate Japanese II. (5 cr. ; Student Option No Audit; Every Spring)
Intermediate speaking, reading, writing in Japanese. prereq: 3021 or instr consent

JPN 3031. Third Year Japanese I. (4 cr. ; Student Option No Audit; Every Fall)
Advanced intermediate-level instruction in speaking, reading, writing Japanese. Development of reading proficiency in modern Japanese prose. prereq: 3022 or instr consent

JPN 3032. Third Year Japanese II. (4 cr. ; Student Option No Audit; Every Spring)
Advanced intermediate-level instruction in speaking, reading, writing Japanese.

Development of reading proficiency in modern Japanese prose. prereq: 3031 or instr consent

JPN 3290. Japanese Language Teaching Tutorial. (; 1 cr. [max 2 cr.] ; S-N only; Every Fall & Spring)
Students tutor beginning students of Japanese and are part of department's Japanese language team. prereq: Grade of A in 4042

JPN 4001. Beginning Japanese I for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Fall & Summer)
Introduction to speaking, reading, writing Japanese. Meets with 1011.

JPN 4002. Beginning Japanese II for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Spring & Summer)
Introduction to speaking, reading, writing Japanese. Meets with 1012. prereq: 4001

JPN 4003. Intermediate Japanese I for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Fall)
Intermediate speaking, reading, writing in Japanese. Meets with 3021. prereq: 4002

JPN 4004. Intermediate Japanese II for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Spring)
Intermediate speaking, reading, writing in Japanese. Meets with 3022. prereq: 4003

JPN 4005. Third Year Japanese I for Graduate Student Research. (4 cr. ; Student Option No Audit; Every Fall)
Advanced intermediate-level instruction in speaking, reading, writing Japanese. Development of reading proficiency in modern Japanese prose. Meets with 3031. prereq: 4004

JPN 4006. Third Year Japanese II for Graduate Student Research. (4 cr. ; Student Option No Audit; Every Spring)
Advanced intermediate-level instruction in speaking, reading, writing Japanese. Development of reading proficiency in modern Japanese prose. prereq: 4005

JPN 4041. Advanced Japanese Conversation and Composition I. (4 cr. ; Student Option; Every Fall)
Practice in advanced spoken/written Japanese. Assignments include essays, summaries, formal interviews in Japanese. prereq: 3032 or instr consent

JPN 4042. Advanced Japanese Conversation and Composition II. (4 cr. ; Student Option; Every Spring)
Practice in advanced spoken/written Japanese. Typical assignments include essays, summaries, formal interviews in Japanese. prereq: 4041 or instr consent

JPN 5040. Readings in Japanese Texts. (; 3 cr. [max 9 cr.] ; A-F or Audit; Every Fall)
Students read authentic materials of various types to increase reading and speaking ability. Topics specified in Class Schedule. prereq: 4042 or equiv or instr consent

JPN 5041. Reading Japanese Texts: Literature and Culture. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course is conducted 100% in modern Japanese, including course materials, lectures, and discussions. Close reading of texts written in modern Japanese, including a recent novel, essays on social phenomena, critical essays on Japanese society, and/or academic papers. Read and translate these texts accurately and critically; discuss them in Japanese, and/or compose an essay entirely in modern Japanese. Pre-requisite: JPN 4042 or equivalent or instructor consent.

JPN 5211. Introductory Classical Chinese I. (3 cr. ; Student Option; Periodic Fall)
Reading excerpts from canonical Chinese texts. Transnational nature of Classical Chinese/its importance in study of East Asian cultures. Taught in English. prereq: Two years of an East Asian language (Chinese, Japanese, Korean) or equivalent or instr consent

JPN 5993. Directed Studies in Japanese. (1-15 cr. ; Student Option; Every Fall & Spring)
Individual study with guidance of a faculty member. Prereq instr consent, dept consent, college consent.

Jewish Studies (JWST)

JWST 1034. Introduction to Jewish History and Cultures. (HIS; 3 cr. ; Student Option; Every Fall)
This course traces the development of Judaism and Jewish civilizations from their beginnings to the present. With over three millennia as its subject, the course must of necessity be a general survey. Together we will explore the mythic structures, significant documents, historical experiences, narratives, practices, beliefs, and worldviews of the Jewish people. The course begins by examining the roots of Judaism in the Hebrew Bible and the history of ancient Israel but quickly focuses on the creative forces that developed within Judaism as a national narrative confronted the forces of history, especially in the forms of the Persian, Greek, and Roman empires. Rabbinic Judaism becomes the most dominant creative force and will receive our greatest attention, both in its formative years and as it encounters the rise of Christianity and Islam. After studying the Jewish experience in the medieval world, we will turn to Judaism's encounter with the enlightenment and modernity. The historical survey concludes by attending to the transformations within Judaism and Jewish life of the last 150 years, including a confrontation with the experience of the Holocaust. Woven throughout this historical survey will be repeated engagements with core questions: ?Who is a Jew?? ?What do Jews believe?? ?What do Jews do?? ?What do we mean by ?religion??? ?How do Jews read texts within their tradition?? And perhaps most importantly, ?How many answers are there to a Jewish question?? Students in this course can expect to come away with some knowledge of the Bible in Judaism, rabbinic literature and law, Jewish mysticism and philosophy, Jewish nationalism and Zionism, Jewish culture, ritual, and worship in the synagogue, the home, and

the community, and Jewish celebrations of life cycle events and the festivals.

JWST 1201. The Bible: Context and Interpretation, World of the Hebrew Bible.

(LITR; 3 cr. ; Student Option; Every Fall)
The Hebrew Bible and Old Testament are literary collections that modern Jewish and Christian traditions maintain as important, but these collections were initially produced by ancient Israelite scribes who composed and/or compiled the biblical texts at particular time periods in the ancient Near East. This course will introduce the academic study of biblical texts, which demands critical analysis of the literature and an openness to reading the literature from the perspective of ancient Israelite writers (who lived in a world far different from today). The course will spend considerable time on the literary (and scribal) composition of biblical prose texts; time will also be spent on the historical circumstances of biblical prophets and other writers of the biblical texts. This course will only address the ancient setting of the biblical texts and not re-interpretations in Jewish or Christian traditions. Given the scope of the course, modern interpretations of the biblical literature will not be discussed; we will only focus on this literature in its ancient setting. prereq: Knowledge of Hebrew not required

JWST 3011. Jewish American Literature: Religion, Culture, and the Immigrant Experience. (DSJ,HIS; 3 cr. ; Student Option; Every Spring)

Immigrant? Jewish? American? What do these labels mean, why are they applied, and do they ever cease to be applicable? Can we distinguish religion from culture, and what are the implications when we try? Why is it frequently asked whether Saul Bellow was really? a Jewish writer, but it is impossible to read Philip Roth as anything other than that? How does Grace Paley's ?Jewishness? come through even when she is writing about non-Jewish characters? We will address these issues and others as we explore the literature growing out of the Jewish immigrant experience in America, as well as the literature by Jewish writers more firmly, though still sometimes anxiously, rooted in American soil. In this course we will engage in a highly contextualized and historicized study of Jewish American literature from the 19th century to today. We will discover in these texts how inherited Jewish culture and literary imaginings, developed over centuries of interaction between Jewish communities and the ? outside world,? get reexamined, questioned, rejected, reimagined, reintegrated, and transformed within the crucible of American experience. The discussions that ensue will also provide a framework for engaging with the creative energies and cultural productivity of more recent immigrant communities in the United States and beyond. Immigration and the experience of immigrant communities continues to be at the forefront of American consciousness, as immigrants work to create new meanings and new narratives for their lives, and as those who immigrated before them provide contested meanings for the

impact of immigration on their own narratives. This course, though grounded in Jewish narratives, will therefore provide students with an expanded vocabulary and perspective for engaging in this central and very current debate within the American experience.

JWST 3013W. Biblical Law and Jewish Ethics. (WI; 3 cr. ; Student Option; Periodic Fall & Spring)

This course introduces students to the original meaning and significance of religious law and ethics within Judaism. Law is the single most important part of Jewish history and identity. At the same time, law is also the least understood part of Judaism and has often been the source of criticism and hatred. We shall therefore confront one of the most important parts of Jewish civilization and seek to understand it on its own terms. In demonstrating how law becomes a fundamental religious and ethical ideal, the course will focus on the biblical and Rabbinic periods but spans the entire history of Judaism. Consistent with the First Amendment, the approach taken is secular. There are no prerequisites: the course is open to all qualified students. The course begins with ideas of law in ancient Babylon and then studies the ongoing history of those ideas. The biblical idea that a covenant binds Israel to God, along with its implications for human worth - including the view of woman as person - will be examined. Comparative cultural issues include the reinterpretations of covenant within Christianity and Islam. The course investigates the rabbinic concept of oral law, the use of law to maintain the civil and religious stability of the Jewish people, and the kabbalistic transformation of law. The course concludes with contemporary Jewish thinkers who return to the Bible while seeking to establish a modern system of universal ethics. The premise of the course is the discipline of academic religious studies. The assumptions of the course are therefore academic and secular, as required by the First Amendment. All texts and all religious traditions will be examined analytically and critically. Students are expected to understand and master this approach, which includes questioning conventional cultural assumptions about the composition and authorship of the Bible. Willingness to ask such questions and openness to new ways of thinking are essential to success in the course.

JWST 3034. Introduction to Jewish History and Cultures. (HIS; 3 cr. ; Student Option; Every Fall)

This course traces the development of Judaism and Jewish civilizations from their beginnings to the present. With over three millennia as its subject, the course must of necessity be a general survey. Together we will explore the mythic structures, significant documents, historical experiences, narratives, practices, beliefs, and worldviews of the Jewish people. The course begins by examining the roots of Judaism in the Hebrew Bible and the history of ancient Israel but quickly focuses on the creative forces that developed within Judaism as a national narrative confronted the forces of history, especially in the forms of the Persian, Greek, and Roman empires.

Rabbinic Judaism becomes the most dominant creative force and will receive our greatest attention, both in its formative years and as it encounters the rise of Christianity and Islam. After studying the Jewish experience in the medieval world, we will turn to Judaism's encounter with the enlightenment and modernity. The historical survey concludes by attending to the transformations within Judaism and Jewish life of the last 150 years, including a confrontation with the experience of the Holocaust. Woven throughout this historical survey will be repeated engagements with core questions: ?Who is a Jew?? ?What do Jews believe?? ?What do Jews do?? ?What do we mean by ?religion??? ?How do Jews read texts within their tradition?? And perhaps most importantly, ?How many answers are there to a Jewish question?? Students in this course can expect to come away with some knowledge of the Bible in Judaism, rabbinic literature and law, Jewish mysticism and philosophy, Jewish nationalism and Zionism, Jewish culture, ritual, and worship in the synagogue, the home, and the community, and Jewish celebrations of life cycle events and the festivals.

JWST 3115. Midrash: Reading and Retelling the Hebrew Bible. (; 3 cr. ; Student Option; Periodic Fall & Spring)

How did the Jews of the first seven centuries of the common era read and understand the Hebrew Bible? What were the problems they faced -- interpretive, historical, theological -- in trying to apply their holy scriptures? This course explores key issues that led to the development of a new form of Judaism in late antiquity, rabbinic Judaism, and its methods of scriptural interpretation. The course's study will focus on the forms and practices of rabbinic scriptural interpretation (midrash) as it developed in Roman Palestine and Sasanian Babylonia, focusing on key narrative and legal passages in the Five Books of Moses (Torah). A main focus of the course will be on the ways the rabbis adapted the Hebrew Bible to express their own core concerns.

JWST 3201. The Bible: Context and Interpretation, World of the Hebrew Bible.

(LITR; 3 cr. ; Student Option; Every Fall)
The Hebrew Bible and Old Testament are literary collections that modern Jewish and Christian traditions maintain as important, but these collections were initially produced by ancient Israelite scribes who composed and/or compiled the biblical texts at particular time periods in the ancient Near East. This course will introduce the academic study of biblical texts, which demands critical analysis of the literature and an openness to reading the literature from the perspective of ancient Israelite writers (who lived in a world far different from today). The course will spend considerable time on the literary (and scribal) composition of biblical prose texts; time will also be spent on the historical circumstances of biblical prophets and other writers of the biblical texts. This course will only address the ancient setting of the biblical texts and not re-interpretations in Jewish or Christian traditions. Given the scope of the course, modern interpretations of the biblical literature

will not be discussed; we will only focus on this literature in its ancient setting. prereq: Knowledge of Hebrew not required

JWST 3205. Women, Gender, and the Hebrew Bible. (AH; 3 cr. ; Student Option; Spring Odd Year)

How men, women, gender, sexuality is portrayed in Hebrew Bible. Social/religious roles/status of women in ancient Israel. Read biblical texts from academic point of view.

JWST 3206. Sex, Murder, and Bodily Discharges: Purity and Pollution in the Ancient World. (3 cr. ; Student Option; Every Spring)

"Dirt is dangerous" wrote Mary Douglas more than 50 years ago in her groundbreaking study, *Purity and Danger: An Analysis of Concept of Pollution and Taboo*. Her work has been influential in ancient Near Eastern and Mediterranean studies when dealing with issues of sacred/profane, purity/pollution, and ritual sacrifice and purification. Douglas' work provides a framework within which to understand ancients' thinking about these concepts that range from the sacredness of space and of bodies to perceived pollutions caused by bodily leakage or liminal stages of life and death. In this course, we will examine Douglas' theory in light of ancient evidence, with special attention to ancient Israelite literature (the Tanakh or Old Testament) and ancient Jewish literature (the Dead Sea Scrolls), but we will also analyze other ancient Near Eastern and Mediterranean examples of purity and pollution (from epigraphical and documentary evidence).

JWST 3502W. Ancient Israel: From Conquest to Exile. (WI; 3 cr. ; Student Option; Periodic Spring)

Israel and Judah were not states of great importance in the ancient Near East. Their population and territory were small, and they could not resist conquest by larger, more powerful states like Assyria and Rome. Yet their ancient history matters greatly today, out of proportion to its insignificance during the periods in which it transpired. The historical experiences of the people of Israel and Judah were accorded religious meaning and literary articulation in the Hebrew Bible (the Old Testament), which became a foundational text for Judaism, Christianity, and Islam. Essential features of Western as well as Islamic civilization are predicated on some element of Israel's ancient past, as mediated through the Bible; therefore it behooves us to understand that past. But the Bible is a religious work, not a transcript of events, and the history of ancient Israel is not derived merely from reading the biblical accounts of it. Archaeological excavations have revealed the physical remains of the cultures of Israel and neighboring lands, as well as bringing to light inscriptions, documents, and literary works produced by those cultures. These sources, which complement and sometimes contradict the accounts conveyed in the Bible, provide the basis for reconstructing a comprehensive history of ancient Israel. This course covers the history of Israel and Judah from the Late Bronze Age (c. 1550-1200 BCE), by the end

of which Israel had emerged as a distinct ethnic entity, to the period of Roman rule (63 BCE-330 CE), which saw the final extinction of ancient Israel, represented by the kingdom of Judea, as a political entity. Knowledge of this history is based on archaeological, epigraphic, and literary sources, including the Hebrew Bible. N.B.: Students should be aware that the study of history, like all the human and natural sciences, is predicated on inquiry, not a priori judgments. Accordingly, the Bible is not privileged as an intrinsically true or authoritative record. No text is presumed inerrant, and all sources are subject to scrutiny, in the context of scholarly discourse. Biblical texts are treated just like all other texts, as the products of human beings embedded in a historical context, and as the subject of analysis and interpretation. Persons of all faiths and of no faith are equally welcome to participate in such scholarly discourse. However, students who feel that their own religious beliefs require an understanding of the Bible that is antithetical to the foregoing statements are cautioned that they may find themselves uncomfortable with this course.

JWST 3504. Apocalypticism, Cosmic Warfare, and the Maccabees: Jewish Strategies of Resistance in Antiquity. (3 cr. ; Student Option; Periodic Spring)

The rise of Hellenistic kingdoms in the ancient Mediterranean and Near East created a variety of responses from local, subjugated peoples, and some of the most documented cases are those of Jewish populations in Koele-Syria/Palestine. The main objective of this course is to analyze Jewish responses to imperial rule and military conflict during the Hellenistic and early Roman periods (c. 300 B.C.E. - 150 C.E.), but we will also spend time examining the broader picture of how local, ancestral groups fared under foreign rule. Along with discussing pertinent archaeological evidence, we will discuss Jewish literature and documentary material from this period, including the sectarian documents of the Dead Sea Scrolls, the Book of Judith (a Jewish "novel"), the Books of Daniel and the Maccabees (all of which provide historical information about the Maccabean revolt and rise of the Hasmoneans), and the writings of Josephus (a Jewish writer who witnessed the Roman takeover of Palestine in the first century C.E.). This course will stay within the confines of the ancient evidence and not examine later interpretations when analyzing each historical period; it will begin with Ptolemaic control of the region and conclude with the Bar Kokhba revolt, its aftermath, and the resilience of Jewish populations in northern Palestine. Topics that will be examined in depth are messianism and apocalypticism, the Jerusalem Temple, Jewish ancestral traditions (which include biblical literature), and theoretical models used by scholars to analyze power relationships in antiquity.

JWST 3506. The Israeli Mossad in Film and Literature: History, Narrative, and Ethics.

(GP; 3 cr. ; Student Option; Periodic Spring)
This course will look at Mossad's activities and their perceptions in Israeli culture through

lenses of collective memory and national identity. Students will examine primary and secondary sources to understand the historic background and the various narratives, shaping the Israeli culture. Students will conduct discussions pertaining to the place of Mossad in Israeli culture expressing opinions about the ethical component of Mossad's activities.

JWST 3511. Muslims and Jews: Conflict and Co-existence in the Middle East and North Africa since 1700. (GP,HIS; 3 cr. ; Student Option; Fall Odd Year)

Diversity of social/cultural interactions between Muslims and Jews and between Islam and Judaism since 1700. What enabled the two religious communities to peacefully coexist? What were causes of conflict? Why is history of Muslim-Jewish relations such a contested issue?

JWST 3512. History of Modern Israel/Palestine: Society, Culture, and Politics. (GP; 3 cr. ; Student Option; Fall Odd Year)

History of Zionism/Israel. Arab-Jewish conflict, tensions between religious/Jews. Relationships between Mizrahi, Ashkenazi, Russian, Ethiopian, Arab citizens. Israeli cultural imagery. Newsreels, political posters, television shows, films, popular music.

JWST 3515. Multiculturalism in Modern Israel: how communities, ideologies, and identities intersect. (GP; 3 cr. ; Student Option; Periodic Spring)

This course focuses on the way various cultural groups in Israel attempt to achieve cultural recognition. Students will learn how various ethnic and religious groups shape their identities through process of acculturation and struggle. Students will learn about several Israeli cultures by reading literature, book chapters and case-studies, and watching movies, all of which center on these debates. Students will examine various case studies centered on these multicultural issues in Israel and will discuss and reflect on the implications of the issues raised by the course material for the international community, the United States, and for their own lives.

JWST 3520. History of the Holocaust. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Study of 1933-1945 extermination of six million Jews and others by Nazi Germany on basis of race. European anti-Semitism. Implications of social Darwinism and race theory. Perpetrators, victims, onlookers, resistance. Theological responses of Jews and Christians.

JWST 3601. Fleeing Hitler: German and Austrian Filmmakers Between Europe and Hollywood. (AH; 3 cr. ; Student Option; Fall Odd Year)

German/American films by famous directors who left Europe in Nazi period. Analysis of films by Fritz Lang, Max Ophuls, Robert Siodmak, Otto Preminger, Billy Wilder, Douglas Sirk, and others. Films as art works and as cultural products of particular social, political, and historical moments.

JWST 3606. Christians, Muslims, and Jews in the Middle Ages. (GP,HIS; 3 cr. ; Student Option; Fall Even, Spring Odd Year)

A Pew Research survey of the global religious landscape in 2010 found 2.2 billion Christians (31.5% of the world's population), 1.6 billion Muslims (23.2%), and 14 million Jews (.2%). In this class, we explore how the histories of these religious communities became deeply entangled in an age of diplomacy, trade, jihad, and crusade.

JWST 3631. Jewish and German Writing at the Margins: Multilingualism, Race, Memory. (; 3 cr. ; Student Option; Periodic Fall & Spring)

How are minority stories, novels, and poems constructed at the margins of a majority culture's language? This course addresses this question by exploring the complexity of Jewish culture in modernity, with a focus on 20th and 21st century German and American literature. We will first tackle the open-ended and endlessly productive question of what is meant by Jewish culture. What is a Jewish writer and is there such a thing as Jewish writing? What makes a text "Jewish"? How do Jewish authors challenge the assumptions of majority culture in their work? What role do multilingualism and translation play in the formation of Jewish cultures at the margins? We will trace the lines of affinity between the U.S. and Europe to explore the entangled histories of Germans and Jews, and between German Jews and Turkish Germans, as we look at works that challenge and expand the definition of Jewishness in the 20th century. Additional topics to be considered include how the legacies of American slavery and European colonialism shape our understandings of the Nazi genocide of the Jews, and whether Jewish writing should be understood under the rubric of "whiteness." Moving beyond the approach to German Jewish literary studies anchored in Weimar Germany, we will explore the circulation of Jewish memory between Europe and the U.S. in the aftermath of the Holocaust. We will read works by, among others, Franz Kafka, Paul Celan, Gershon Scholem, Hannah Arendt, Benjamin Stein, Walter Benjamin, Barbara Honigmann, H?I? ne Cixous, Raymond Federman, W.G. Sebald, Allen Ginsberg, Adeena Karasick, Alfred Kazin, Saul Bellow, Philip Roth, Bernard Malamud, Avram Sutzkever, Zafer Senocak. prereq: No knowledge of German required; some work in German must be done in order to count this course toward a German minor or a German, Scandinavian, Dutch major.

JWST 3633. The Holocaust: Memory, Narrative, History. (GP,HIS; 3 cr. ; Student Option; Periodic Fall & Spring)

Decades after the end of the second world war, the Holocaust continues to play a formative role in public discourse about the past in Germany and Austria. As the event itself recedes into the past, our knowledge about the Holocaust has become increasingly shaped by literary and filmic representations of it. This course has several objectives: first, to deepen students' historical knowledge of the events and experiences of the Holocaust, and at the same time to introduce critical models for examining the relationship between personal experience, historical events, and forms

of representation. This class will introduce students to the debates about the politics of memory and the artistic representation of the Holocaust, with special focus on public debates about the complex ways in which Holocaust memory surfaces in contemporary Germany and Austria, and by the accrual of layers of text and discourse about the Holocaust. We will explore the controversies and debates about public Holocaust memorialization in Germany, Austria, and the U.S. We will also explore the complex interplay between documentary and fictional accounts of the Holocaust, with attention paid to literary and film texts that challenge and "remediate" the limits of Holocaust representation. Additional topics will include Holocaust testimony; Holocaust memoirs, and 2nd and 3rd generation Holocaust literature, the Historians' Debate of the 1980s. No knowledge of German required.

JWST 3729. Nazi Germany and Hitler's Europe. (3 cr. ; Student Option; Periodic Fall & Spring)

Comprehensive exploration of Third Reich. How Nazis came to power, transformations of 1930s, imposition of racial politics against Jews/others, nature of total war. Historical accounts, memoirs, state documents, view films.

JWST 3837. Orienting Hebrew Literature. (GP,LITR; 3 cr. ; A-F only; Periodic Fall & Spring)

An introductory survey of Modern Hebrew Literature and its journey from Eastern Europe through Ottoman/British Palestine to the State of Israel. The class centers on the manner in which Hebrew literature has envisioned the Middle East or "the Orient," reflecting, manipulating, or challenging orientalist paradigms. The first part of the course focuses on Hebrew literature written by Eastern European writers, their fantasies of the East as well as their engagements with orientalist or anti-Semite prejudices. The second part examines Hebrew literature's attempts to "nativize" in Palestine. Finally, we will read a series of texts by Ashkenazi, Mizrahi, and Palestinian Israeli writers that complicate any attempt to position Hebrew within an Orient/Occident dichotomy. No prior familiarity with Hebrew literature is necessary. All texts will be read in English.

JWST 3896. Jewish Studies Internship for Academic Credit. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

The Jewish Studies Internship is intended to support an applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals which are related to the field of Jewish studies. The work can be full or part time, paid or unpaid, primarily in off-campus environments. Internships integrate knowledge and theories gained previously within the classroom context with practical application and skill development in professional or community settings, alongside academic assignments intended to reflect upon, inform, and reinforce the workplace experiences. The skills and knowledge learned within the workplace setting should

be transferable to other employment settings and not simply to advance the operations of the employer. Typically the student's work is supervised and evaluated by a site coordinator or instructor, and the instructor is responsible for evaluating the specifically academic component of the internship course. Academic credit reflects academic learning, with the understanding that such learning may also take place within the workplace environment.

JWST 3993. Directed Study. (1-4 cr. [max 8 cr.] ; A-F only; Every Fall, Spring & Summer) Guided individual reading or study. Prereq: instr consent

JWST 4000W. Final Project, Writing Intensive. (WI; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Independent research/writing under supervision of a faculty sponsor. A student may approach any JwSt faculty member to develop a program of independent research/writing in an area of student's choosing. prereq: JwSt major, permission of dir of undergrad studies

JWST 4001W. Final Project, Writing Intensive. (WI; 1 cr. ; A-F or Audit; Every Fall & Spring)

Independent research and writing, under supervision of a faculty sponsor. Student makes a contract with instructor to write an in-depth research paper, or comparable project, to be completed in conjunction with a JwSt 5xxx course. prereq: concurrent registration is required (or allowed) in 5xxx, JwSt major, permission of dir of undergrad studies

JWST 4315. Never Again! Memory & Politics after Genocide. (GP; 3 cr. ; A-F or Audit; Spring Odd Year)

Course focuses on the social repercussions and political consequences of large-scale political violence, such as genocide, war crimes, and crimes against humanity. Students learn how communities and states balance the demands for justice and memory with the need for peace and reconciliation and addresses cases from around the globe and different historical settings. prereq: SOC 1001 or 1011V recommended, A-F required for Majors/Minors.

JWST 4319. "Jews will not replace us!" Global Antisemitism from its Origins to the Present. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course will explore the topic of antisemitism, its history and cultural logic, and the relation to other forms of exclusion tied to race, religion, and citizenship in modern times. Starting with the history of Jewish emancipation in Europe and the subsequent debates about the "Jewish Question," students will learn to identify the key features of political antisemitism and the ways that antisemitism has been explained by different social theories, including Marxism, Functionalism, and Critical theory. The course will examine the differences and continuities between older theological forms of anti-Judaism and modern antisemitism, the connections between antisemitism, nativism, and xenophobia in the US and globally, and engage with current debates regarding the correlation between anti-Zionism and antisemitism. We will also

explore Jewish social, political, and ideological responses to antisemitism in Europe and the US, from the Holocaust to the present. Pre-reqs: sophomore or above; Soc 3701 recommended; soc majors/minors must register A-F

JWST 5013W. Biblical Law and Jewish Ethics. (WI; 3 cr. ; Student Option; Periodic Fall & Spring)

This course introduces students to the original meaning and significance of religious law and ethics within Judaism. Law is the single most important part of Jewish history and identity. At the same time, law is also the least understood part of Judaism and has often been the source of criticism and hatred. We shall therefore confront one of the most important parts of Jewish civilization and seek to understand it on its own terms. In demonstrating how law becomes a fundamental religious and ethical ideal, the course will focus on the biblical and Rabbinic periods but spans the entire history of Judaism. Consistent with the First Amendment, the approach taken is secular. There are no prerequisites: the course is open to all qualified students. The course begins with ideas of law in ancient Babylon and then studies the ongoing history of those ideas. The biblical idea that a covenant binds Israel to God, along with its implications for human worth - including the view of woman as person - will be examined. Comparative cultural issues include the reinterpretations of covenant within Christianity and Islam. The course investigates the rabbinic concept of oral law, the use of law to maintain the civil and religious stability of the Jewish people, and the kabbalistic transformation of law. The course concludes with contemporary Jewish thinkers who return to the Bible while seeking to establish a modern system of universal ethics. The premise of the course is the discipline of academic religious studies. The assumptions of the course are therefore academic and secular, as required by the First Amendment. All texts and all religious traditions will be examined analytically and critically. Students are expected to understand and master this approach, which includes questioning conventional cultural assumptions about the composition and authorship of the Bible. Willingness to ask such questions and openness to new ways of thinking are essential to success in the course.

JWST 5115. Midrash: Reading and Retelling the Hebrew Bible. (; 3 cr. ; Student Option; Periodic Fall & Spring)

How did the Jews of the first seven centuries of the common era read and understand the Hebrew Bible? What were the problems they faced -- interpretive, historical, theological -- in trying to apply their holy scriptures? This course explores key issues that led to the development of a new form of Judaism in late antiquity, rabbinic Judaism, and its methods of scriptural interpretation. The course's study will focus on the forms and practices of rabbinic scriptural interpretation (midrash) as it developed in Roman Palestine and Sasanian Babylonia, focusing on key narrative and legal passages in the Five Books of Moses (Torah). A main focus of the course will be on the ways

the rabbis adapted the Hebrew Bible to express their own core concerns.

JWST 5204. The Dead Sea Scrolls. (; 3 cr. ; Student Option; Periodic Fall & Spring) Introduction to Dead Sea Scrolls and Qumran. Contents of Dead Sea Scrolls, significance for understanding development of the Bible. Background of Judaism and Christianity. Archaeological site of Qumran. Open to graduate students across the college; knowledge of classical Hebrew will not be required. The course is open to upper level undergraduate students with permission of the instructor.

JWST 5992. Directed Readings. (; 1-12 cr. ; Student Option; Every Fall, Spring & Summer) Guided individual reading or study. prereq: instr consent

Journalism & Mass Communicat (JOUR)

JOUR 1001. Media in a Changing World. (SOCS,TS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

In an era when almost everybody's a content creator and just about every company is connected with media, what makes mass communication different from other forms of message exchange? We'll examine journalism, advertising, public relations, video gaming, music recording, music and more. We'll think about issues like free speech, "fake news," censorship, social media, demographics, psychographics and graphic content. Hear from mass media professionals who provide real-world, real-time material for discussion and debate. This class covers ground that is shifting by the day and uses current cases to help you apply what you learn and sharpen your own media literacy skills.

JOUR 1001H. Media in a Changing World. (SOCS,TS; 3 cr. ; A-F or Audit; Every Fall)

In an era when almost everybody's a content creator and just about every company is connected with media, what makes mass communication different from other forms of message exchange? We'll examine journalism, advertising, public relations, video gaming, music recording, music and more. We'll think about issues like free speech, fake news, censorship, social media, demographics, psychographics and graphic content. Hear from mass media professionals who provide real-world, real-time material for discussion and debate. This class covers ground that is shifting by the day and uses current cases to help you apply what you learn and sharpen your own media literacy skills.

JOUR 1501. Digital Games and Society. (AH,TS; 3 cr. ; Student Option; Every Fall & Spring)

Digital games have a wide-ranging impact on our culture and society and are one of the fastest-growing sectors of the entertainment media industry, generating enormous profits for the game companies. In this course, you will: (1) be introduced to the academic study of video games; (2) examine digital games as forms of communication and interactive

storytelling, as well as games of entertainment, commerce, social activism, professional training, and education; (3) consider the impact of mobile media, particularly for games and gameplay; (4) discuss next-generation virtual reality technology that may change the way we think about immersive media experiences; and (5) study the history, ethics, and socio-cultural impact of digital games and related technologies.

JOUR 1912. Winning People Over: The Art and Science of Persuasion. (; 3 cr. [max 6 cr.]; A-F only; Every Fall & Spring)

Seven days a week, everywhere in the world, people are busily trying to persuade other people. Students want their professors to accept late work. Professors want students to throw themselves into their coursework. Advertisers want consumers to buy their products. PR practitioners want people to think more highly of their clients. Newspaper editorialists want readers to change their minds. Defense lawyers want juries to acquit their clients. And politicians want constituents to vote for them. Some of these people are very effective persuaders; others less so. In this course, we will search out the best techniques for persuading different kinds of people to do various things. We'll study really good textbooks, meet top-quality professional persuaders, and search out real-life instances of good and bad persuasive efforts. And we'll try our hands at persuading someone to do something that's important to us. All the while we will be trying to build our own theories of persuasion and maybe have some fun!

JOUR 1914. Real News, Fake News: Confronting Misinformation. (; 3 cr. ; A-F only; Periodic Spring)

Various forms of misleading information? including online rumors, political propaganda, and media manipulation?has become part of contemporary media and politics. These forms of misleading information can be destructive for the fabric of society as well as erode public trust in the media, politics, businesses, and other institutions. Misleading information can also intensify political and ideological polarization, and shape individual and collective attitudes. This course considers the role of actors including journalists, malignant players, and social media platforms, as well as the socio-political contexts that underlie the problem of misinformation. Through discussion, students will learn about key concepts related to the contemporary information disorder ranging from misinformation, infodemic, and publicity and propaganda. And students will discuss and learn how to critically evaluate content using various verification techniques used in media organizations worldwide.

JOUR 3004. Information for Mass Communication. (; 3 cr. [max 6 cr.]; A-F only; Every Fall, Spring & Summer)

The ability to acquire, evaluate, and use different information sources are essential skills for professional communicators and citizens. This course teaches the process of information gathering, evaluation, and implications through the lens of mass communication. A case

study is used to study this process in depth throughout the semester. prereq: Jour major, Strat Comm major, Mass Comm major or Mass Comm minor or approved BIS/IDIM/ICP program

JOUR 3004H. Information for Mass Communication. (; 3 cr. [max 6 cr.]; A-F only; Every Spring)

The ability to acquire, evaluate, and use different information sources are essential skills for professional communicators and citizens. This course teaches the process of information gathering, evaluation, and implications through the lens of mass communication. A case study is used to study this process in depth throughout the semester. prereq: Honors [Jour major, Strat Comm major, Mass Comm major or Mass Comm minor or approved BIS/IDIM/ICP program]

JOUR 3005. Media Effects. (SOCS; 3 cr. ; Student Option; Every Fall & Spring)

Does the media cause social problems, or just reflect them? Why and how have mass media been feared, bemoaned, used, and dismissed as tools to change public beliefs, attitudes, and behavior? This course explores a century's worth of thinking as to how and when media might have such effects. We examine media influence in a range of contexts, including political advertising, health campaigns, video game violence, pornography, and educational television. We approach the topic largely from a social science perspective (for example, by reviewing experimental tests of the effects of media violence) but we will address some of the advantages and limitations inherent in looking for effects in that way. Although our focus is on mass media, interpersonal and digital media sources will be considered as well.

JOUR 3006. Visual Communication. (3 cr. ; Student Option; Every Fall & Spring)

From Instagram to YouTube to memes—we live in a visual culture. How can we interpret this flood of images? Learn how to analyze advertisements, photographs, television, and social media from multiple perspectives. Historical, cultural, and ethical approaches unearth the changing role of visual media in society. You'll actively interpret current images to learn how to effectively communicate with visuals.

JOUR 3007. The Media in American History and Law: Case Studies. (HIS; 3 cr. ; Student Option; Every Fall)

In this class, you'll study news media and their social, cultural, and political impact during a specific historical time period, based on the instructor's expertise and area of research. Examples include: Journalism during the Civil War; Mass media and the African American struggle for civil rights; the Sixties and rise of the New Journalism. Instructors of the course may vary from term to term and students may wish to contact the instructor for information on the specific focus of his or her section.

JOUR 3101W. News Reporting and Writing. (WI; 3 cr. ; A-F only; Every Fall & Spring)

This course is the foundation for training as a working journalist—students will learn how

to write and report news accurately, quickly, fairly and with a clear, informative style that reflects today's news demands. Its main focus is on news writing. Students will be expected to model proper journalistic forms and style, for a variety of platforms, as well as demonstrate proper English usage, grammar, spelling and style. Students will also be asked to think about ? and analyze ? news and the varying ways it is presented in today's media world. At the end of the course, students must demonstrate the ability to write clearly, report accurately, adhere to AP style, meet deadlines and judge what is newsworthy. prereq: [Jour 3004 or 3004H or concurrent registration], [Jour major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 3102. Multimedia Production and Storytelling. (3 cr. ; A-F only; Every Fall & Spring)

This course is an introduction to photography, video, audio and slideshow storytelling and production; understanding the differences in content for different media; and understanding content management. Students will learn basic skills in understanding the differences in content for different platforms (Web, print, radio, mobile and television), in identifying, writing and producing different story forms for video, audio and social media and in understanding content management. Students will tell stories using a variety of technologies to gather, edit and disseminate information for journalism and strategic communication messages. We'll work to understand how each technology has a particular audience or application, apply visual principles, and use the principles of visual grammar. Students will gain a basic proficiency in still and video camera operation, in video, audio and mixed media writing and production, in creating images for a video and social media or other mixed media story. They will also learn to manage and publish content in an organized manner. prereq: [Jour 3004 or 3004H or concurrent registration], [Jour 3101 or concurrent registration or Jour 3279 or concurrent registration or Jour 3241 or concurrent registration], [Jour major, Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 3103. Interactive and Data Journalism. (3 cr. ; A-F only; Every Fall & Spring)

This course teaches concepts, tools, and techniques for effective data journalism storytelling on digital platforms. Students will develop ways to display stories through the most important emerging tools for using structured information in journalism, including learning the fundamentals of gathering data and performing analyses to find stories and creating visualizations to illustrate trends and patterns. Students will use maintain a blog to curate their work, learning how to use what they build in one of the most common content management systems. Students will rely on open-source tools, but will also learn basic coding to customize those tools for more effective digital presentation. Students will also learn about and critique other digital storytelling

formats, user experience concepts and web analytics. prereq: [Jour 3004 or 3004H], Jour 3101, [Jour major, Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 3121. Intermediate News Reporting. (3 cr. ; A-F only; Every Fall & Spring)

This course is a skills-based course designed to teach journalism students how to report and write the types of stories that are central to the basic beats in most newsrooms. The course expands upon the competencies learned in JOUR 3101, but requires more in-depth records searches, interviewing and writing. Students also learn the basics of such subjects as libel law, public records law and media ethics. Students will learn in this course how to find news that matters to people, and how to write it so that readers understand it. Whether a student is planning a career in newspapers, television or other media, they will learn enough to get started as a reporter and to understand how things work (or don't work) in a real newsroom . prereq: [Jour 3004 or 3004H], Jour 3101, [Jour major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 3155. Editing for Print and Digital Audiences. (3 cr. ; A-F only; Every Spring)

In this course, students will learn the fundamentals of editing for print and digital publications. Students will learn to edit copy, to exercise news judgment and to improve the flow and accuracy of stories. The course will also cover how to write search-engine friendly headlines, to utilize online tools for fact-checking and to execute compelling visual designs for digital and print. Successful students will develop an excellent understanding of AP style, hone their ability to improve copy and learn to navigate legal, ethical and production challenges. These skills are particularly important in the modern newsroom ? where economic pressures have removed some layers of fact-checking and editing and forced traditional roles to shift and expand. prereq: [Jour 3004 or 3004H], Jour 3101, [Jour major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 3173W. Magazine & Feature Writing. (WI; 3 cr. ; A-F only; Every Fall & Spring)

This course is about writing feature stories for magazines. You'll learn how that enterprise differs from newspaper writing. You'll also learn about the various types of magazines that exist as well as what constitutes a magazine in this digital age. We will focus on niche ? on the importance of writing for the magazine's audience. You'll learn how to sell your work to different markets and platforms. You'll also discover, if you don't already know it, that the best magazine writing is rooted in solid reporting. You'll be doing more interviewing, fact-finding, and field work than you may have imagined, all of which will improve your writing. prereq: [Jour 3004 or 3004H], Jour 3101, [Jour major, Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 3201. Principles of Strategic Communication. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

So, you have declared your journalism major and selected the strategic communication track? Or maybe, you are studying something completely different, but you have heard that advertising and public relations are great fields to work in? In this class, we will foster career exploration as you learn about key areas of advertising and public relations (history, theory, ethics, etc). In the second half of the class, you will take a journey from media consumer to strategic planner as you create a strategic communication campaign as part of a project that will start off your strategic communication portfolio. prereq: [Jour 3004 or 3004H or concurrent registration], [Jour major, Strat Comm major, Mass Comm major or Mass Comm minor or approved BIS/IDIM/ICP program]

JOUR 3241W. Advertising Strategy and Creative Development. (WI; 3 cr. ; A-F only; Every Fall & Spring)

This course is focused on giving strategic communications students the tools needed to better understand how the creative process works to help solve business problems. We will accomplish this by studying successful advertising campaigns (current and past) and by creating concepts for campaigns. Advertising today is more than just the development of a traditional TV or print ad. Creative concepts include the traditional advertising platforms of TV, Radio, Print and Outdoor along with the vast array of digital platforms. The strategic and creative development experiences and discussions from this class will help aid students in the development of decision-making and concept development skills that are needed to pursue a career in this field. prereq: [Jour 3004W or 3004V], Jour 3201, [Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 3251. Strategic Communication Research and Analytics. (; 3 cr. ; A-F only; Every Fall & Spring)

This course is designed to teach strategic communication students the fundamentals of research used by communication and marketing research professionals to evaluate the effectiveness of campaigns. Students will be exposed to various data collection and analysis methods with particular emphasis on quantitative research methods (e.g., surveys, experiments, digital analytics) commonly used to collect data to aid strategic communication decision making. prereq: [Jour 3004 or 3004H], Jour 3201, [Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 3253. Account Planning. (; 3 cr. ; A-F only; Every Fall & Spring)

This course examines the role of account planning in integrated marketing communications development in today's complex cultural and media environments. It is designed to teach students how to use research and analytic tools to identify strategic insights about target consumers. These insights will then be used to develop effective brand positions and message strategies. Students will develop an awareness and

understanding of the skills needed to become an account planner and an opportunity to apply those skills in various situations and settings. Although account planners conduct both formative and evaluative research using both primary and secondary research approaches throughout a campaign, the emphasis in this course will be on qualitative formative research, brand planning, positioning and message development. prereq: [Jour 3004W or 3004V], Jour 3201, [Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 3261. Media Planning. (3 cr. ; A-F only; Every Fall & Spring)

The objective of the course is to provide a basic understanding of the media strategy, planning, and selection process within the context of the broader marketing communications process. The course will cover paid, owned and earned media across advertising, digital (including social), and direct marketing disciplines. The media planning process incorporates subjective decision making after reviewing significant amounts of objective data. The development of recommendations with supporting rationale is the basis for the process. Students are introduced to this process focusing on the prioritization of strategies and media selection within a fixed budget. Marketing and media examples covering number industries to help students grasp theoretical concepts. The media selection process incorporates the demographic media consumption patterns of the American consumer. Students will also be exposed to the measurement methodologies for all major media. The course will cover the strengths and weaknesses of various media and how they are applied to accomplish marketing communication objectives. Students will garner hands on experience with data and planning resources. prereq: [Jour 3004W or 3004V], Jour 3201, [Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 3275. Digital Strategy in Strategic Communication. (; 3 cr. ; A-F only; Every Fall & Spring)

This course is designed to provide a basic understanding of digital communications and strategy development. The course covers the digital communications planning process and emphasizes how to develop effective communications strategies in today's digital-centric environment. The digital revolution of the last fifteen years makes it imperative for communications professionals to understand how to evaluate and select digital marketing channels to best achieve business goals. This course is designed to assist students to build the professional skills they need to compete in a digital world. This course teaches students how to develop a digital communications plan from start to finish. Students will increase their understanding of how digital communications relate to more traditional marketing and PR tactics. Students will move through a discovery process learning to analyze consumers' digital marketing behavior, their demand for content, the effectiveness of various social media channels including website performance. The

course will review current digital tools, trends and tactics; weighing the difference between what is 'hot?' versus which channels can best be used to achieve a brand's communications goals. Students will leave the course with an increased knowledge of digital communications and ability to evaluate and strategically apply digital marketing techniques in a real-world communications environment. prereq: [Jour 3004W or 3004V], Jour 3201, [Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 3279W. Professional Writing for Strategic Communication. (WI; 3 cr. ; A-F only; Every Fall & Spring)

This course is designed to develop writing expertise for public relations and advertising agency work, corporate and non-profit strategic communication and development of tactical thinking and publicity techniques. The course focuses on developing the essential writing capabilities needed to complete a wide variety of projects in public relations and related strategic communication professions. It is designed to help students gain experience in researching, interviewing, writing, and producing materials used by strategic communication professionals. These include biographies, press releases, fact sheets, backgrounders, newsletters, brochures, speeches, A/V scripts and other materials for broadcast. Discussion of public relations tactics, the role of public relations and advertising agencies and various media channels is integrated into the course so that students should develop a strong understanding of the many aspects of the strategic communication profession. Theories of persuasion, social influence and compliance gaining are interwoven into class discussions. prereq: [Jour 3004W or 3004V], Jour 3201, [Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 3321. Media Design. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

This course will introduce students to basic skills in visual communication through hands-on projects, observation, discussion, and collaboration. Students will learn the vocabulary necessary to communicate effectively about graphic design processes. Students will develop a sense of their own design aesthetic and be able to talk about their solutions to design communication challenges by producing and presenting the projects assigned in the course. They also will learn to provide and receive constructive criticism and encouragement with their peers through both process and final class project critiques. Students will become familiar with the tools and processes necessary to execute simple design projects, from concept through production. Course projects will facilitate diversity through projects that reflect each students interests and research. prereq: [Jour 3004 or 3004H or concurrent registration], [Jour major, Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 3451. TV, Radio and Digital News Reporting. (3 cr. ; A-F only; Every Fall & Spring)

This course is the introductory broadcast and digital writing and reporting course. It is the student's introduction to writing in broadcast and digital style, video photojournalism and digital video editing. This is not a production class. It will apply journalism to the production techniques learned in JOUR 3102. Also included: source and story development, ethical decision-making, audio storytelling and vocal and on-camera delivery. prereq: [Jour 3004 or 3004H], Jour 3101, Jour 3102, [Jour major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 3551. The Business of Digital Media: Innovation, Disruption, and Adaptation.

(TS; 3 cr. ; Student Option; Every Spring)
Digital media enterprises have uprooted many established industries and continue to be among the most important factors shaping our economy and society today. Where do these innovations come from? Why do some startups prosper while others fail? How do legacy firms respond to disruptions to their business models? What makes adaptations possible? What makes them risky? Learn to analyze and evaluate the economic strategies of existing digital media firms across various sectors of society including news, entertainment, social media, mobile, and retail. Assess their impacts on cultural and civic life for better and for worse. Use these skills to incubate your own ideas for the next great media innovations of the future.

JOUR 3552. Technology, Communication & Global Society. (GP; 3 cr. ; Student Option; Every Fall)

This course examines the various ways in which technology continues to evolve, and to have a role in ongoing societal changes. The course focuses on unpacking the specific ways in which technology are evolving, and connecting those changes to impacts on communication and media. A variety of theories or perspectives relevant or related to technology use and global communication will be considered to help make sense of the interplay between the technology use and societies in a global setting. The course is divided into three main parts: first, understanding of the specifics of relevant technology; second, connecting the technical features to theoretical views of technology; third, examining global patterns of technology use in media and communication. The readings and discussions place special emphasis on specific forms of technology, including mobile phones, Web, and social media. Grounded in a global context, we will investigate the political, cultural, social, technological, and economic conditions that shape and are shaped by the presence of the Internet at the national and cross-national levels; the effects of technology use on the form and content of mass communication at the global level; and the implications of technology use for human and social relations across national borders.

JOUR 3553. Mobile Communication. (TS; 3 cr. ; Student Option; Every Spring)

In the past 20 years, mobile communication has emerged as a rapidly-growing, popular,

and economically and socially significant mode of communication around the world. First as voice-only devices intended for business use, mobile devices have proliferated and gained new functionalities. Smartphones are now the most common means of internet access in many countries, and mobile devices have brought together the capabilities of watches, computers, GPS trackers, and many other specialized tools. Today, two-thirds of the world's population has reliable mobile phone access, and there are more mobile devices in existence than there are people on earth. In light of these rapid developments, this course introduces students to scholarly analysis of mass mobile phone communication in the United States and globally. Beginning with a set of foundational discussions about mobile communication, the course moves through a series of thematic units examining mobile crowdsourcing, social movements, social life, development, media, and the future of mobile communication. Throughout, the course explores how mobile devices have been put to use and what new possibilities and risks lie ahead.

JOUR 3590. Special Topics in Mass

Communication: Context. (; 3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall & Spring)
Context course not regularly offered. Topics specified in Class Schedule.

JOUR 3614. History of Media

Communication. (HIS,TS; 3 cr. ; Student Option; Every Spring)
In the history of humankind, there have been five major changes in how we communicate and we're in the middle of the latest revolution. This class helps you make sense of these uncharted waters by exploring how humanity adopted, and adapted to, past disruptions. From the alphabet to the internet and social media, learn how technological innovations in the media have changed not only how people share information and values but also what people have communicated throughout history. We will learn about these five phases in mediated communication over 5,000 years, and how they relate to major changes in politics, society and culture. And then we'll use history's lessons to peek into the future: When presidents tweet and everyone's foodie photos are on Instagram, how does the world communicate?

JOUR 3615. History of the Documentary. (3 cr. ; Student Option; Every Fall)

Invention of photographic media. Truth-value of factual versus fictive representations. Influence of political/economic contexts on form/content. Convergence of distinct realms of media practice. Role of media maker. Documentary photography/film. Screenings of landmark films, photographs.

JOUR 3741. Diversity and Media. (DSJ; 3 cr. ; Student Option; Every Fall)

How are our perceptions of crime been influenced by the news? How do social movements use media to share their messages? What can we as audiences do? Social media, news and entertainment media help shape our ideas about identity and

differences. Learn how representation and inclusion have been negotiated through media with a particular focus on local case studies. Topics include race, ethnicity, social class, physical ability, and gender. Students will learn how to use media literacy to build a just and equitable society.

JOUR 3745. Media and Popular Culture. (AH,DSJ; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Popular culture is everywhere. Social media, film, music, video games, television, websites, and news bring popular culture into our daily lives. In this class, we will examine popular culture in modern and historical contexts through various mass communication, sociological, and cultural theories. Is popular culture of the people? or dictated by corporate interests? What social and commercial pressures result in stereotypes, misrepresentation and exclusion in popular culture? Does popular culture mirror or shape social reality? This course will provide you with the tools to become active and thoughtful consumers of media and popular culture.

JOUR 3751. Digital Media and Culture.

(AH,TS; 3 cr. ; Student Option; Every Fall, Spring & Summer)
How have digital media innovations like social media, mobile phones, artificial intelligence, drones and games shaped and been shaped by a culture and society globally? Learn to critically examine the function of digital media in your life. Take away a socio-historical understanding of digital media innovation, and the social, political, and economical impact of new media in creativity, industry, and culture from a cross-disciplinary perspective. Topics range from the concept of branding in an online context, to the varied uses of digital media in the context of journalism, social mobilization, law and privacy, business, globalization, content creation, and beyond. You will read, discuss, and debate cutting edge material from documentaries, podcasts, popular press, and academic literature. This course balances local contexts with global perspectives, and provides details into the practicalities of working and living in a new media environment.

JOUR 3757. Principles of Health Communication Strategy. (3 cr. ; Student Option; Every Fall)

Health information is in the news, nearly every corner of the internet, on your favorite television show, and advertising campaigns. Using principles of mass communication, public health, sociology, and psychology this course explores how mediated health content impacts students' lives at both micro- and macro-levels. We will explore questions such as: how do individuals use media to achieve health-related goals? What role does media and health literacy play in achieving these goals? What effect does health information in entertainment media or strategic public health campaigns, for example, effect your own health-related beliefs and behaviors? To what extent do media portrayals of health and illness impact society's understanding of complex

health issues such as mental health, substance use disorder, or cancers? What influence does news coverage of health issues have on health policy and health reform?

JOUR 3771. Media Ethics. (CIV; 3 cr. ; Student Option; Every Fall & Spring)
Citizens expect journalists to separate fact from falsehoods, opinion and propaganda. But is it possible for journalists to be unbiased and objective? Advertisers are expected to push products. But is it acceptable to mislead by exaggerating what the product can do? Public relations professionals must protect a company's brand. But what should they do when a company becomes entangled in a scandal? This course examines the ethical and unethical ways that communicators respond to such challenges, and uses real-life examples to identify values and principles that can lead to sound, ethical decisions under the most difficult circumstances. Learn about ethical communication on all platforms, from television to social media to newspapers and magazines. Build a solid foundation for your own ethical thinking that can guide you as a student and as a professional communicator.

JOUR 3775. Strategic Communication Law. (CIV; 3 cr. ; Student Option; Every Spring)
Learn practical legal skills and ethics as they pertain to marketing, public relations and advertising by focusing on the actions of the Federal Trade Commission, the Federal Communications, and the Federal Elections Commission. Learn about the administrative process including adjudication and rule making. Learn through a range of legal, policy and ethics discussions ranging from the First Amendment, the regulation of commercial speech, advertising deception, substantiation of material claims, digital privacy, contesting, political advertising, and controls on native advertising and social media influencers.

JOUR 3776. Media Law. (3 cr. ; A-F only; Every Fall & Spring)
The First Amendment protects the freedom of speech, and of the press. Does that mean that journalists can write anything they want, broadcast any video images they choose, or go wherever they like in order to gather news? In this course, we will examine significant court decisions that have defined the legal rights and privileges of journalists. We will look at statutes like the Freedom of Information Act and journalist 'shield laws.' We will consider how new technology raises questions, and challenges, about how to balance First Amendment freedoms with other interests, like privacy and national security. Learn legal rules and principles, and apply them in classroom debate and discussion and in written exercises and examinations. The goal is to understand how the First Amendment and other laws protect the rights of freedom of expression, not just for journalists, but for all of us.

JOUR 3776H. Media Law. (; 3 cr. ; A-F only; Every Fall & Spring)
The First Amendment protects the freedom of speech, and of the press. Does that mean that journalists can write anything they want, broadcast any video images they choose, or

go wherever they like in order to gather news? In this course, we will examine significant court decisions that have defined the legal rights and privileges of journalists. We will look at statutes like the Freedom of Information Act and journalist "shield laws." We will consider how new technology raises questions, and challenges, about how to balance First Amendment freedoms with other interests, like privacy and national security. Learn legal rules and principles, and apply them in classroom debate and discussion and in written exercises and examinations. The goal is to understand how the First Amendment and other laws protect the rights of freedom of expression, not just for journalists, but for all of us. prereq: Honors

JOUR 3786. Media and Politics. (3 cr. ; Student Option; Every Fall)
Do facts matter anymore? Is press freedom under threat? Are audiences trapped in filter bubbles? Why do people hate the media, and how can the news be improved to better serve citizens? Explore the historical and contemporary dynamics that shape the relationship between professionals in the media, the mass public, and political actors across different parts of government. Study major forms of mass media, including television and newspapers, alongside new forms such as digital and social media. Look at specific reporting rituals and practices, as well as issues involving media ownership, regulation, ethics, and press freedom. We will study politicians' efforts to craft messages, advertise strategically, and target select audiences for political gain. The course will focus primarily, but not exclusively, on the United States, and you will be asked to engage with current events and the role of communication technologies in political and civic life.

JOUR 3790. Special Topics in Strategic Communication Skills. (; 3 cr. [max 6 cr.] ; A-F only; Periodic Fall & Spring)
Strategic Communication professional skills course not regularly offered. ?Topics and prerequisites specified in Class Schedule. ? Students must be Strategic Communication majors and meet the prerequisites for the specific course offering.

JOUR 3896. Directed Internship. (; 1 cr. [max 3 cr.] ; S-N only; Every Fall & Spring)
This is an independent study internship practicum. Students obtain an internship with the organization of their choice, such as a TV station, advertising agency, magazine, corporation or non-profit organization, to gain real-world professional experience. The internship should be in students' field of concentration and improve their professional skills; the internship should be guided by a person already working in their chosen field. The course will assist students to examine, reflect on and construct meaning from their internship experience and will encourage them to examine what it means to be a professional and to operate within professional environments. A student may only earn credit for a given internship through one course at a time. prereq: Jour major, dept consent

JOUR 3993. Directed Study. (1-3 cr. [max 6 cr.] ; Student Option No Audit; Every Fall, Spring & Summer)
Directed study, projects. Prereq [Jour major or jour minor or approved IDIM major or ICP major or BIS major], instr consent, dept consent, college consent. Students enrolling in this directed study/research course will complete the University's common Directed Study/Research contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: the work proposed is at the appropriate level for the course, academic in nature, and the student will be involved intellectually in the project. the project scope is reasonable for one semester and the number of credits specified (42 hours of work per credit) the faculty mentor is qualified to serve in this role assessment of student learning and grading criteria are clear and appropriate the student will be working in a respectful, inclusive environment

JOUR 4171. Covering the Arts. (3 cr. ; A-F only; Every Fall)
As arts journalism continues to migrate from print to online media, the distinctions between entertainment and art have begun to merge, and the boundaries between professional journalism and promotion have blurred. Yet the task of the arts journalist remains an important independent voice for developing arts literacy on print and digital platforms. This course will not only develop practical and critical thinking needed to write about the arts as a journalist but will also do so via digital approaches to arts coverage. Accordingly, students will be immersed and engaged on a variety of platforms to produce relevant journalism about a wide variety of arts for 21st century readers. prereq: [Jour 3004 or 3004H], Jour 3101, [Jour major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 4172. Sports Reporting. (3 cr. ; A-F only; Every Spring)
This course will cover game-story writing, multimedia/digital storytelling, interview/press conference techniques, sports-business reportage, data-driven journalism, effective use of social media and opinion/column writing. Top sports media professionals and other local sports personalities will come in periodically to tell their stories and teach students some of what they know about good sports journalism. The aim of this course is to provide first steps toward working in today's sports media environment. Some possible sports career destinations include becoming: an authoritative sports blogger; TV sports anchor, reporter or sideline analyst; beat reporter or sports editor for a newspaper (and its website); team sports information director; writer of long, beautiful prose for a national magazine or website. prereq: [Jour 3004 or 3004H], Jour 3101, Jour 3121 or instructor permission, [Jour major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 4173. Podcast Production and Storytelling. (3 cr. ; A-F only; Every Fall)
Nieman Journalism lab declared Podcasting the last mass medium. WNYC invested \$15

million in development on podcasts last year alone with the New York Times, the LA Times and now the Washington Post not far behind. Whether it's for news and information, strategic communication messaging or pure entertainment, podcasting has changed how the world seeks and delivers information. This class will take the mystery out of audio: what makes it different, where its challenges lie, and what makes it such an enticing medium to work in. Students will learn the basics of narrative audio storytelling, which is used extensively in some of the most influential podcasts including Serial, This American Life, Caliphate, Dirty John to podcasts like Target's Coffee and Crayons (produced in partnership with Slate Studios) and the Trader Joe's podcast Inside Trader Joe's. Audio has the power to involve the listeners, to make them a part of the story ? whether it's buying crayons or explaining an Islamic insurgency ? the tools are the same: real voices, sound, and conversational writing. Students will learn how to harness sound, to use it to develop a narrative and tell stories with scope, sound, and texture. prereq: [Jour 3004 or 3004H], Jour 3101, Jour 3102, [Jour major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 4175. Brovald-Sim Community Journalism Practicum. (; 3 cr. ; A-F only; Every Spring)

Community journalism is arguably the most relevant source of news and information for our citizenry, whether in urban, suburban or rural settings. That's still true today, but the nature of what we call community journalism is changing. For decades, community journalism has been defined by its geographical boundaries, concerning chiefly the institutions ? schools, churches, businesses or government ? within those borders. While that traditional community journalism is certainly still alive today, the reach of digital journalism and social media has transformed the notion of community. New communities can define themselves beyond geography, a shift that creates opportunities for journalists to cover a broader sense of ?where? people live. This course will explore this shift through practical, hands-on experience and thoughtful consideration of the journalist's role in covering diverse communities. Through readings, lectures and discussions with professionals who do the work, students will consider the notion of community journalism and the best practices for it. Students will target a community in and around the University of Minnesota and develop cover that community on the student-run website AccessU. The goal is for those teams to publish relevant stories about the community on that site in text, photos, video and visualizations. prereq: [Jour 3004 or 3004H], Jour 3101, [Jour 3103 or Jour 3121 or Jour 3155 or Jour 3173 or Jour 4302], [Jour major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 4242. Advertising Portfolio Development. (3 cr. ; A-F only; Every Fall & Spring)

This course improves students' creative development and conceptual thinking. Students

will develop creative ideas based on sound strategies, with emphasis on developing ideas for current and evolving creative media opportunities. At the end of the term, students will be able to apply strategic and insightful creativity to advertising ideas and will have a basic understanding of how to put a book together for the field of advertising. prereq: [Jour 3004W or 3004V], Jour 3201, Jour 3241, [Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 4243. Digital Content Development and Production for Brand Communications. (3 cr. ; A-F only; Every Fall & Spring)

This course focuses on the conceptual and practical skills necessary for strategic communication practitioners, especially those focused on careers in public relations, corporate communications, and sponsored content generation, to create, produce, publish, and distribute content for brands. The course addresses new technologies for branded storytelling including various forms of online video, longer form digital content such as blogs and web sites, and social media community content created for social platforms. The course also incorporates elements of user experience and graphic design and the skills necessary to adapt and modify content in an iterative process after analyzing audience data. Discussion of professional ethics in the creation of branded content is incorporated throughout. prereq: [Jour 3004 or 3004H], Jour 3201, [Jour 3241 or Jour 3279], [Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 4244. Crisis Communication. (3 cr. ; A-F only; Every Spring)

This course teaches the concepts and strategies of effective crisis communication. Crisis communication is an important and integral part of an organization's strategic communication repertoire. Effective crisis communication can save lives, reduce negative outcomes, and protect an organization's employees, reputation, and brand image. Topics taught in this course include crisis type identification and evaluation, forming a crisis management team, planning and execution of crisis communication strategies, and post crisis communication evaluation. Case studies will be used to teach and analyze crisis communication concepts. Students will participate in a crisis communication simulation to gain experience planning and executing the concepts and strategies learned in this course. prereq: [Jour 3004W or 3004V], Jour 3201, any 32xx skills course, [Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 4251. Psychology of Advertising. (; 3 cr. ; Student Option; Every Fall & Spring)

Ever wonder what your brain does when you see an advertisement? Ever wonder why advertisements work? And why sometimes they don't? How does advertising compel you to buy things you don't need and what strategies do you use to resist these messages? In this course we explore a range of theories that explain how advertisements

influence memory, attitudes, emotions, and behaviors and how humans actively process and resist persuasive messages.

JOUR 4258. Corporate Social Responsibility Communication. (3 cr. ; A-F only; Every Spring)

This course seeks to provide the knowledge and skills needed to research, plan, and implement communication campaigns for corporate social responsibility (CSR) practices. In response to increasing social demand, corporations today make significant efforts to integrate CSR initiatives into all aspects of their business. Strategic communication of CSR has a vital role to play in maximizing its business impact, but also creating a more responsible and sustainable society. Effective CSR initiatives and communication must be deliberate, planned, and evaluated. This course examines theories and practices related to CSR in order to understand the business environment in which public relations/ advertising operate and apply them to developing and evaluating communication campaigns. Specifically, this course provides an overview of CSR, its evolution, and theories in management and psychology that underlay strategic approaches and consumer behavior. This course also covers the planning and integration of media into strategic CSR communication programs. Students will learn to set objectives, develop CSR campaign plans, integrate traditional and social media into overall communication plans, measure program results, utilize digital media technologies, and about the macro-environmental issues affecting CSR governance.

JOUR 4259. Strategic Communication Case Analysis. (3 cr. ; A-F only; Every Fall & Spring)

This course explores a wide range of strategic communications campaigns in a case study setting. Students will explore real-life situations and analyze them from a strategic, integrated communications point of view. The cases will focus on building relationships with key stakeholder groups, using strategic communication in today's global environment, and critically analyzing ethical and legal issues. The course objective is to provide students with opportunities to apply their analytical skills when identifying communication opportunities and problems, evaluating the cost and benefits of alternative communication strategies, and evaluating the outcomes of communication campaign decisions. Students will learn how quantitative and qualitative evidence can be used to support strategic decisions, recommendations, and campaign evaluation. Campaigns are drawn from the business, nonprofit, government, and political sectors, and they focus on communication issues addressed through strategic communication, including public relations, advertising, marketing, and/or social media. Students also examine cases involving crisis communication, media relations, and multicultural communication. The case study approach will prepare students to develop their decision-making skills based on best practices learned through the critical evaluation of past

and present campaigns. prereq: [Jour 3004 or 3004H], Jour 3201, any 32xx skills course, [Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 4262. Management for Strategic Communication. (3 cr. ; A-F only; Every Fall & Spring)

This course teaches the concepts and methods for effective management by placing them in the context of organizations in the field of strategic communication. These organizations are diverse in their scale of operations and in the products and services they produce. They are highly responsive to the latest developments in digital media technology, conditions in the local and global economy, and trends in society. They include advertising agencies, public relations firms, media organizations, digital media agencies, brand content developers, and communication departments in client organizations, both for profit and nonprofit businesses. The topics taught in this course include strategic business planning, budgeting, understanding fundamental financial concepts, leadership skills, human resource management, project management and marketing, and selling skills. The concepts, skills and perspectives covered in this course apply to both working within organizations and to understanding the business circumstances of clients and competitors. The course also serves to awaken students to the potential, when opportunities arise, to propose and develop new business ideas of their own. prereq: [Jour 3004 or 3004H], Jour 3201, any 32xx skills course, [Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 4263. Strategic Communication Campaigns. (3 cr. ; A-F or Audit; Every Fall & Spring)

This course provides an in-depth look at all aspects of strategic communications culminating in the development of a strategically sound communications campaign. Emphasis is on ?real-life? examples of campaigns, their creation and development. All essentials of developing a strategic campaign are covered, including advertising strategy, positioning, developing creative, consumer research, planning and setting objectives, media strategies, budgeting, public relations programs, and promotion. This course is designed to bring together all aspects of communications planning that students have gained from previous classes. The class will focus on the integration of various techniques and elements available to most effectively create a strategic communications campaign. This course will simulate the teamwork involved in working in a strategic communications agency. Case studies will be used extensively to apply the theory to the practice in a meaningful, memorable way. prereq: [Jour 3004 or 3004H], Jour 3201, any 32xx skills course, [any 4/5xxx skills course or Flor 3007 or concurrent registration], [Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 4272. Digital Advertising: Theory and Practice. (3 cr. ; A-F or Audit; Every Spring)

This course introduces you to the fascinating and ever-changing world of digital advertising and marketing. Learn its history and evolution, current trends, future possibilities, and legal/ethical issues. We'll study the innovative research and theories explaining the practice and effects of various forms, including social media, search marketing, gaming, native, viral, online video advertising, online behavioral advertising, and mobile. Through a combination of lectures, in-class discussions, and guest presentations by industry professionals, you'll learn the basic theories for developing effective and socially-responsible digital advertising campaigns in the increasingly diverse and global media environment.

JOUR 4274W. Advertising in Society. (WI; 3 cr. ; Student Option; Every Fall & Spring)

Advertising in Society asks students to think about the ways that advertising intersects with cultural and political life in the 21st century, examining the influence of advertising from many perspectives?legal, constitutional, social and ethical. This course tackles a variety of current topics in advertising, including the many other powerful social institutions that advertising underpins (such as journalism and entertainment content), the role of American political advertising, the way advertising depicts gender and sexuality, the obligations of advertisers toward vulnerable audiences, and the ethics and impact of increasingly pervasive personalized hyper-niche ads on Twitter, Facebook and Instagram. This course helps students learn how to conduct thorough analyses of issues, develop positions on issues, and present coherent and convincing arguments for the positions they have taken.

JOUR 4302. Photojournalism. (3 cr. ; A-F or Audit; Every Fall)

Students in this course can expect to learn skills in understanding convergence journalism and visual roles and responsibilities in newsrooms, understanding basic video news production using a DSLR, and using those to create a portfolio of still images with significant journalistic content. Students will study some concept and theory, plus approaches in covering story events and using a variety of technologies to gather, edit and disseminate stories. Students will look at ways to tailor stories for print, broadcast, web and mobile reporting, and talk about the differences in audience and will study ethics all along the way, too. Students will get photo-nerdy. They will learn production skills that include visual grammar and application, how to use a DSLR camera for both still and video images, and how to use light and color to tell news and feature stories. Plus, students will learn to edit photos and video for great images and for great stories. prereq: [Jour 3004 or 3004H], Jour 3101, Jour 3102, [Jour major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 4303. Advanced Visual Storytelling. (3 cr. ; A-F only; Every Spring)

Students produce in-depth multimedia stories, using photography, audio, video, text and infographics, working both individually and in groups. Students will produce and participate in a completed multimedia project (with at least

three story forms) by the end of the semester. Students examine the implications of differing approaches to multimedia production and consider ethical issues raised by it. Exemplary work of multimedia journalism is regularly presented and reviewed. prereq: [Jour 3004 or 3004H], Jour 3101, Jour 3102, [Jour major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 4451. Long-form Video Reporting. (3 cr. ; A-F only; Every Fall)

Emphasis in this course is on longer-form storytelling using video, audio, graphics and still photography, edited into multimedia presentations for journalistic and persuasive messages. Story conceptualization, enterprise, source development, access, narrative approaches and related issues will be addressed. Ethical and legal implications of multimedia storytelling in journalistic and strategic communications settings will be reviewed. prereq: [Jour 3004 or 3004H], Jour 3101, Jour 3102, Jour 3451 [Jour major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 4452. Newscast Producing. (3 cr. ; A-F only; Every Spring)

The emphasis of the course is planning, writing, producing and presenting live TV newscasts. Students will produce University Report newscasts during the semester. Much of the class will also be spent writing broadcast news copy. Students will also generate their own stories as needed and anchor newscasts or segments. prereq: [Jour 3004 or 3004H], Jour 3101, Jour 3102, Jour 3451, [Jour 3121 or concurrent registration], [Jour major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 4590. Special Topics in Mass Communication: Context. (; 3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall & Spring)

Special context topics not regularly offered. Topics specified in Class Schedule.

JOUR 4690. Special Topics in Journalism Skills. (; 3 cr. [max 6 cr.] ; A-F only; Periodic Fall & Spring)

Journalism professional skills course not regularly offered. ?Topics and prerequisites specified in Class Schedule. ?Students must be Journalism majors and meet the prerequisites for the specific course offering.

JOUR 4721. Mass Media and U.S. Society. (DSJ,SOCS; 3 cr. ; Student Option; Every Spring)

Are the news media doing a good job? How can you tell? Does it matter? Is The Daily Show the best news program on television? Why or why not? Most people seem to have an opinion about all of these questions. Most discussions seem to center on one of four themes: 1) who owns the media and what they care about; 2) whether the news media are becoming more or less credible and/or biased; 3) whether entertainment is replacing or enhancing information in news programming; and 4) how much, if at all, is the Internet changing everything about the way the media work, including who we think of as a journalist. Mass Media and U.S. Society explores the validity

and importance of these themes in terms of what roles can the media play in society, what roles does it play, and how have those roles have changed over time. The course draws on ideas from various social sciences to develop tools for discussing a number of specific issues related to these themes.

JOUR 4721H. Mass Media and U.S. Society. (DSJ,SOCS; 3 cr. ; A-F only; Every Spring)

Are the news media doing a good job? How can you tell? Does it matter? Is The Daily Show the best news program on television? Why or why not? Most people seem to have an opinion about all of these questions. Most discussions seem to center on one of four themes: 1) who owns the media and what they care about; 2) whether the news media are becoming more or less credible and/or biased; 3) whether entertainment is replacing or enhancing information in news programming; and 4) how much, if at all, is the Internet changing everything about the way the media work, including who we think of as a journalist. Mass Media and U.S. Society explores the validity and importance of these themes in terms of what roles can the media play in society, what roles does it play, and how have those roles have changed over time. The course draws on ideas from various social sciences to develop tools for discussing a number of specific issues related to these themes. prereq: honors

JOUR 4733V. Honors Thesis Seminar. (WI; 3 cr. ; A-F only; Every Fall)

The Honors Thesis Seminar is designed to help students write a thesis to earn a degree with Honors. By carrying out an individual's thesis work with a set of other students doing the same thing, students will receive support, as well as feedback and ideas, from their peers. We will meet as a class and with subgroups who share a particular research need (e.g., how to develop an on-line survey or experiment, developing a content analysis coding system, learning how to carry out a quantitative data analysis). You will receive and give peer feedback. In addition to our seminar, you will have the chance to meet with the instructor to talk about your thesis, discuss ideas, research methods, and data analysis plans, and receive feedback on thesis drafts. The regular class meetings and outside meetings with the instructors are meant to hold you accountable to yourself and to the instructor for making progress towards completing a thesis on time. prereq: Honors, [Jour major, Strat Comm major, Mass Comm major, or Media and Information major]

JOUR 4790. Special Topics in Strategic Communication Skills - Execution. (; 3 cr. [max 6 cr.]; A-F only; Periodic Fall & Spring)

Strategic Communication professional skills execution course not regularly offered. ? Topics and prerequisites specified in Class Schedule. ?Students must be Strategic Communication majors and meet the prerequisites for the specific course offering.

JOUR 4801. Global Communication. (3 cr. ; Student Option; Every Spring)

How does communication affect international affairs? That's literally a question of war and

peace, and this class guides you through the big theories and the real life stories of how news, information and entertainment travels around the world. Analyze the role of communication in globalization, addressing possible interpretations ranging from cultural imperialism to democratic development.

Examine how different media cover foreign countries. What does it take to cover the world, historically and at a time of unprecedented challenges for professional journalism? What are the practices that have made international news what it is for the last century? Through theory and case studies from journalists and diplomats, examine the possible effects of international communication on international relations and policy making.

JOUR 4890. Special Topics in Strategic Communication Skills - Planning. (; 3 cr. [max 6 cr.]; A-F only; Periodic Fall & Spring)

Strategic Communication professional skills planning course not regularly offered. ? Topics and prerequisites specified in Class Schedule. ?Students must be Strategic Communication majors and meet the prerequisites for the specific course offering.

JOUR 4999. Capstone. (; 1 cr. ; S-N only; Every Fall & Spring)

The purpose of this course is to round out professional career competencies for Hubbard School of Journalism and Mass Communication majors. It is designed to complement and provide capstone reflection on a student's development through HSJMC's curriculum in the professional journalism, strategic communication and mass communication programs. This course has four parts: career competency reflections of previously taken JOUR courses using CLA's RATE tool; a networking unit; a written reflection of the students' HSJMC experiences projecting to career readiness; and an assessment of context course learning outcomes. Students enroll in this course along with an advanced skills or context course during their last semester.

JOUR 5131. In-Depth Reporting. (3 cr. ; A-F only; Every Fall)

The approach to the class is dual: First, there is an academic component ? studying the best examples in-depth reporting from muckrakers to yesterday's New York Times. This part of the course will be presented in a seminar style with a high-expectation for student involvement. Second, there is a hands-on component ? giving students the opportunity to exercise what they learn in this class and elsewhere in their journalism program. This part of the course will require students to identify appropriate stories for in-depth reporting, outline the proposed stories to the instructor, thoroughly report the stories and go through the editing process. Students will also produce graphics and photographs, and might consider various multi-media possibilities. The class topics will be organized around essential social issues, such as health care, politics, poverty, business or other topics. During some semesters, students will produce news stories for publication at a professional news organization, such as MinnPost.com. Such

opportunities in past classes have allowed students to work with professional reporters and editors and get bylines stories read by thousands. prereq: [Jour 3004 or 3004H], Jour 3101, Jour 3121, [Jour major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 5174. Magazine Editing and Production. (3 cr. ; A-F only; Every Spring)

This course focuses on magazine and web writing, editing, photography, graphic design, and production. Students will study concepts of magazine and web communication with a special concern for how words, pictures, multimedia and design can be combined effectively. Over the semester, the class will create and produce a professional quality single-theme magazine and website. During this process, students will experience firsthand the organization and working of an editorial and production staff, and the implications of specific divisions of labor and working relationships. All students will write an article and/or produce web content as well as hold a staff job. prereq: [Jour 3004 or 3004H], [Jour 3101 and [Jour 3155 or Jour 3173 or Jour 3321 or Jour 4171 or Jour 4302]] or Jour 3279 , [Jour major, Strat Comm major, Mass Comm major or approved BIS/IDIM/ICP program]

JOUR 5196. Field Based Practicum. (; 3 cr. [max 6 cr.]; A-F only; Every Fall & Spring)

This class will teach advanced reporting skills through hands-on experience, professional oversight and thoughtful discussions with working journalists. Classes will be held at news organizations, where students will also work directly with editors to produce news, features or other content. That work experience will be complemented in weekly sessions by readings, projects and discussions and with journalists. Students apply to this course and completion of Jour 3121 is encouraged. Applications are available in the HSJMC student services office about a month before registration begins. prereq: Jour major and instructor permission

JOUR 5251. Strategic Communication Theory. (; 3 cr. ; Student Option; Every Spring)

This course is an introduction to psychologically-grounded concepts, theories and research and their applications for strategic communication. The course objectives involve comprehension and application of a range of psychological concepts and theories related to attitude development, susceptibility to message influence, and opinion formation and change. The course will provide opportunities to apply theoretical concepts to critically evaluate strategic communications (advertising, public relations, brand marketing, etc.) and to use psychological theory and research to inform the development of communication strategies. The course will examine how these theories help us understand communication processes in digital media environments, as well as how they inform relationship-building areas of strategic communication such as reputation and crisis management. The course will provide opportunities for students to apply concepts and theories to potential research for graduate degree capstone projects.

JOUR 5252. Issue Management Communication and Brand Advocacy. (3 cr. ; Student Option; Every Spring)

Advocacy and issue management communication provides organizations with a tool for promoting change, forming attitudes, and furthering dialogue about substantive issues. This course examines how advocacy and issue management communication creates dialogue that represents the goals of the organization and society, and the persuasive and media tactics used in advocacy and issue management communication. Typical class sessions will include a lecture and case discussion. Prerequisite: Strategic Communication MA student or instructor permission.

JOUR 5253. Content Strategy and Development. (3 cr. ; Student Option; Every Fall)

In today's disruptive world of digital and social communications, brands/organizations have found it necessary to become content publishers. This course will expose students to evolving, highly dynamic best practices in content strategy and brand journalism. The course will consider how editorial strategies, emerging technologies and digital delivery platforms can lead to more effective content creation, distribution, audience engagement and measurement. Students will learn the various stages of content development, from organizing the brand's storyline and mapping it to the customer's brand journey, to the processes of planning, implementing and auditing an organization's content strategy. The course includes weekly readings and case studies for each topic; guest lecturers who are experts in their area of content strategy; as well as a semester-long class project that aligns with each stage of the content development process. prereq: Strategic Communication MA student or instructor permission

JOUR 5501. Communication, Public Opinion, and Social Media. (3 cr. ; Student Option; Every Fall)

Sharpen your understanding of public opinion and its role in political and civic life: What does it mean? Where does it come from? How is it measured? What impact does it have? How are the public's preferences shaped by the larger communications environment and the strategic messages of politicians, interest groups, and other actors in society? What are polls really measuring, and why do they seem so unreliable sometimes? How are social media technologies giving voice to new segments and dimensions of public opinion? But how are they vulnerable to manipulation from bots and other efforts designed to alter perceptions of collective opinions? Examine the theories of communication, psychology, political science, and sociology that underlie these dynamic questions. We'll consider cutting edge approaches used by market researchers, political analysts, and data scientists to harness new forms of data about what the public thinks. We investigate theories that explain how people form their opinions, deliberate with others, change their minds, and reveal their preferences, and we apply these frameworks to

understand contemporary public opinion issues and campaigns.

JOUR 5541. Mass Communication and Public Health. (3 cr. ; Student Option; Every Fall)

This course provides an overview of theory and research that lies at the intersection of mass communication and public health. We examine the potential for media exposure to influence public health outcomes, both as a product of people's everyday interactions with media and the strategic use of media messages to accomplish public health goals. To this end, we will explore large-scale public health campaigns in the context of tobacco, obesity, and cancer screening. We also will explore news media coverage of controversial health issues, such as the human papillomavirus (HPV) vaccine, and health information in entertainment media, such as smoking in movies. This course seeks to understand whether media messages have had intended and/or unintended effects on public attitudes and behavior. Although our focus is on mass media, interpersonal, medical, and digital media sources will be considered as well.

JOUR 5542. Theory-based Health Message Design. (3 cr. ; Student Option; Every Spring)

This course is designed to provide an overview of theory and research relevant for the design of health messages, and specifically focuses on how such theory and research informs message design. It builds on social and behavioral science approaches to public health communication and media effects with the primary objective to better understand issues and strategies related to the design of media health messages. Prerequisites: Jour 3005 or Jour 3757 or Jour 5541

JOUR 5543. Programs for Social Good: Design and Evaluation. (3 cr. ; A-F or Audit; Every Spring)

Despite the amount of money spent on (and the faith placed in) campaigns and other programs for social good, we often cannot answer basic questions about how these programs worked and the impact they had. There are methodological, programmatic, practical, and political reasons for this?all of which we will address in this course. In so doing, we will identify the key components of program design and evaluation, drawing on examples from domains including the environment, public health, and social justice. The overarching goal of this course is to give students the skills they need to understand and assess the effectiveness of campaigns and other programs for social good, whether as consumers or producers of such content. prereq: [Jour 3004W or 3004V], Jour 3201, any 32xx skills course, [Strat Comm major, Mass Comm major or approved BIS/DIM/ICP program]

JOUR 5552. Law of Internet Communication. (3 cr. ; A-F or Audit; Every Spring)

Digital communication technologies continue to raise a variety of legal issues, including whether and how (and which) traditional media and regulatory laws will apply, and how policy should be applied through regulatory law to

enhance and regulate that communication. This course is conducted as a seminar, with an open discussion of legal precedent and the influence of policy on internet and digital communications. This course covers the First Amendment as it applies in a digital era as well as regulatory topics like net neutrality, broadband access, privacy, and copyright.

JOUR 5601W. History of Journalism. (WI; 3 cr. ; Student Option; Every Spring)

What is (real/fake) news? Who's a journalist? What is journalism? How did we get to where we are today regarding journalism both as a profession and as an essential tool of democracy? Learn the fundamental chronology of the development of journalism in the United States from the Revolution to today, and then delve into the big quandaries: How free has journalism been? What have been its professional standards? How has journalism affected a diverse audience? What are the challenges of international journalism? And how have new communication technologies interacted with journalism?

JOUR 5606W. Literary Aspects of Journalism. (WI; 3 cr. ; Student Option; Every Spring)

Journalism isn't fiction. Yet the relationship between what is true and what is artfully constructed toward a "larger truth" -- beyond the facts -- has a complex and intriguing history. This writing-intensive course explores that relationship through close readings of some of the best writers of long-form nonfiction, starting with the birth of the novel from journalistic roots in the 18th century and ending with postmodern forms that challenge the notion of what we can ever know. Discover the literary devices used by Stephen Crane's reported street scenes or Nellie Bly's first-hand investigations into conditions for the mentally ill in the 19th century, and, later, Truman Capote's nonfiction novel about a Kansas farm family's murder. Readings include works by pivotal 20th-century writers such as John Hersey, Joseph Mitchell, Lillian Ross, Michael Herr, Norman Mailer, Gay Talese, Joan Didion, Tom Wolfe, and Hunter S. Thompson, and will trace how their pioneering methods influenced contemporary journalism as well as the documentary films of Errol Morris and contemporary nonfiction writers expanding into new forms.

JOUR 5725. Management of Media Organizations. (3 cr. ; Student Option; Every Fall)

The modern media industry is marked by complexity as new entrants compete for consumers, industry mainstays struggle to survive, and disruptions continue. Consumers are increasingly more educated and proactive about their media consumption, and organizations face a complex array of marketing and advertising decisions. This course introduces students to the organizational structure of media organizations, and of organizations at large. The course focuses on the business aspects of media and prepares students to navigate the complexities of working in modern organizations. The course is designed to expose journalism and strategic

communication majors and other interested students to core concepts and principles of managerial and organizational theory as they apply to these organizations. Students will learn about the key management challenges facing media organizations today in the modern technological landscape. A variety of theories or perspectives relevant or related to management, communication, and technology will be considered to help make sense of the modern media organization's structure and competitive landscape.

JOUR 5777. Contemporary Problems in Freedom of Speech and Press. (3 cr. ; A-F only; Every Fall)

Most of us use devices like Smartphones, GPS, streaming services, or hands-free speakers like Amazon's Echo that connect to online voice services like Alexa without thinking about them very much. But, what kind of information are they collecting? Are merchants allowed to gather your shopping history and use it to send you targeted advertising, or to sell it to other companies for profit? Should other people be able to post your personal information or photos online without your consent? Can the government read your emails, track your online browsing, or intercept your text messages? This course considers how growing concerns about privacy and national security affect the First Amendment and the rights of journalists to gather and report the news. We will read significant court decisions and take a look at current statutory and regulatory initiatives both in the United States and abroad. You can expect lively debates and discussion, and the opportunity to explore a privacy or national security issue in depth in a substantial research paper. prereq: Jour major, Strat Comm major, Mass Comm major or Mass Comm minor or approved BIS/IDIM/ICP program or graduate or law student status. Course is open to students have previously taken a relevant law course - contact instructor for permission.

JOUR 5993. Directed Study. (1-3 cr. [max 6 cr.] ; Student Option No Audit; Every Fall, Spring & Summer)

Directed study/projects. Prereq [Jour major or jour minor or approved IDIM major or ICP major or BIS major], GPA of at least 3.00, college consent, dept consent, instr consent. Students enrolling in this directed study/research course will complete the University's common Directed Study/Research contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: the work proposed is at the appropriate level for the course, academic in nature, and the student will be involved intellectually in the project. the project scope is reasonable for one semester and the number of credits specified (42 hours of work per credit) the faculty mentor is qualified to serve in this role assessment of student learning and grading criteria are clear and appropriate the student will be working in a respectful, inclusive environment

Kenya (KNYA)

KNYA 1221. Beginning Swahili I. (4 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

KNYA 1222. Beginning Swahili II. (4 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

KNYA 3001. Engineering in the Developing World. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) Study abroad course

KNYA 3002. Intercultural Perspectives on Work. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) Study abroad course

KNYA 3225. Intermediate Swahili I. (4 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

KNYA 3226. Intermediate Swahili II. (4 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

KNYA 3231. Advanced Swahili. (4 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

Kinesiology (KIN)

KIN 1871. Survey of Kinesiology, Recreation, and Sport. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Professional practice and disciplinary dimensions of kinesiology, recreation, and sport. Subdisciplines, relevant issues, practical applications.

KIN 1904. An Olympic Impact on the World. (GP; 3 cr. [max 6 cr.] ; A-F only; Periodic Fall)

In the late nineteenth century, Baron Pierre de Coubertin, a French aristocrat, worked tirelessly to revive the Olympic Games from Greek history. Through Baron de Coubertin's efforts the first Olympic Games of the modern era took place in 1896 in Athens, Greece. From a small sporting event that hosted a little over 300 athletes from 13 countries the Olympic Games have grown over the last 120 years to one of the most viewed sporting events in the world. Today, the Olympic Games hosts over 10,000 athletes from over 200 countries. The International Olympic Committee (IOC), which runs the Olympic Games, is now one of the most powerful and richest sporting organizations in the world. The Olympic Games have had a profound impact on the world we live in and they provide us with a platform for examining changes in the world's cultural, economic, social and political processes over the last 120 years. This course explores the impact of the Olympic Games on the world's cultural, social and political processes. In addition, this course will explore the impact of hosting the Olympic Games on that host city and the country's economy. Finally, this course will explore the changes in sport that have occurred during this time span.

KIN 3001. Lifetime Health and Wellness. (SOCS; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Overview of health/wellness. Physical, emotional, intellectual, spiritual, social, environmental, and financial health. Influence

of societal changes on general health/wellness of diverse populations.

KIN 3027. Human Anatomy for Kinesiology, Physical Activity, and Health Promotion.

(; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Kinesiology 3027 is a 4-credit introduction to human anatomy with two 50-min lectures and one 100-min lab per week. Upon completing this course, students will be able to use proper anatomical terminology and identify the majority of the human anatomical structures and their functions. The lecture series is organized around an organ systems approach and currently follows the text of Human Anatomy. The lectures are divided into basic anatomy and human development principles and the major anatomical systems: skin, musculoskeletal, cardiovascular, respiratory, renal, neurological, endocrine, immune, and digestive. Each section proceeds an anatomic description from the microscopic or cellular level to the key features of tissues that aggregate into organ anatomy (bottom up). The kinetic anatomy perspective describes organ systems' dynamic and functional characteristics based on their component organ anatomy and interactions (top-down). The context for course material covered will reflect a kinesiology focus on human movement in exercise and sports. This will better prepare students for graduate school courses in the health sciences, movement sciences, and Athletic Training. In addition, students will be encouraged to learn their anatomy as a health and preventive medicine skill. The laboratory component is divided into two; one identifies cells, tissues, and bones and the different bone parts. These activities are performed in the Human Performance Teaching Laboratory (HPTL) in Mariucci Arena 141. Laboratory activities include using light microscopes to identify cells and tissues and working with individual bones and intact skeletons. The second component is the cadaver lab at the Anatomy Bequest Program. Students will have the opportunity to visualize and identify anatomical structures in cadavers and cadavers specimens during these labs. The cadaver labs provide students with the three-dimensional organization of the human anatomy and the association with neighboring anatomical structures. The instructors will demonstrate the functional anatomical aspects and clinical anatomical correlations. Students are able to further complement their understanding of human anatomy by using anatomy and physiology virtual labs.

KIN 3112. Introduction to Biomechanics. (; 4 cr. ; A-F only; Every Fall, Spring & Summer)

This course introduces basic concepts about the mechanics of human movement. The first part of the course will introduce students to various aspects of functional anatomy and provide an overview of the major neural systems that control the human body and its movement. The second part introduces principles of the physics of human movement, while the final part provides examples of how this knowledge can be applied for the rehabilitation, engineering, and sport

sciences. The lecture portion of the course is accompanied by a weekly lab that provides tutorials as well as hands-on experiences in small groups where students learn to collect biomechanical data such as motion capture or electromyographic recordings. Prior to the start of class, students must be Kinesiology B.S. majors and have successfully completed human anatomy and physics with a lab. It is preferred, not required, that students have also completed human physiology. To request a permission number, contact the Kinesiology B.S. advisor. prereq: [PHYS 1101W or PHYS 1201W or PHYS 1221 or PHYS 1301W or PHYS 1401V or 1107], [3027 or 3111 or ANAT 3001 or ANAT 3601 or ANAT 3611 or INMD 3001 or INMD 3601]; 3385 recommended

KIN 3114. Prevention and Care of Athletic Injuries. (3 cr. ; A-F only; Every Fall & Spring) Principles in athletic training for prevention/care of injury. Taping/bracing techniques. Lab. prereq: [3027 or ANAT 3001 or ANAT 3601 or ANAT 3611 or equiv], [CEHD student or instr consent]

KIN 3126W. Sport and Exercise Psychology. (WI; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer) Thoughts, feelings, and behaviors of people in physical activity contexts. Foundations approach to theory/research in sport and exercise psychology. prereq: Kin major or instr consent

KIN 3131W. History and Philosophy of Sport. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring) Introductory description and interpretation of the historical and philosophical development of physical education and sport from primitive societies to 20th century civilization. prereq: Kin major or instr consent

KIN 3132. Introduction to Motor Development Across the Lifespan. (; 3 cr. ; A-F only; Every Fall & Spring) Developmental aspects of human movement behavior/learning. Life span change of motor skills. prereq: Kin major or instr consent

KIN 3135. Introduction to Motor Learning and Control. (; 3 cr. ; A-F or Audit; Every Fall & Spring) Main theoretical ideas/research that have advanced motor control/learning over last three decades.

KIN 3136. Mental Skills Training for Sport. (; 3 cr. ; A-F only; Periodic Fall & Spring) Experientially-based course. Using mental skills training strategies (e.g., imagery, goal setting, relaxation, cognitive restructuring, motivation) for enhancing sport performance and personal growth of athletes.

KIN 3254. Empowering Kenyan Youth Through Physical Activity and Sport. (3 cr. ; Student Option; Periodic Summer) This is a non-embedded study abroad course that takes place in Kenya during the May or Summer term. Regular participation in physical activity and sport is essential for positive health outcomes and is a tool readily utilized to empower youth. However, cultural and environmental circumstances can either facilitate or challenge opportunities and efforts

among youth. This study abroad global seminar will explore first-hand the Kenyan culture and the unique chances for physical activity and movement made available to Kenyan youth, both males and females. Students will be introduced to different individual and community organizations' efforts to provide activity opportunities to youth. They will interact with these organizations to learn how physical activity and sport extends beyond just bodily movement and exercise, but provides long-term opportunities for youth. Students will actively learn about the myriad of personal, social, cultural, and environmental challenges that face Kenyan youth to engage in sports and physical activity and how youth navigate these challenges. Students will engage in several service projects and discuss activity in the context of Kenyan culture, while remaining cognizant of their own American culture. All of this work will be completed in the context of exploring the distinctive and specific elements of the Kenyan culture compared to the US culture. Students enrolled in the course will travel throughout Kenya (capital city of Nairobi to rural, mountainous Iten to centrally-located Mt. Kenya to the coastal area of Mombasa) to experience physical activity and sport from various perspectives including: primary aged children engaged in ballet and football (soccer); high school aged students recruited to participate in sport at prestigious boarding schools; adult athletes who have been engaged in activity since childhood and now handling family life with the love of their sport; and elite runners whose lives revolve around eating, sleeping, and training;

KIN 3327. Teaching Physical Education in the Elementary School. (; 2 cr. ; A-F only; Every Fall & Spring)

KIN 3327 addresses inquiry, research, and reflection through class projects, reading assignments, discussions, and team-teaching. Inquiry is addressed as classroom teachers review several sources in order to formulate a philosophy about physical education and its importance in the lives of the students they teach. Research takes place as students delve into current curriculum practices, methodology and strategies as well as knowledge of age level characteristics and developmentally appropriate activities. Reflection is twofold as student's team-teach a variety of lessons. Students must present post reflective comments on their own teaching as well as offering positive comment as peers present physical education lessons. This course is activity based and is designed to give the classroom teacher the ability to teach elementary physical education with age appropriate, energizing activities. We will be utilizing the classroom and the gymnasium for instruction and team-teaching. Gymnasium classes will be active, experiencing current curriculum ideas and methodology. As classroom teachers, please realize the importance of physical education to the total school curriculum including the health, social, and emotional benefits for the child.

KIN 3385. Human Physiology. (; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

This four-credit course is divided into two weekly 75-minute lectures and one 60 minute lab session once per week. Upon completion of this course, the student will be able to describe the function of the different organs and systems in the body, explain the biophysical mechanisms and describe the interactions and feedback processes to achieve a steady-state. This course provides the biological principles for how the body works, from the function of intracellular organelles to the interactions between systems and the role of each organ. It explains the relationship between structure and function and describes the development of diseases when the physiological systems become impaired. This course in human physiology builds on knowledge obtained using the basic sciences of math, chemistry, and physics. Thus, understanding some of these sciences' basic principles is essential to fully understanding the physiological principles during this course. The lab component of this course takes place at the Human Performance Teaching Laboratory (HPTL). Lab activities are an interactive component of the course. During labs, students will perform a series of experiments, record data, and will provide a physiological interpretation for the results. The combination of lecture material and laboratory experience will allow students to understand disease mechanisms, comprehend the strategies to prevent and treat the most frequent medical conditions, and live a healthy life. The instructor's goal is not just to teach the most up-to-date knowledge on human physiology but also to arouse your curiosity so you continue learning beyond this course. prereq: [[Kin 3027 or Anat 3001 or Anat 3601 or Anat 3611], Kin or Physical Activity and Health Promotion Major] or instr consent

KIN 3505. Intro to Human-Centered Design. (; 3 cr. ; Student Option; Periodic Fall) Application of design to meet human needs. Design of fabricated products, tools/machines, software/hardware interfaces, art/culture, living environments, and complex sociotechnical systems.

KIN 3696. Supervised Practical Experience. (; 1-10 cr. ; S-N only; Every Fall, Spring & Summer) On-the-job supervised practical experience in the fields of sport and exercise under a specialist in a particular area of study or emphasis. prereq: instr consent

KIN 3720. International Studies in Kinesiology. (; 2-4 cr. [max 12 cr.] ; Student Option; Periodic Fall, Spring & Summer) Topics from research exploration, to academic and engagement activities. Delivered in an international setting. Course requirements are determined by instructor(s) and reflect advanced undergraduate rigor. prereq: instr consent

KIN 3982. Research Methods in Kinesiology, Physical Activity, Health Promotion + Sport. (; 3 cr. ; A-F or Audit; Every Fall & Spring) This course is designed to prepare students to read, understand, interpret, evaluate, and critique research with a specific emphasis on research in the kinesiology discipline and

relevance of research methods in students' everyday lives. The course will cover reviewing research articles and their relation to study design and methods. Other topics include ethical considerations in research, quantitative and qualitative design, sampling, measurement validity and reliability and basic statistics for analyzing research questions. Students will write a literature review on a topic of interest and design a research study. prereq: Kinesiology Major or Physical Activity and Health Promotion Major or Sport Management Major

KIN 3993. Directed Study in Kinesiology. (; 1-10 cr. ; A-F only; Every Fall, Spring & Summer)

Students have the opportunity to earn credit while working in a lab or field research setting to carry out scholarly or creative activities while under the guidance of kinesiology faculty members. Students can assist with faculty scholarship or carry out projects of their own. To earn credit in this course, students must talk with the faculty member and then fill out a Directed Activity Contract (z.umn.edu/Directed_Activity) online. This contract is an agreement between the student and faculty member and should establish expectations, credits, and the grading basis for the work.

KIN 4001H. Honors Seminar in KIN, PAHP, + SMGT. (; 3 cr. [max 6 cr.]; A-F only; Every Fall & Spring)

Students will learn how to critically review research articles and how to write a thesis literature review, methods, results, and discussion section. Students will choose to write a systematic literature review or conduct a research study under the guidance of their adviser. Students will write and provide peer reviews for the thesis literature reviews and methods sections. Instruction regarding writing a results and discussion section will be provided. Students are encouraged to register for this course the semester before their expected graduation term. Prerequisites: Honors student and Kinesiology major, PAHP major, or SMGT major

KIN 4028. The Impact of the Olympic Games on Los Angeles. (3 cr. ; A-F only; Every Spring)

This course is an upper-level undergraduate course designed for students to examine the impact of the Olympic Games on Los Angeles, California, and the United States. The city of Los Angeles, California is about to host the Summer Olympic Games for the third time (e.g., 1932, 1984 & 2028). The first Los Angeles Olympic Games were held in 1932 and Los Angeles was just starting to be a city of influence in the United States. A number of countries voiced an objection to the Olympic Games being held in Los Angeles. However, the 1932 Los Angeles Summer Olympic Games proved to be a success. These Olympic Games proved that Los Angeles was an emerging city not only in the United States but in the world. The second Los Angeles Summer Olympics were held in 1984 and followed the 1980 Moscow Summer Olympics, which the United States and other countries boycotted. In retaliation, the Soviet Union as

well as other communist countries boycotted the 1984 Los Angeles Summer Olympics. Even with the boycott the 1984 Los Angeles Summer Olympic Games were a huge success. They demonstrated that the Olympic Games could be hosted and not create a financial calamity for the hosting city, but actually create a legacy for the hosting city to build upon. In 2028 Los Angeles will host the Summer Olympic Games for a third time, joining London, England and Paris, France as the only cities to host the Summer Olympics three times. What will happen to Los Angeles and the United States after they host the 2028 Summer Olympic Games? Will the 2028 Summer Olympic Games be as successful as the previous two Los Angeles Summer Olympic Games? This course will explore the impact of each of these Summer Olympic Games as well as contributions that these Olympic Games have had not only on society in the United States but also the world. In addition, this course will explore the changes in sport that have occurred during this time span in the United States as well as the world.

KIN 4133. Perceptual-Motor Control and Learning. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Concepts/principles of coordination/control of perceptually guided movement. Constraints imposed by properties of environment, body (including the nervous system), and goals of behavior. Why we move the way that we do. prereq: [3112, 3132, 3135, KIN major] or instr consent

KIN 4134. The Aging Motor System. (3 cr. ; A-F only; Periodic Fall & Spring)

Impact of aging on the motor system and its influence on activities of daily living (ADL); posture, falls, participation in physical activity, performance operating personal transportation systems. Effects of aging (behavioral and biological) on coordination/control and its related perceptual-cognitive correlates. prereq: [3132, 3135, Kin major] or instr consent

KIN 4136. Embodied Cognition. (3 cr. ; A-F only; Periodic Fall & Spring)

Introduction to relations between physical behavior/mental activity. Cognitive, emotional, social aspects. Concepts of embodied cognition, their relation to traditional concepts of mind/body. Lifespan development, empirical research. prereq: 3132 or 3135 or instr consent

KIN 4214. Health Promotion. (3 cr. ; A-F only; Every Fall & Spring)

This course is an introduction to the professional and academic field of health promotion and is designed to give students a working knowledge of health promotion concepts and methods and their application to health and health behaviors. Special emphasis will be placed on the philosophical and theoretical foundations of health promotion, specific theories of health promotion, and select health habits and the individual and environmental forces related to these behaviors. Students will also establish a foundation for developing health promotion programs for disease prevention and will focus on the process involved in developing

and evaluating health promotion programs. Examples of prevention programs will be presented and evaluated including various aspects of physical activity (i.e., intrapersonal, interpersonal, community, environmental). Topics in the course focus not only on evidence-based strategies but also on key approaches to program development, implementation, and evaluation. This course is designed for declared Kinesiology B.S. and Health and Wellness Promotion Minor students in their third or fourth year of study.

KIN 4385. Exercise Physiology. (; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Information and learning experiences presented in this class will cover specific areas within the discipline of Exercise Physiology. This course is designed for the advanced undergraduate student in Kinesiology, as well as advanced students in such complementary areas as public health, nutrition, physiology, biology, biochemistry, or any sport? related areas. It creates a great opportunity to combine the science of biological, biochemistry, physics and physiology with the study of health, fitness, wellness, human performance, and sport. Emphasis is placed on basic human physiological systems and the responses of those systems to the challenge of physical activity: from moderate to extreme intensities. The biochemical bases of these responses will be presented. Historical, psychological, sociological, and philosophical implications of these topics will be integrated into many of the lecture/discussions. In addition to lecture information, students will be provided a "hands on," small group laboratory experience that is carefully orchestrated to track lecture material and presentations. prereq: KIN 3385 or PHSL 3051 and Kinesiology Major or Physical Activity and Health Promotion Major

KIN 4441. Movement Neuroscience. (3 cr. [max 6 cr.]; A-F only; Periodic Fall & Spring)

Neural basis of human motor function. Neuroanatomy and neurophysiology of motor control and learning. Seminar for students in kinesiology, neuroscience, physical therapy, physiology, psychology, bioengineering, and human movement science. prereq: 3135 or instr consent

KIN 4520. Current Topics in Kinesiology. (; 2-4 cr. [max 12 cr.]; Student Option; Periodic Fall & Spring)

Issues in kinesiology or in areas not normally available through regular curriculum offerings. prereq: Upper div in KIN or REC or SMGT or coaching or instr consent

KIN 4641. Training Theory & Analytics I for Exercise & Sport Performance. (3 cr. ; A-F or Audit; Every Fall & Spring)

This course prepares students to understand and systematically design training & conditioning programs for health and/or performance. The course addresses general training principles, such as periodization, adaptation, accommodation, specificity, and overload, and explores how an understanding of the 3 energy systems responsible for producing energy for exercise (the aerobic, anaerobic glycolytic, and ATP-PCr systems)

can be applied to training and conditioning. Additional topics include the muscular and neuromuscular systems, physiological, and performance adaptations, repeated sprint ability, energy system interaction, measurement and evaluation of fitness, and strategies for maximizing adaptation to training. Students will gain an understanding of physiological adaptations and apply them to improving health and performance in sport and physical fitness. Enforced prereq: Enrolled in Kinesiology Major, Physical Activity and Health Promotion Major, Sports Coaching Minor, Physical Activity and Promotion Minor, Sport and Exercise Science M.Ed, Physical Activity and Health M.Ed, or Integrated Degree Program

KIN 4687. Principles and Theory of Sports Coaching. (3 cr. ; A-F only; Every Fall & Spring)

This course introduces students to theoretical and applied aspects of sports coaching. Through active participation students will learn how to create a positive sporting environment by utilizing athlete-centered coaching strategies. Students will also learn how to evaluate and improve their own coaching performance by applying reflective and evaluative skills. Topics covered include coaching, training and management principles, coaching pedagogy, coaching science, planning, skill learning and sports psychology. At the completion of this course student will be more confident and knowledgeable in their coaching practice and have a foundation of a personal coaching philosophy. In summary, the approach in this course is toward teaching the student the theory, principles, concepts, and practices that can be applied in the dynamic, ever changing, challenging, and rewarding field of coaching.

KIN 4741. Training Theory & Analytics 2 for Sport Performance. (3 cr. ; A-F only; Every Spring)

Course prepares students to systematically design training & conditioning programs for performance, specific to speed, power, reaction & agility. This course utilizes periodization models with expected physiological & neuromuscular adaptations to maximize human performance in sport, dance, public safety and military elites. prereq: KIN 4641, [upper level undergrad or M.Ed. or grad student]

KIN 5001. Foundations of Human Factors/ Ergonomics. (; 3 cr. ; A-F or Audit; Every Fall)

Variability in human performance as influenced by interaction with designs of machines and tools, computers and software, complex technological systems, jobs and working conditions, organizations, and sociotechnical institutions. Emphasizes conceptual, empirical, practical aspects of human factors/ergonomic science.

KIN 5104. Physical Activities for Persons with Disabilities. (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Different approaches to providing physical education service and related movement interventions for persons with disabilities. Topics: movement behavior foundations,

movement skill progressions, unique considerations for specific impairments, and sport for persons with disabilities

KIN 5111. Sports Facilities. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Steps in planning/building facilities for athletics, physical education, and sport for college, professional, and public use. prereq: Kin or Rec grad student or MEd student

KIN 5115. Event Management in Sport. (; 3 cr. ; A-F or Audit; Every Spring & Summer)

Techniques/principles of planning, funding, and managing sport events. Collegiate championships, non-profit events, benefits, professional events. prereq: Grad student, instr consent

KIN 5122. Applied Exercise Physiology. (; 3 cr. ; A-F or Audit; Periodic Fall)

Mechanisms of cardiorespiratory and muscular responses to exercise; application of exercise physiology to assessment of work capacity, athletic conditioning, and requirements of human powered vehicles; low to moderate exercise as an intervention in lowering risk for common health problems. prereq: 4385 or equiv or instr consent

KIN 5123. Motivational Interventions in Physical Activity. (; 3 cr. ; A-F only; Every Spring & Summer)

This course prepares students to critically evaluate theory, motivational interventions, and psychological principles related to physical activity. Environmental and policy influences on physical activity behavior and intervention components, design, and evaluation will be discussed. The influence of physical activity on mental health, self-perceptions, stress, anxiety, depression, emotional well-being, cognitive function, and health-related quality of life will be reviewed. This course will help students to better understand and modify exercise behavior and review the most commonly studied psychosocial influences and consequences of physical activity. This class integrates theoretical principles and the latest research with intervention strategies that students can apply in real-world settings.

KIN 5125. Advances in Physical Activity and Health. (; 3 cr. ; A-F only; Every Spring & Summer)

This course exposes students with accurate and up-to-date information regarding physical activity as it relates to health in the United States. It is intended to enhance students' ability to identify important issues pertinent to physical activity and health, as well as develop and maintain a physically active lifestyle.

KIN 5126. Social Psychology of Sport & Physical Activity. (3 cr. ; A-F only; Every Fall & Spring)

Theory/research on social influences, individual differences, motivational processes. How sport/physical activity contribute to psycho-social development. Social psychological factors influencing physical activity beliefs/behaviors. prereq: 3126W or equiv or grad student or instr consent

KIN 5136. Psychology of Coaching. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Psychological dimensions of coaching across age levels, including coaching philosophy, leadership, communication skills, motivation, and mental skills training for performance enhancement.

KIN 5141. Nutrition and Exercise for Health Promotion and Disease Prevention. (3 cr. ; A-F only; Every Fall)

Requirements/physiologic roles of nutrients/physical activity in promotion of health. Assessment of energy requirements. RDAs, food composition/safety, weight management. Prevention of chronic diseases. Coronary heart disease. prereq: FScN 1112 or equiv

KIN 5142. Applied Nutrition for Sport Performance and Optimal Health. (3 cr. ; A-F only; Every Spring)

This course is designed for students interested in nutrition as it relates to health, exercise and athletic training. Evidenced based information is used to apply current nutrition concepts to improve health, physical and athletic performance. Case studies as well as personal data are employed throughout course to support concepts of lecture.

KIN 5181. Understanding Kinesiology Research. (; 3 cr. ; A-F only; Every Fall)

Prepares students to critically analyze research specific to kinesiology. Ethics, measurement, experimental and qualitative design, and physical activity epidemiology research will be reviewed. The application of research to practice will be emphasized. This course is designed for School of Kinesiology M.Ed Students. Undergraduates, M.S. M.A., and Ph.D. students should consult with their academic advisor before registering for this course. Recommended prerequisite: introductory statistics

KIN 5202. Current Issues in Health. (; 2 cr. ; A-F only; Every Summer)

Critical thinking for health issues in research/media. Issues specific to conflict, stress, public policy, and communication. Projects, debates.

KIN 5203. Health Media, Consumerism, and Communication. (; 2 cr. ; A-F only; Every Spring)

Effects of media, consumerism, technology, and health related issues. Students form/defend opinions on positive/negative aspects of how health information is disseminated and how individual health decisions are made.

KIN 5235. Advanced Biomechanics II: Kinetics. (; 3 cr. ; A-F or Audit; Spring Odd Year)

Kinetic aspects of human movement (single/multi-joint torques, simple inverted pendulum models, mass-spring systems). Analysis of experimental data and of computer simulations. Lectures, seminars, lab. prereq: [3112 or equiv], PMed 5135, undergrad college physics, intro calculus

KIN 5328. International Sport: The Impact of the Olympic Games. (GP,HIS; 3 cr. ; A-F only; Periodic Fall, Spring & Summer)

In the late nineteenth century, Baron Pierre de Coubertin, a French aristocrat, worked tirelessly to revive the Olympic Games from Greek history. Through Baron de Coubertin's

efforts, the first Olympic Games of the modern era took place in 1896 in Athens, Greece. From a small sporting event that hosted a little over 300 athletes from 13 countries the Olympic Games have grown over the last 120 years to one of the most viewed sporting events in the world. Today, the Olympic Games hosts over 10,000 athletes from over 200 countries. The International Olympic Committee (IOC), which runs the Olympic Games, is now one of the most powerful and richest sporting organizations in the world. The Olympic Games have had a profound impact on the world we live in and they provide us with a platform for examining changes in the world's cultural, economic, social and political processes over the last 120 years. This course explores the impact of a specific Olympic Game(s) held on that host city's culture, economy and political landscape. In addition, this course will explore that Olympic Games(s) impact on the world's cultural, social and political processes.

KIN 5371. Sport and Society. (3 cr. ; A-F or Audit; Every Spring)

Sport, sporting processes, social influences, systems. Structures that have effected and exist within/among societies, nations, and cultures. Contemporary issues such as social differentiation, violence, and honesty. prereq: [3126W, grad student] or instr consent

KIN 5385. Exercise for Healthy Aging & Disease Prevention and Management. (3 cr. ; A-F only; Every Spring)

Exercise testing/prescription with modifications required because of special considerations associated with aging, gender differences, or presence of medical conditions. prereq: Physiology or biology undergrad

KIN 5421. Sport Finance. (3 cr. ; A-F or Audit; Every Fall & Summer)

Introduction to financial analysis in sport. Cash flow statements, budgeting issues, traditional/innovative revenue producing strategies available to sport organizations. Discussion, practical analysis of current market. prereq: Grad student or instr consent

KIN 5435. Advanced Theory and Techniques of Exercise Science. (3 cr. ; A-F only; Every Spring)

Theoretical constructs, in-depth description of procedures used in exercise science research and clinical settings. Laboratory exercises, lectures. prereq: [3385, 4385, Kin major] or instr consent

KIN 5441. Applied Sport Science Research. (3 cr. ; A-F only; Every Fall, Spring & Summer)

Introduction to varied contributions of sport sciences to athletic performance. Evaluation of historical research's contributions toward modern day research questions.

KIN 5461. Issues in the Sport Industry. (3 cr. ; A-F only; Every Fall)

Critical analysis of management issues within sport industry. Strategic management, corporate social responsibility, human resource management/diversity, governance, sport globalization, sport development. prereq: postbac or grad student or instr consent

KIN 5485. Exercise Testing and Prescription. (3 cr. ; A-F only; Every Fall)

This course will provide an introduction to exercise testing and prescription including basic placement of EKG placement and interpretation of an electrocardiogram. Students will also learn the basics of gas exchange and fitness test and the use of this information in the prescription of exercise in a variety of populations as well as use of electrocardiogram in clinical exercise testing and exercise prescription. prereq: [3385, 4385] or instr consent

KIN 5505. Human-Centered Design - Principles and Applications. (3 cr. ; A-F only; Every Fall)

Application of design to meet human needs. Design of fabricated products, tools/machines, software/hardware interfaces, art/culture, living environments, and complex sociotechnical systems.

KIN 5511. Sport and Gender. (3 cr. ; A-F only; Every Fall)

Critically examines women's involvement in/ contributions to sport, physical activity, and leisure.

KIN 5585. Pediatric Physiology and Health: Concepts and Applications. (2 cr. ; A-F only; Periodic Fall)

Current understanding of pediatric medicine and exercise physiology. Use of physical activity and weight management in the treatment of various diseases (i.e. obesity) that affect children and adolescents. prereq: 3385 or 4385

KIN 5601. Sport Management Ethics and Policy. (3 cr. ; A-F or Audit; Every Spring)

How to critically analyze ethical concepts that underpin or inform sport policies and evaluate sport policies from a normative point of view. Selected sport policy issues are used to illustrate relevance of ethical considerations in policy development and to explore the ethical implications of sport policy. prereq: MED or grad student or instr consent

KIN 5631. Programming and Promotion in Sport. (3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to marketing concepts as they apply to sport industry. Consumer behavior, market research, marketing mix, corporate sponsorship, licensing. Discussion, practical application. prereq: Kin or Rec grad student or instr consent

KIN 5641. Scientific Theory and Application of Training and Conditioning in Sport. (3 cr. ; A-F only; Every Spring & Summer)

Current scientific literature on physiological adaptation through training/conditioning for sport. Applying methods in research journals to improve physiological adaptation through training/conditioning with sport specificity. prereq: 4385 or SPST 3641 or SPST 4641 or exercise physiology course or instr consent

KIN 5643. Applied Motion Capture and Movement Analysis Technology. (3 cr. ; A-F only; Every Fall)

Course provides students with the knowledge and tools to effectively analyze human

movement patterns in a wide variety of field-based settings, such as assessing sport skill performance or measuring movement deficits after injury. Students will comprehend the basic, underlying components of movement and movement deficits. It is strongly suggested students have taken Physics, Biomechanics, and Human Anatomy. Credit will not be received if taken KIN 5720: Special Topics in Kinesiology with the topic title, Sport Movement Analysis.

KIN 5696. Practicum in Kinesiology. (1-6 cr. ; S-N only; Every Fall, Spring & Summer)

Practical experience in kinesiology under supervision of a University faculty member and an agency supervisor. prereq: [KIN MEd or grad student], instr consent

KIN 5720. Special Topics in Kinesiology. (2-4 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)

Current issues in the broad field and subfields in kinesiology, or related coursework in areas not normally available through regular offerings.

KIN 5723. Psychology of Sport Injury and Rehabilitation. (3 cr. ; A-F only; Every Fall)

Psychosocial bases of risk factors preceding sport injury, responses to the occurrence of sport injury, and the rehabilitation process. Lecture, discussion, guest lecture, interviews, and presentation experience. prereq: Intro psych course

KIN 5725. Organization and Management of Physical Education and Sport. (3 cr. ; A-F only; Every Spring & Summer)

Comprehensive analysis of organization and management of physical education and sport in educational settings. Focus on management and planning processes, management skills, functions, roles, decision making, leadership, shared systems, and organizational motivation. For physical education teachers, coaches, community sport administrators. prereq: Grad/initial licensure or instr consent

KIN 5801. Legal Aspects of Sport and Physical Activity. (4 cr. ; A-F only; Every Fall & Spring)

Legal issues related to sport and physical activity settings and facilities in public/private sectors

KIN 5804. National Collegiate Athletic Association (NCAA) Compliance. (2 cr. ; A-F only; Every Spring)

Governance structure, policies, and procedures in intercollegiate athletics. Careers in college athletics as coach, administrator, athletic trainer, counselor, etc. prereq: [Upper div undergrad or grad student] in KIN, instr consent

KIN 5841. Elite Performance and Environmental Considerations. (3 cr. ; A-F only; Periodic Fall)

An examination of elite athletic performance and the effects of environmental conditions on sport performance. Topics include altitude, heat and humidity, cold, wind, and other high stress environments. Students will investigate strategies such as nutrition/dehydration, training, and acclimatization. prereq: KIN 4385 or 4641 or instr consent suggested

KIN 5941. Clinical Movement Neuroscience. (3 cr. ; A-F only; Periodic Spring)
Various neural subsystems involved in controlling human motor function. How injury and disease of the nervous system affects motor behavior. Possibilities for rehabilitation and treatment. Lectures, seminars, class presentations. prereq: [3027 or ANAT 3001 or ANAT 3601 or ANAT 3611 or equiv], [PHSL 3051 or equiv], [4441]

KIN 5981. Research Methodology in Kinesiology and Sport Management. (3 cr. ; A-F only; Every Fall)
Defines/reviews various types of research in exercise/sport science, and physical education. Qualitative research, field studies, and methods of introspection as alternative research strategies to traditional scientific paradigm.

KIN 5987. Professional Skills and Grant Writing for Health Sciences. (2 cr. ; Student Option No Audit; Spring Odd Year)
Introduction to structure/function of different organizations (e.g., NIH, AHA). Writing/reviewing grants/manuscripts. Preparing for a job in academia. prereq: Grad student

KIN 5992. Readings in Kinesiology. (1-9 cr. ; A-F only; Every Fall, Spring & Summer)
Independent study under tutorial guidance. prereq: [KIN upper div undergrad or MEd or grad student], instr consent

KIN 5995. Research Problems in Applied Kinesiology. (1-6 cr. ; A-F only; Every Fall, Spring & Summer)
Selected topics in physical activity and human performance. prereq: [Kin upper div undergrad or MEd or grad student], 15 cr of major coursework [including 4981 or 5981], instr consent

Korean (KOR)

KOR 1011. Beginning Korean I. (5 cr. ; Student Option No Audit; Every Fall)
Basic grammatical structure, vocabulary, expressions of modern colloquial Korean. Introduces Korean writing system.

KOR 1012. Beginning Korean II. (5 cr. ; Student Option No Audit; Every Spring)
Basic grammatical structure, vocabulary, expressions of modern colloquial Korean. prereq: 1011

KOR 3021. Intermediate Korean I. (5 cr. ; Student Option No Audit; Every Fall)
Speaking, reading, writing at intermediate level in modern colloquial Korean. Simple narration/written reports. Some basic Chinese characters may be introduced. prereq: 1012

KOR 3022. Intermediate Korean II. (5 cr. ; Student Option No Audit; Every Spring)
Speaking, reading, writing at intermediate level in modern colloquial Korean. Narration/written reports. Introduction of additional basic Chinese characters. prereq: 3021

KOR 3031. Third Year Korean I. (4 cr. ; Student Option No Audit; Every Fall)
Speaking, reading, writing at advanced level in modern colloquial Korean. Narration, written

reports. Further Chinese characters introduced. prereq: 3022

KOR 3032. Third Year Korean II. (4 cr. ; Student Option No Audit; Every Spring)
Speaking, reading, writing at advanced level in modern colloquial Korean. Narration, written reports. Further Chinese characters introduced. prereq: 3031

KOR 3290. Korean Language Teaching Tutorial. (1 cr. [max 2 cr.] ; S-N only; Every Fall & Spring)
Students tutor beginning students of Korean and are part of department's Korean language team. prereq: Grade of A in 3032

KOR 3993. Directed Studies. (1-3 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)
Directed study in topics of Korean literature, culture, language, or linguistics. Prereq instr consent, dept consent, college consent.

KOR 4001. Beginning Korean I for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Fall)
Basic grammatical structure, vocabulary, expressions of modern colloquial Korean. Introduces Korean writing system. Meets with 1011.

KOR 4002. Beginning Korean II for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Spring)
Basic grammatical structure, vocabulary, expressions of modern colloquial Korean. Meets with 1012. prereq: 4001

KOR 4003. Intermediate Korean I for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Fall)
Speaking, reading, writing in modern colloquial Korean. Simple narration/written reports. Basic Chinese characters may be introduced. Meets with 3021. prereq: 4002, grad student

KOR 4004. Intermediate Korean II for Graduate Student Research. (5 cr. ; Student Option No Audit; Every Spring)
Speaking, reading, writing at intermediate level in modern colloquial Korean. Narration/written reports. Introduction of additional basic Chinese characters. Meets with 3022. prereq: 4003

KOR 4005. Third Year Korean I for Graduate Student Research. (4 cr. ; Student Option No Audit; Every Fall)
Speaking, reading, writing in modern colloquial Korean. Narration, written reports. Further Chinese characters. Meets with 3031. prereq: 4004

KOR 4006. Third Year Korean II for Graduate Student Research. (4 cr. ; Student Option No Audit; Every Spring)
Speaking, reading, writing at advanced level in modern colloquial Korean. Narration, written reports. Further Chinese characters introduced. prereq: 4005

KOR 4041. Advanced Readings in Modern Korean I. (4 cr. ; Student Option; Every Fall)
Speaking, listening, reading, writing. Content/task-based course. Study vocabulary/read novels, journals, selections from Korean history/arts. Writing summaries, reports, simple

reaction papers. prereq: 3032 or equiv or instr consent

KOR 4042. Advanced Readings in Modern Korean II. (4 cr. ; Student Option; Every Spring)
Speaking, listening, reading, writing. Content/task-based course. Study vocabulary/read novels, journals, selections from Korean history/arts. Writing summaries, reports, simple reaction papers. prereq: 4041 or equiv or instr consent

KOR 5040. Readings in Korean Texts: North Korean Dialect. (3 cr. [max 9 cr.] ; Student Option No Audit; Periodic Fall & Spring)
Expose advanced students of Korean to various North Korean contexts. Improve ability to understand North Korean literary work. Various authentic texts from North Korea. Mostly taught in Korean. prereq: 3022 or intermediate level of Korean proficiency

KOR 5140. Readings in Sino-Korean Texts. (3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)
Sino-Korean vocabulary/characters necessary for advanced and superior level of knowledge in Korean. Students conduct research projects based on specialized readings in their own fields of study. prereq: 3032 or equiv or instr consent

KOR 5211. Introductory Classical Chinese I. (3 cr. ; Student Option; Periodic Fall)
Reading excerpts from canonical Chinese texts. Transnational nature of Classical Chinese/its importance in study of East Asian cultures. Taught in English. prereq: Two years of an East Asian language (Chinese, Japanese, Korean) or equivalent or instr consent

KOR 5993. Directed Studies. (1-5 cr. [max 15 cr.] ; Student Option No Audit; Every Fall & Spring)
Guided individual study of Korean language or linguistics. prereq: instr consent, dept consent, college consent

Laboratory Medicine and Path (LAMP)

LAMP 4177. Nature of Disease: Pathology for Allied Health Students. (3 cr. ; Student Option; Every Spring & Summer)
Human disease as alteration of normal structure/function of anatomy/physiology. Variety of lecturers cover their area of expertise. Grade based on five unit exams. Offered online in spring and summer. prereq: One anatomy course, one physiology course, or instr consent

Land and Atmospheric Science (LAAS)

LAAS 5050. Integrated Topics in Land & Atmospheric Science. (3 cr. ; A-F or Audit; Every Fall)
Earth system science. Interactions between the land and atmosphere. Biogeochemistry, human-environment

interactions, environmental biophysics, and global environmental change.

LAAS 5051. Thesis Proposal Writing for Land & Atmospheric Science. (; 2 cr. ; A-F or Audit; Every Spring)

Grant proposals, including proposal formats of various funding sources, how to develop a significance statement, hypotheses and objectives, background, methods, project summary, time line, and budget. Critique proposal samples/discuss other aspects of seeking funding for research. Discuss LAAS graduate program prelim exam process.

LAAS 5311. Soil Chemistry and Mineralogy.

(; 3 cr. ; Student Option; Every Fall & Spring) Structural chemistry, origin/identification of crystalline soil clay minerals. Structure of soil organic matter. Chemical processes in soil: solubility, adsorption/desorption, ion exchange, oxidation/reduction, acidity, alkalinity. Solution of problems related to environmental degradation, plant nutrition, and soil genesis. prereq: [[Chem 1022 or equiv], Phys 1102, grad] or instr consent

LAAS 5416. Precision Agriculture and Nutrient Management. (3 cr. ; Student Option; Every Fall)

Precision Agriculture is an integrated information- and technology-based modern agricultural management system, with the intent to manage the spatial and temporal variability associated with all important aspects of agricultural production to achieve optimum yield, quality, efficiency and profitability, protection of the environment and sustainable development. It is an important direction of future agriculture. The focus of this course is on the concept, principles and technologies of precision agriculture and their applications in nutrient resource management. The specific topics include concept and development of precision agriculture and nutrient management, key supporting technologies, soil spatial variability and analysis, yield data analysis, remote sensing-based precision nutrient management, management zone delineation and application, crop growth modeling, combining crop growth modeling and remote sensing for precision nutrient management, and the challenges and future directions of precision agriculture and nutrient management. Precision agriculture and nutrient management is data intensive and the students will also learn basic agro-informatics through hands-on experiences and computer exercises. This course will involve background knowledge and technologies from multi-disciplines, which will facilitate multi-disciplinary integration and innovation. The class will include both lectures and activities such as case studies, group discussion and presentation, problem-solving, and hands-on exercises. This course is intended for graduate students and upper-level undergraduate students whose major is related to agriculture, environmental science and sustainability. This course is equivalent to LAAS 5480 (001) in Fall of 2018 only. This course was taught one semester as a topic course and is only equivalent to that particular course and semester.

LAAS 5425. Atmospheric Processes I: Thermodynamics and Dynamics of the Atmosphere. (; 3 cr. ; A-F or Audit; Fall Odd Year)

Basic laws governing atmospheric motion through analysis of atmospheric dynamics and thermodynamics at the micro, synoptic, and global scales. Fundamental thermodynamic and dynamical processes/equations governing the behavior of the atmosphere/apply to larger-scale geophysical situations. prereq: One yr college-level [calculus, physics]

LAAS 5426. Atmospheric Processes II: Radiation, Composition, and Climate. (; 3 cr. ; A-F or Audit; Spring Odd Year)

Atmospheric radiation, composition/chemistry, climate change. Radiative transfer in Earth's atmosphere. Changing chemical makeup of troposphere/stratosphere. Interplay between natural processes and human activities in air pollution, stratospheric ozone depletion, and chemical forcing of climate. Anthropogenic contribution to climate change/role of land-atmosphere feedbacks affecting atmosphere's energy budget and cycling of greenhouse gases. Application to numerical modeling. prereq: [one yr college-level [calculus, physics, chemistry]]; LAAS 5425 recommended

LAAS 5480. Special Topics in Land and Atmospheric Science. (; 1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Lectures by visiting scholar or regular staff member. Topics specified in Class Schedule. prereq: grad student or instr consent

LAAS 5515. Soil Formation: Earth Surface Processes and Biogeochemistry. (; 3 cr. ; A-F or Audit; Every Fall)

Basic soil morphology, soil profile descriptions. Pedogenic processes, models of soil development. Soil geomorphology, hydrology, hillslope processes. Digital spatial analysis. Soil classification. Soil surveys, land use. Soil geography. prereq: 2125 or instr consent

LAAS 5621. Environmental Genomics and Microbiomes. (3 cr. ; Student Option; Every Fall)

This course deals with molecular and genomic approaches to answer ecological questions related to environmental sciences. The course focuses on microbial community analysis and (meta)genomics, but also covers transcriptomics and other omics approaches. It includes hands-on computer exercises to learn basic bioinformatics with python and R. prereq: college-level courses in microbiology

Landscape Architecture (LA)

LA 1201. Learning from the Landscape. (AH,DSJ; 3 cr. ; A-F or Audit; Every Fall & Spring)

This course is about the ordinary landscape: the objects, spaces, sites, and stories that are the stage for our everyday lives. But the landscape is not just a neutral stage. The landscape influences our lives and we construct and shape the landscape. This course examines the landscape through lenses of race, equity, justice, and climate change,

taking an environmental justice framing in our investigations.

LA 1301. Introduction to Landscape Architecture Drawing. (AH; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Development of basic skills in perceiving/representing material environment. Sketching/drawing conventions of visual phenomena/forms.

LA 1401. The Designed Environment. (AH; 3 cr. ; A-F or Audit; Every Fall & Spring)

Examination of relationships between place and space, and realms of the ideal and real, public and private. Survey of how the fields of architecture, landscape architecture, and urban design have explored those issues.

LA 1601. Design and Equity. (AH,DSJ; 3 cr. ; A-F or Audit; Every Spring)

Investigate world from new perspectives. Spaces of everyday life that reflect/shape values. Meets with LA 3601.

LA 2301. Mixed Analog and Digital Representation Methods. (; 3 cr. ; Student Option; Every Fall)

Explore multimedia rendering techniques using analog (hand sketching/drawing) and digital techniques for raster and vector image generation used to illustrate landscape architecture analysis and design processes. prereq: LA 1301 OR GDES 1311 OR instructor consent

LA 2302. Computer-Aided Representation for Environmental Design. (; 3 cr. ; Student Option; Every Spring)

Use of computer-aided design (CAD) technologies in developing, representing, and communicating environmental design ideas. Adobe Creative Suite, Autodesk AutoCAD, DynaSCAPE, ESRI ArcMap, etc. Integration of images generated from various computer and hand-rendered technologies.

LA 3001. Understanding and Creating Landscape Space. (; 4 cr. ; A-F or Audit; Every Fall)

The subject of this course is Landscape Architecture. In this class we investigate its principles, focusing on the discipline's distinct fusion of both the arts and sciences to create useful and meaningful outdoor spaces to meet specific environmental and social needs. Class periods alternate between lectures and 'studio' work periods in which students actively work on projects (site analysis, representation, modeling and oral presentation). Over the course of the semester student receive feedback (instructor, guests and peer review) and participate in class discussion. Students receive additional assignments including critical literature review, site analysis and infrastructure research.

LA 3002. Informants of Creating Landscape Space. (; 4 cr. ; A-F or Audit; Every Spring)

In this course, you will analyze and design specific projects, considering both their physical and conceptual connection to the larger context in which they are located. The aim is for you to gain an understanding of the relationship of landscape to architecture

at the site and urban scales; consider the effects of construction and ground manipulation on the perception and experience of space; and explore the possibilities of layering and transparency, enclosure and adjacencies, in between spaces and connectors. Ultimately, the course will investigate the intersection of physical, biological, and cultural attributes, the opportunities and constraints they produce, the design of space based upon these features, and the [re]presentation of these designs. We will also be building the soft skills that help us grow to be more empathetic and understanding of our client's needs and desired outcomes and practice them throughout the workshop in order to translate experience and input into program + design.

LA 3003. Climate Change Adaptation. (; 3 cr. ; Student Option; Every Fall)

This course will study nations, regions, cities, and communities that have adapted or are undergoing adaptation to climate change. The course will examine different approaches in planning, policy, economics, infrastructure, and building design that increase the adaptive capacity of human settlements. These approaches will vary in scale from the construction of new neighborhoods to the implementation of storm water gardens. The course will emphasize multi-functional strategies which couple climate change adaptation with other urban improvements. Learning Objectives: To understand role of climate adaptation in the reconfiguration of human settlements. To apply design thinking to the issue of climate adaptation in the context of an urban society. To apply knowledge to challenge-based coursework on managing climate risk, decreasing climate vulnerability, and building resilience to climate change.

LA 3004. Regional Environmental Landscape Planning. (4 cr. ; Student Option; Every Spring)

An exploration of critical regional landscape parameters affecting the growth and development of metropolitan areas. Students assess these parameters and prepare a multifunctional land use plan for a defined locale. prereq: prereq FR 3131 or Concurrent registration is required (or allowed) in FR 3131 or GEOG 3561 or Concurrent registration is required (or allowed) in GEOG 3561, or equivalent

LA 3204. Holistic Landscape Ecology and Bioregional Practice. (; 3 cr. ; A-F or Audit; Every Spring)

Bioregional practice, how it responds to landscape ecology of great bioregions. Scientific/cultural basis for bioregional design and landscape sustainability.

LA 3413. Introduction to Landscape Architectural History. (GP,HIS; 3 cr. ; A-F or Audit; Every Fall)

Study of landscape architecture's roots by examining the creation of landscapes over time. Influences of ecological and environmental issues as well as political, economic, and social contexts on the cultural construction of landscape ideas and meaning and creation of landscape architectural works.

LA 3501. Environmental Design and Its Biological and Physical Context. (ENV; 3 cr. ; A-F or Audit; Every Spring & Summer) Dynamic relationships between environmentally designed places and biological/physical contexts. Integration of created place and biological/physical contexts. Case studies, student design.

LA 3514. Making the Mississippi. (CIV; 3 cr. ; A-F or Audit; Every Spring)

Environmental parameters affecting growth/development of metropolitan areas. Students assess these parameters and prepare a multi-functional land use plan for a defined locale.

LA 3571. Landscape Construction: Site Systems and Engineering. (; 3 cr. ; A-F or Audit; Every Fall)

Theory applications of landform systems for design. Landform typology, representation methods, manipulation techniques, use of land survey data, earthwork construction issues. Spatial accommodation of vehicles in landscape architecture, including road design. prereq: BED major or BED minor or instr consent

LA 3601. Design and Equity. (AH,DSJ; 3 cr. ; A-F or Audit; Every Spring)

Investigate world from new perspectives. Spaces of everyday life that reflect/shape values. Meets with LA 1601.

LA 3801. Finding Order: An Introduction to Garden Design. (3 cr. ; Student Option; Periodic Summer)

The course explores local gardens and classical gardens and offers students opportunities to learn and practice garden design by engaging students in the first hand observational analysis of extant garden spaces across the Twin Cities.

LA 4001. Sustainable Landscape Design and Planning Practices Studio. (; 4 cr. ; Student Option; Every Fall)

Applications of sustainable landscape design and planning practices. Examination of the systemic, formal, and spatial relationships across the integration of these practices and quantitative and qualitative changes in biodiversity, quality of the earth's air, soil, and water resources, development and consumption of energy resources and climate change. Development of design processes for selection, deployment, and management of sustainable practices to create evocative and meaningful landscape in the context of cultural change. prereq: LA 2302 and LA 3002 or instructor consent.

LA 4002. Design of Urban Landscapes. (; 4 cr. ; A-F only; Every Spring)

LA 4002 will provide an in-depth look at the urban environment. The studio will explore the forces that shape the city and how the city will potentially meet the challenges exerted upon it by a changing climate, reorganized populations, and the technologies of the future. prereq: LA 2302, LA 3002

LA 4096. Internship in Landscape Design and Planning. (; 1 cr. ; S-N only; Every Fall, Spring & Summer)

Supervised professional experience in environmental design firms or government agencies. Students perform professional services and relate these experiences to their education in environmental design. prereq: 1301, 2301, 2302, 3001, 3002, 3003

LA 4160H. Thesis/Capstone Project. (; 2 cr. [max 4 cr.]; A-F only; Every Fall & Spring)

Individualizes honors experience by connecting aspects of major program with special academic interests.

LA 4755. Infrastructure, Natural Systems, and Space of Inhabited Landscapes. (TS; 3 cr. ; A-F or Audit; Every Fall)

Seminar, cross-disciplinary. Urban infrastructural solutions to mitigate/reverse anthropogenic impacts on Earth. Design of sustainable urban infrastructure systems. Policy options, technologies. Criteria, design methods. prereq: Jr or sr

LA 5001. Sustainable Landscape Design and Planning Practices. (; 3 cr. ; Student Option; Every Fall)

Systemic, formal and spatial relationships. Quantitative and qualitative changes in global biodiversity, quality of the earth's air, soil, and water resources, development and consumption of energy resources and climate change. Development of design processes for selection, deployment, and management of sustainable practices. prereq: 5201, 5203

LA 5003. Climate Change Adaptation. (; 3 cr. ; Student Option; Every Fall)

This course will study nations, regions, cities, and communities that have adapted or are undergoing adaptation to climate change. The course will examine different approaches in planning, policy, economics, infrastructure, and building design that increase the adaptive capacity of human settlements. These approaches will vary in scale from the construction of new neighborhoods to the implementation of storm water gardens. The course will emphasize multi-functional strategies which couple climate change adaptation with other urban improvements. Learning Objectives: ? To understand role of climate adaptation in the reconfiguration of human settlements. ? To apply design thinking to the issue of climate adaptation in the context of an urban society. ? To apply knowledge to challenge-based coursework on managing climate risk, decreasing climate vulnerability, and building resilience to climate change.

LA 5004. Regional Environmental Landscape Planning. (4 cr. ; Student Option; Every Spring)

An exploration of critical regional landscape parameters affecting the growth and development of metropolitan areas. Students assess these parameters and prepare a multifunctional land use plan for a defined locale. prereq: PA 5271 or LA 5131 or FR 3131 or GEOG 3561 or GEOG 5561 or equivalent

LA 5096. Internship for Master of Landscape Architecture Students. (1-3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) Students will receive supervised professional experience in a landscape architectural

design firm in order to gain employment experience related to the field as well as receiving graduate credit. As a requirement of the course, students will submit a reflection paper relating the professional experiences to their education. Must have director of graduate studies (DGS) approval of the internship to register.

LA 5100. Topics: Landscape Architecture. (; 1-3 cr. [max 6 cr.]; Student Option; Periodic Fall, Spring & Summer)

Current and emerging topics in the field of landscape architecture. Taught by regular or visiting faculty in their areas of specialization.

LA 5131. Geospatial Data Analysis and Design. (3 cr. ; A-F only; Every Fall)

Introduction to geospatial data analysis/application in landscape architectural, environmental design research/practice. prereq: Master of Landscape Architecture Student or instr consent

LA 5201. Making Landscape Spaces and Types. (; 6 cr. ; A-F or Audit; Every Fall)

Design exploration using 3-D models and historical precedent studies to create outdoor spaces for human habitation and use. Application of the basic landscape palette of landform, plants, and structures to give physical, emotional, cognitive, and social definition to created places. prereq: B.E.D accelerated status or LA grad or instr consent

LA 5202. Landscape Analysis Workshop. (; 1 cr. ; S-N only; Every Fall)

Introduction to field techniques for site analysis, including vegetation, soil, and landform description. One-week session, before fall term, at lake Itasca Forestry and Biological Station.

LA 5203. Ecological Dimensions of Space Making. (; 6 cr. ; A-F or Audit; Every Spring)

Design studio experience drawing on ecological, cultural, aesthetic influences to explore development of design ideas responsive to ecological issues and human experience. prereq: LA major or instr consent; recommended for both BED and Grad students

LA 5204. Metropolitan Landscape Ecology. (; 3 cr. ; A-F only; Every Fall & Spring)

Theories/principles of holistic landscape ecology. People, nature, and environmental stewardship in metropolitan landscapes. Urban areas, rural areas that provide food, water, energy, and recreation. prereq: BED accelerated status or LA grad student or instr consent

LA 5376. Representation I. (4 cr. [max 8 cr.]; A-F only; Every Fall)

Strengthen freehand sketching ability. Develop observation skills. Develop ability to communicate ideas clearly through visual expression. Learn/explore conventions of landscape architectural drawing. Basic tools/techniques associated with Adobe Photoshop CS6. Promote fluidity between analog/digital media. Create drawing personality/graphic style. prereq: Master of Landscape Architecture (MLA) or Accelerated Bachelor of Environmental Design.

LA 5377. Representation II. (4 cr. [max 8 cr.]; A-F only; Every Spring)

Explore multi-media rendering techniques. Increase knowledge of art materials/graphic programs. Increase hand-drawing ability. Color theory, contemporary graphic styles. Layout, grid systems/type. Increase speed of drawing/producing renderings. Create or strengthen graphic style. prereq: Master of Landscape Architecture (MLA) or Accelerated Bachelor of Environmental Design

LA 5381. The City in Visual Culture. (3 cr. ; A-F only; Every Spring)

Visual culture is not just that we see the way we do because we are social animals, but also that our social arrangements take the forms they do because we are seeing animals. The social arrangements of the city, the buildings and public spaces, are concretized expressions of power and culture. The course will, through multiple drawings, attempt to critically examine these social arrangements as they have evolved over time (history) by re-presenting the city (as human experience and aesthetic form). The course will be structured around on-site work sessions, critical readings, on- and off-site lectures, and weekly drawing assignments.

LA 5400. Topics in Landscape Architecture. (; 1-3 cr. [max 12 cr.]; Student Option; Periodic Fall, Spring & Summer)

Current topics in landscape architecture. Taught by regular or visiting faculty in their areas of specialization.

LA 5401. Directed Studies in Emerging Areas of Landscape Architecture. (; 1-3 cr. [max 12 cr.]; Student Option; Every Fall & Spring)

tbd prereq: instr consent

LA 5402. Directed Studies in Landscape Architecture History and Theory. (; 1-6 cr. [max 12 cr.]; Student Option; Every Fall & Spring)

Independent studies under the direction of landscape architecture faculty. prereq: instr consent

LA 5403. Directed Studies in Landscape Architecture Technology. (; 1-6 cr. [max 12 cr.]; Student Option; Every Fall & Spring)

Independent studies under the direction of landscape architecture faculty. prereq: instr consent

LA 5404. Directed Studies in Landscape Architecture Design. (; 1-6 cr. [max 12 cr.]; Student Option; Every Fall & Spring)

Independent studies under the direction of landscape architecture faculty. prereq: instr consent

LA 5405. Interdisciplinary Studies in Landscape Architecture. (; 1-6 cr. [max 12 cr.]; A-F or Audit; Every Fall & Spring)

Research, planning, or design projects. Topics vary. prereq: instr consent

LA 5408. Landscape Architecture, Architecture, and Planning. (; 3-4 cr. ; A-F or Audit; Every Fall & Spring)

Methods and theories in urban design and human behavior. Students develop urban

design journal as tool for experiencing, analyzing, and recording the urban landscape, its fabric, spatial elements, and individual components, and for analyzing design solutions. prereq: Admitted to Denmark International Study Program co-sponsored by the University; given in Denmark

LA 5413. Introduction to Landscape Architectural History. (3 cr. ; A-F or Audit; Every Fall)

Introductory course examines the multiple roots of landscape architecture by examining the making of types of landscapes over time. Emphasis on ecological and environmental issues, and issues related to political, economic, and social contexts of landscape architectural works. prereq: One course in history at 1xxx or higher

LA 5414. Study Abroad: History and Culture. (0-3 cr. ; A-F only; Every Spring)

This is a history course aimed at investigating the rich urban, landscape and architectural legacy of Spain, tracing the multiple histories of the Spain through the ceremonial and quotidian spaces of Madrid as it developed as the capital city of the Catholic monarchy and the monuments of Al-Andalus, the Islamic caliphate in Southern Spain. The course is structured so that each week there will be an in-class lecture and a walking tour of Madrid. There will also be several field trips to historic sites.

LA 5514. Making the Mississippi. (; 3 cr. ; A-F or Audit; Every Spring)

Critical environmental parameters affecting growth/development of metropolitan areas. Students assess these parameters and prepare a multi-functional land use plan for a defined locale.

LA 5576. Ecological Restoration Project Planning and Management. (3 cr. ; A-F only; Every Fall)

Applied practice of ecological restoration of landscapes. Grasslands, wetlands, forests, disturbed agricultural sites, former industrial parcels. Restoration management, skills needed to lead successful projects. prereq: [MLA student, senior B.E.D.] or senior or grad with one college course in ecology/one college course in plant science or botany or instr consent

LA 5755. Infrastructure, Natural Systems and the Space of Inhabited Landscapes. (; 3 cr. ; A-F or Audit; Every Fall)

Cross-disciplinary exploration of urban infrastructural solutions to mitigate/reverse anthropogenic impacts on Earth. Design of sustainable urban infrastructure systems, policy options, available technologies, criteria, design methods. prereq: Grad student

LA 5761. Infrastructure + Culture. (3 cr. ; A-F only; Every Spring)

As attitudes about ecology and nature are shifting and as the threats from climate change are becoming more pronounced, new infrastructure works in the Netherlands are caught a a double bind of responding to ecological concerns and protection of the land. This course will explore both historic and

modern water management infrastructures as cultural and engineering constructs through visual representation as a form of critique. The course will be structured around study trips, preparatory readings, on-site lectures, and will be supplemented by the participation of several guest speakers.

LA 5771. Landscape Infrastructure and Systems I. (3 cr. [max 6 cr.]; A-F only; Every Fall)

Basic principles, techniques, skills of creating infrastructures of built landscapes. Basic concepts of simple plant taxonomy, plant community structure, earthwork, water management, landscape structures. Small site scale design development. prereq: Master of Landscape Architecture Student, [Accelerated Track B.E.D or instr consent]

LA 5772. Landscape Infrastructure Systems II. (3 cr. [max 6 cr.]; A-F only; Every Spring)

Principles, techniques, skills of creating ecological infrastructures of built landscapes systems. Builds on basic concepts taught in LA 5771. Focuses on ecological connections among plants, landscape structure, earthwork techniques, water management, landscape structural systems. prereq: Master of Landscape Architecture Student, [Accelerated BED Student or instr consent]

Lang, Teaching, and Technology (LGTT)

LGTT 5110. Technology in the Second Language Classroom. (; 2 cr. ; Student Option; Every Spring & Summer)

Examine, evaluate, and use technology in language teaching. Theoretical background, demonstration, hands-on exploration.

LGTT 5111. Using the Web for Communicative Language Learning. (; 2 cr. ; Student Option; Every Summer)

This is a fully online course that is intended for K-16 second language instructors who are looking for ways to increase their knowledge of web applications and ways to incorporate them into their second language curriculum to encourage student communication and collaboration. Participants can expect to learn effective ways to incorporate current web technology into their curriculum to promote written and spoken language comprehension and production, and interpersonal communication. The course will address lesson planning, implementation, and assessment issues related to using these tools in second language learning.

LGTT 5710. Special Topics in Language Teaching and Technology. (; 2 cr. [max 6 cr.]; Student Option; Periodic Fall & Summer)

Examine, evaluate, apply specific area of technology to K-higher education, second/foreign language teaching/learning in classroom, independent study, distance education environments.

Language Centr CLA CourseShare (LANG)

LANG 1021. Beginning Czech I. (4 cr. ; Student Option; Every Fall)
CourseShare course hosted by Indiana University. Received via video conferencing. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 1022. Beginning Czech II. (; 4 cr. ; Student Option; Every Spring)
Beginning Czech II is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This is an online course. It is intended for students who completed Beginning Czech I. Heritage speakers and those with prior knowledge of Czech should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1031. Beginning Danish I. (4 cr. ; Student Option No Audit; Every Fall)
CourseShare course hosted by the University of Wisconsin-Madison. Received via video conferencing. Please email the Language Center at elsie@umn.edu for more information.

LANG 1032. Beginning Danish II. (; 4 cr. ; Student Option No Audit; Every Spring)
LANG 1032 - Beginning Danish II is a Big Ten Academic Alliance CourseShare course. The instructor is at the university of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course is received online. If is intended for students who have completed Beginning I. Heritage speakers and those with prior knowledge of Danish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1051. Beginning Indonesian I. (; 4 cr. ; Student Option; Every Fall)
LANG 1051 - Beginning Indonesian I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for beginners. Heritage speakers and those with prior knowledge of Indonesian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1061. Beginning Persian I. (4 cr. ; Student Option No Audit; Every Fall)
Beginning Persian I is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University, but you enroll and receive credit for it at the University of Minnesota. This is a hybrid course partially received via video conferencing. It is intended for beginners. Heritage speakers and those with prior knowledge of Persian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1062. Beginning Persian II. (; 4 cr. ; Student Option; Every Spring)
Beginning Persian II is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University, but you enroll and receive credit for it at the University of Minnesota. This is a hybrid course partially

received via video conferencing. It is intended for students who completed the previous course. Heritage speakers and those with prior knowledge of Persian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1071. Beginning Polish I. (4 cr. ; Student Option No Audit; Every Fall)
Beginning Polish I is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This course is received via video conferencing. It is intended for beginners. Heritage speakers and those with prior knowledge of Polish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1072. Beginning Polish II. (; 4 cr. ; Student Option; Every Spring)
Beginning Polish II is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This is an online course. It is intended for students who completed Beginning Polish I. Heritage speakers and those with prior knowledge of Polish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1073. Beginning Polish I. (2 cr. ; Student Option No Audit; Every Fall)
CourseShare course hosted by the University of Chicago. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 1074. Beginning Polish II. (2 cr. ; Student Option; Every Spring)
Beginning Polish II is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Chicago but you enroll and receive credit for it at the University of Minnesota. This course is received via video conferencing. If is intended for students who have completed LANG 1073. Heritage speakers and those with prior knowledge of Polish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1075. Beginning Polish III. (2 cr. ; Student Option; Every Spring)
Beginning Polish III is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Chicago but you enroll and receive credit for it at the University of Minnesota. This course is received via video conferencing. It is intended for students who have completed LANG 1074. Heritage speakers and those with prior knowledge of Polish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1081. Beginning Sanskrit I. (; 2 cr. ; Student Option; Every Fall)
Beginning Sanskrit I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Chicago but you enroll and receive credit for it at the University of Minnesota. This course is received online.

It is intended for beginners. Students with prior knowledge of Sanskrit should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1101. Beginning Modern Tibetan I. (4 cr. ; Student Option No Audit; Every Fall) CourseShare course hosted by the University of Wisconsin-Madison. Received via video conferencing. Please email the CLA Language Center at elsie@umn.edu for more information.

LANG 1102. Beginning Modern Tibetan II. (4 cr. ; Student Option; Every Spring) CourseShare course hosted by the University of Wisconsin-Madison. Received via video conferencing. Please email the CLA Language Center at elsie@umn.edu for more information.

LANG 1111. Beginning Turkish I. (; 4 cr. ; Student Option; Every Fall) Beginning Turkish I is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for beginners. Heritage learners or students with prior experience with Turkish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1112. Beginning Turkish II. (; 4 cr. ; Student Option; Every Spring) Beginning Turkish II is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the previous course. Heritage learners or students with prior experience with Turkish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1112. Beginning Turkish II. (4 cr. ; Student Option;) Beginning Turkish II is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course connects via video conferencing technology, and there is a fixed time and location. It is intended for students who completed Beginning Turkish I. Heritage speakers and those with prior knowledge of Turkish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1121. Beginning Vietnamese I. (; 4 cr. ; Student Option No Audit; Every Fall) Online CourseShare course hosted by Michigan State University. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 1122. Beginning Vietnamese II. (; 4 cr. ; Student Option; Every Spring) Online CourseShare course hosted by Michigan State University. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 1131. Beginning Yiddish I. (; 4 cr. ; Student Option No Audit; Every Fall)

LANG 1131. Beginning Yiddish I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Michigan but you enroll and receive credit for it at the University of Minnesota. This course is received online. Heritage learners or students with prior experience with Yiddish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1132. Beginning Yiddish II. (; 4 cr. ; Student Option; Every Spring) Beginning Yiddish II is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Michigan but you enroll and receive credit for it at the University of Minnesota. This course is received online. Heritage learners or students with prior experience with Yiddish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1141. Beginning Yoruba I. (4 cr. ; Student Option No Audit; Every Fall) LANG 1141 - Beginning Yoruba I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison but you enroll and receive credit for it at the University of Minnesota. This course is received via video conferencing. It is intended for beginners. Heritage speakers and those with prior knowledge of Yoruba should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1142. Beginning Yoruba II. (; 4 cr. ; Student Option; Every Spring) LANG 1142 Beginning Yoruba II is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This is an online course. It is intended for students who completed Intermediate I. Heritage speakers and those with prior knowledge of Yoruba should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1161. Beginning Hungarian I. (4 cr. ; Student Option; Every Fall) CourseShare course hosted by Indiana University. Received via video conferencing. Please email the CLA Language Center at elsie@umn.edu for more information.

LANG 1162. Beginning Hungarian II. (4 cr. ; Student Option; Every Spring) CourseShare course hosted by Indiana University. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 1171. Beginning Aramaic I. (3 cr. ; Student Option; Every Fall & Spring) CourseShare course hosted by Penn State University. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 1181. Beginning Filipino I. (4 cr. ; Student Option No Audit; Every Fall) CourseShare course hosted by Rutgers University. Received via video conferencing.

Please email the Language Center at elsie@umn.edu for more information.

LANG 1182. Beginning Filipino II. (4 cr. ; Student Option; Every Spring) CourseShare course hosted by the University of Wisconsin-Madison. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 1191. Beginning Romanian I. (4 cr. ; Student Option No Audit; Every Fall) CourseShare course hosted by Ohio State University. Received via video conferencing. Please email the Language Center at elsie@umn.edu for more information.

LANG 1201. Beginning Basque I. (; 3 cr. ; Student Option; Every Fall) LANG 1201 - Beginning Basque I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Illinois but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who have previously studied a different Romance language, such as French, Italian, or Spanish. Heritage learners or students with priority experience with Basque should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1202. Beginning Basque II. (; 2 cr. ; Student Option No Audit; Every Spring) Beginning Basque II is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Chicago, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the previous course. Heritage speakers and those with prior knowledge of Basque should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1203. Beginning Basque III. (; 2 cr. ; Student Option No Audit; Every Spring) Beginning Basque III is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Chicago, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who have completed the previous course. Heritage speakers and those with prior knowledge of Basque should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1211. Beginning Maya I. (4 cr. ; Student Option No Audit; Every Fall) CourseShare course hosted by Indiana University. Received via video conferencing. Please email the Language Center at elsie@umn.edu for more information.

LANG 1231. Beginning Modern Greek I. (4 cr. ; Student Option No Audit; Every Fall) CourseShare course hosted by Rutgers University. Received via video conferencing. Please email the Language Center at elsie@umn.edu for more information.

LANG 1232. Beginning Modern Greek II. (4 cr. ; Student Option No Audit; Every Spring) CourseShare course hosted by Rutgers University. Received via video conferencing.

Please email the Language Center at elsie@umn.edu for more information.

LANG 1251. Beginning Haitian Creole I. (4 cr. ; Student Option; Every Fall)
LANG 1251 - Beginning Haitian Creole I is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This course is received via video conferencing. It is intended for beginners. Heritage speakers and those with prior knowledge of Haitian Creole should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1252. Beginning Haitian Creole II. (; 4 cr. ; Student Option; Every Spring)
Beginning Haitian Creole II is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This course is received via video conferencing. It is intended for students who completed Beginning Haitian Creole I. Heritage speakers and those with prior knowledge of Haitian Creole should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1261. Beginning Ukrainian I. (; 4 cr. ; Student Option; Every Fall)
Beginning Ukrainian I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Michigan but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for beginners. Heritage learners or students with prior experience with Ukrainian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1262. Beginning Ukrainian II. (; 4 cr. ; Student Option; Every Spring)
Beginning Ukrainian II is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Michigan but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who have completed the previous course. Heritage learners or students with prior experience with Ukrainian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1271. Reading French for Research Purposes. (; 2 cr. [max 3 cr.] ; Student Option; Every Fall)
Reading French for Research Purposes is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Chicago, but you enroll and receive credit for it at the University of Minnesota. This course is received online. This intensive course is designed to take students with a basic knowledge of French to the level of reading proficiency needed for research. To that end, students will work on grammar, vocabulary, and reading strategies. Students will read a range of scholarly texts, a number of which will be directly drawn from their respective areas

of research. Please contact the Language Center at elsie@umn.edu or 612-626-6017 with questions.

LANG 1272. French for Reading Knowledge. (; 3 cr. ; Student Option; Every Spring)
French for Reading Knowledge is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It includes intensive grammar and reading for graduate students and undergraduates with little or no experience in French. Readings from appropriate texts in the humanities, sciences, social sciences.. Please contact the Language Center at elsie@umn.edu or 612-626-6017 with questions.

LANG 1273. French for Reading Knowledge. (; 3 cr. ; Student Option; Every Spring)
French for Reading Knowledge is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University, but you enroll and receive credit for it at the University of Minnesota. This course is designed to help students with little or no previous French training learn how to read French quickly and efficiently. In addition to the textbook, using a variety of resources to practice reading French, including newspaper articles, classic French texts, and film. The course is taught synchronously as a series of reading/translation workshops during which the class works together to develop their reading skills. Please contact the Language Center at elsie@umn.edu or 612-626-6017 with questions.

LANG 1281. German for Reading Knowledge. (; 3 cr. ; Student Option; Every Fall)
German for Reading Knowledge is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for beginners. Heritage learners or students with prior experience with German should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1301. Beginning Quechua I. (; 4 cr. ; Student Option; Every Fall)
LANG 1301 ? Beginning Quechua is a Big Ten Academic Alliance CourseShare course. The instructor is at Ohio State University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for true beginners. Heritage speakers and those with prior knowledge of Quechua should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1311. Italian for Reading Knowledge. (; 3 cr. ; Student Option; Every Fall)
LANG 1311 Italian for Reading Knowledge is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University,

but you enroll and receive credit for it at the University of Minnesota. Italian for Reading Knowledge course is an engaging and non-intimidating approach to language learning. This is an online, dynamic language immersion course, intended to progressively build your reading knowledge of Italian while teaching you about life and culture in Italian speaking countries. This course is designed to build on and expand your confidence with Italian, presenting vocabulary and phrases in meaningful and motivating content. In addition, your understanding of sentence structure and use of verbs will be reinforced. You will end this course with the ability to read and translate Italian texts. There will be weekly Zoom meeting sessions, which are not yet scheduled. Please contact the Language Center at elsie@umn.edu or 612-626-6017 with questions.

LANG 1313. Beginning Italian II. (; 4 cr. ; Student Option; Every Summer)
LANG 1313 - Beginning Italian II is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the previous course in the sequence. Registration is by permission only. Please contact the Language Center at elsie@umn.edu or 612-626-6017 to request permission to join this class.

LANG 1321. Spanish for Reading Knowledge. (; 3 cr. ; Student Option; Every Spring)
Spanish for Reading Knowledge is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University, but you enroll and receive credit for it at the University of Minnesota. This course is designed for non-Spanish speakers, including those students who have studied only a modicum of Spanish in their careers. This course aims to help students to acquire reading skills in Spanish, understand texts of moderate difficulty, and acquire basic translation skills in order to translate & analyze texts, receive grammatical tools to understand how Spanish works and how to understand the meaning of Spanish-language texts, and read and analyze written work such as newspapers, magazines, critical works, and research articles. This course includes a mix of synchronous and asynchronous time. Please contact the Language Center at elsie@umn.edu or 612-626-6017 with questions.

LANG 1331. Beginning Syriac I. (; 3 cr. ; Student Option; Every Spring)
Beginning Syriac I is a Big Ten Academic Alliance CourseShare course. The instructor is at Penn State University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. This course is a basic introduction to Syriac. Syriac is a dialect of the Aramaic language that began in the first century AD/CE. It is best known for its use in the Christian churches of the East. Besides early translations of the Bible, Syriac texts include religious poetry,

theological and philosophical works, and lives of the Eastern saints. Syriac was also an essential link in the chain of transmission of Greek philosophy into the Middle Ages, as well as literary works from India. Registration is by permission only. Please contact the Language Center at elsie@umn.edu or 612-626-6017 to request permission to join this class.

LANG 1341. Beginning Thai I. (; 4 cr. ; Student Option; Every Fall)

LANG 1341 - Beginning Thai I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for beginners. Heritage speakers and those with prior knowledge of Thai should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1351. Beginning BCS (Bosnian, Croatian, Serbian) I. (; 4 cr. ; Student Option; Every Fall)

LANG 1351 - Beginning BCS (Bosnian, Croatian, Serbian) I is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for beginners. Heritage speakers and those with prior knowledge of Bosnian, Croatian and/or Serbian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1352. Beginning BCS (Bosnian, Croatian, Serbian) II. (; 4 cr. ; Student Option; Every Spring)

LANG 1352 - Beginning BCS (Bosnian, Croatian, Serbian) II is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the previous course. Heritage speakers and those with prior knowledge of Bosnian, Croatian, and/or Serbian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1371. Beginning Kinyarwanda I. (; 4 cr. ; Student Option; Every Fall)

LANG 1371 - Beginning Kinyarwanda I is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for beginners. Heritage speakers and those with prior knowledge of Kinyarwanda should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1372. Beginning Kinyarwanda II. (; 4 cr. ; Student Option; Every Spring)

LANG 1372 - Beginning Kinyarwanda II is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students

who completed the previous course. Heritage speakers and those with prior knowledge of Kinyarwanda should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1381. Beginning Marathi I. (; 2 cr. ; Student Option; Every Fall)

LANG 1381 - Beginning Marathi I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Chicago but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for beginners. Students with prior knowledge of Marathi should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1421. Beginning Tamil I. (; 2 cr. ; Student Option; Every Fall)

LANG 1421 Beginning Tamil I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Chicago but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for beginners. Students with prior knowledge of Tamil should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 1431. Beginning Armenian I. (; 2 cr. ; Student Option; Every Fall)

LANG 1431 - Beginning Armenian I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Chicago but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for beginners. Students with prior knowledge of Armenian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2011. Accelerated Catalan I. (2 cr. ; Student Option No Audit; Every Fall)

CourseShare course hosted by the University of Chicago. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 2012. Accelerated Catalan II. (2 cr. ; Student Option; Every Spring)

CourseShare course hosted by the University of Chicago. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 2021. Intermediate Czech I. (3 cr. ; Student Option; Every Fall)

CourseShare course hosted by Indiana University. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 2022. Intermediate Czech II. (3 cr. ; Student Option; Every Spring)

CourseShare course hosted by Indiana University. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 2031. Intermediate Danish I. (4 cr. ; Student Option; Every Fall)

Intermediate Danish I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course is received via video conferencing. It is intended for students who have completed Beginning II. Heritage speakers and those with prior knowledge of Danish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2032. Intermediate Danish II. (; 4 cr. ; Student Option; Every Spring)

Intermediate Danish I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course is received via video conferencing. It is intended for students who have completed the previous course. Heritage speakers and those with prior knowledge of Danish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2052. Intermediate Indonesian II. (; 4 cr. ; Student Option; Every Spring)

LANG 2052 Intermediate Indonesian II is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This is an online course. It is intended for students who completed Intermediate I. Heritage speakers and those with prior knowledge of Indonesian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2061. Intermediate Persian I. (; 4 cr. ; Student Option; Every Fall)

LANG 2061 - Intermediate Persian I is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the Beginning sequence. Heritage speakers and those with prior knowledge of Persian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2062. Intermediate Persian II. (; 4 cr. ; Student Option No Audit; Every Spring)

LANG 2062 - Intermediate Persian II is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the previous course. Heritage speakers and those with prior knowledge of Persian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2071. Intermediate Polish I. (; 3 cr. ; Student Option; Every Fall)

LANG 2071 - Intermediate Polish I is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This course is received remotely.

It is intended for students who completed the previous course. Heritage speakers and those with prior knowledge of Polish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2072. Intermediate Polish II. (3 cr. ; Student Option; Every Spring)

LANG 2072 - Intermediate Polish II is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This course is received remotely. It is intended for students who completed the previous course. Heritage speakers and those with prior knowledge of Polish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2073. Accelerated Polish for Heritage Speakers. (; 3 cr. ; Student Option No Audit; Every Spring)

LANG 2073 - Accelerated Polish for Heritage Speakers is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Michigan but you enroll and receive credit for it at the University of Minnesota. This online course is designed for heritage speakers of Polish as well as for students with an advanced oral proficiency but little formal training in the language. Please contact the Language Center at elsie@umn.edu or 612-626-6017 with questions or for placement assistance.

LANG 2101. Intermediate Modern Tibetan I.

(4 cr. ; Student Option No Audit; Every Fall) CourseShare course hosted by the University of Wisconsin-Madison. Received via video conferencing. Please email the Language Center at elsie@umn.edu for more information.

LANG 2102. Intermediate Modern Tibetan II.

(4 cr. ; Student Option No Audit; Every Spring) CourseShare course hosted by the University of Wisconsin-Madison. Received via video conferencing. Please email the Language Center at elsie@umn.edu for more information.

LANG 2111. Intermediate Turkish I. (4 cr. ; Student Option No Audit; Every Fall)

CourseShare course hosted by the University of Wisconsin-Madison. Received via video conferencing. Please email the CLA Language Center at elsie@umn.edu for more information.

LANG 2121. Intermediate Vietnamese I. (; 4 cr. ; Student Option No Audit; Every Fall)

Online CourseShare course hosted by Michigan State University. Please email the CLA Language Center at elsie@umn.edu for more information.

LANG 2122. Intermediate Vietnamese II. (; 4 cr. ; Student Option; Every Spring)

Online CourseShare course hosted by Michigan State University. Please email the CLA Language Center at elsie@umn.edu for more information.

LANG 2123. Intermediate Vietnamese. (; 4 cr. ; Student Option; Every Fall)

LANG 2123 Intermediate Vietnamese is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for

it at the University of Minnesota. This course is received online. It is intended for intermediate-level students, and registration is by permission only. Heritage learners or students with prior experience with Vietnamese should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2124. Intermediate Vietnamese II. (; 4 cr. ; Student Option; Every Spring)

LANG 2124 Intermediate Vietnamese II is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for intermediate-level students, and registration is by permission only. Heritage learners or students with prior experience with Vietnamese should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2131. Intermediate Yiddish I. (; 4 cr. ; Student Option; Every Fall)

LANG 2131 - Intermediate Yiddish I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Michigan but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the previous course. Heritage learners or students with prior experience with Yiddish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2133. Holocaust Literature in Yiddish. (; 1 cr. ; Student Option; Every Fall)

Holocaust Literature in Yiddish is a Big Ten Academic Alliance CourseShare course. The instructor is at the Rutgers University but you enroll and receive credit for it at the University of Minnesota. This course is received online and has no scheduled meeting times. This class is by permission only. To enroll, you must also be registered for LANG 3751 Holocaust Literature in Translation and have a background in Yiddish. Contact the Language Center at elsie@umn.edu or 612-626-6017 to request permission to enroll.

LANG 2141. Intermediate Yoruba I. (; 3 cr. ; Student Option; Every Fall)

LANG 2141 Intermediate Yoruba I is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This course is received remotely. It is intended for students who completed the previous course. Heritage speakers and those with prior knowledge of Yoruba should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2161. Intermediate Hungarian I. (; 4 cr. ; Student Option; Every Fall)

LANG 2161 - Intermediate Hungarian I is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the previous course. Heritage speakers and those with prior knowledge

of Hungarian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2181. Intermediate Filipino I. (4 cr. ; Student Option No Audit; Every Fall) CourseShare course hosted by Rutgers University. Received via video conferencing. Please email the Language Center at elsie@umn.edu for more information.

LANG 2192. Intermediate Romanian II. (4 cr. ; Student Option; Every Spring) CourseShare course hosted by Ohio State University. Received via video conferencing. Please email the CLA Language Center at elsie@umn.edu for more information.

LANG 2201. Accelerated Basque I. (3 cr. ; Student Option No Audit; Every Fall) CourseShare course hosted by the University of Illinois Urbana-Champaign. Received via video conferencing. This course requires intermediate-level proficiency in Spanish, French or another Romance language. Please email the Language Center at elsie@umn.edu for permission to register.

LANG 2231. Intermediate Modern Greek I. (4 cr. ; Student Option No Audit; Every Fall) Intermediate Modern Greek I is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University, but you enroll and receive credit for it at the University of Minnesota. This course is received via video conferencing. It is intended for students who have completed the beginning sequence. Heritage speakers and those with prior knowledge of Modern Greek should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2232. Intermediate Modern Greek II. (4 cr. ; Student Option No Audit; Every Spring) CourseShare course hosted by Rutgers University. Received via video conferencing. Please email the Language Center at elsie@umn.edu for more information.

LANG 2261. Intermediate Romanian I. (4 cr. ; Student Option; Every Fall) Intermediate Romanian I is a Big Ten Academic Alliance CourseShare course. The instructor is at Ohio State University (OSU), but you enroll and receive credit for it at the University of Minnesota. This course is received via video conferencing. It is intended for students who have completed Beginning II. Heritage speakers and those with prior knowledge of Romanian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2331. Intermediate Syriac I. (; 3 cr. ; Student Option; Every Fall)

LANG 2331 Intermediate Syriac I is a Big Ten Academic Alliance CourseShare course. The instructor is at Penn State University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. This course is a continuation of Beginning Syriac. Syriac is a dialect of the Aramaic language that began in the first century AD/CE. It is best known for its use in the Christian churches of the East. Besides early translations

of the Bible, Syriac texts include religious poetry, theological and philosophical works, and lives of the Eastern saints. Syriac was also an essential link in the chain of transmission of Greek philosophy into the Middle Ages, as well as literary works from India. Registration is by permission only. Please contact the Language Center at elsie@umn.edu or 612-626-6017 to request permission to join this class.

LANG 2351. Intermediate BCS (Bosnian, Croatian, Serbian) I. (; 4 cr. ; Student Option; Every Fall)

LANG 2351 - Intermediate BCS (Bosnian, Croatian, Serbian) I is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the previous course. Heritage speakers and those with prior knowledge of Bosnian, Croatian, and/or Serbian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2361. Intermediate Biblical Hebrew I. (; 3 cr. ; Student Option; Every Fall)

LANG 2361 Intermediate Biblical Hebrew I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Michigan but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed a Beginning Biblical Hebrew sequence, and is being offered in place of HEBR 3101. Heritage learners or students with prior experience with Biblical Hebrew should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2362. Intermediate Biblical Hebrew II. (; 3 cr. ; Student Option; Every Spring)

Intermediate Biblical Hebrew II is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Michigan but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the previous course, and is being offered in place of HEBR 3102. Heritage learners or students with prior experience with Biblical Hebrew should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2381. Intermediate Marathi I. (; 2 cr. ; Student Option; Every Fall)

LANG 2381 - Intermediate Marathi I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Chicago but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students at the intermediate level. Students with prior knowledge of Marathi should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2382. Intermediate Marathi II. (; 2 cr. ; Student Option; Every Spring)

LANG 2382 - Intermediate Marathi II is a Big Ten Academic Alliance CourseShare

course. The instructor is at the University of Chicago but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the previous course. Students with prior knowledge of Marathi should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 2383. Intermediate Marathi III. (; 2 cr. ; Student Option; Every Spring)

LANG 2383 - Intermediate Marathi III is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Chicago but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the previous course. Students with prior knowledge of Marathi should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 3011. Catalan Culture and Society: Art, Music, and Cinema. (2 cr. ; Student Option; Every Spring)

CourseShare course hosted by the University of Chicago. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 3012. Advanced Catalan: Language, Society and Culture. (2 cr. ; Student Option; Every Fall)

Online CourseShare course hosted by the University of Chicago. Please email the CLA Language Center at elsie@umn.edu for more information.

LANG 3013. Advanced Catalan: Language, Society and Culture II. (2 cr. ; Student Option; Every Fall)

CourseShare course hosted by the University of Chicago. Please email the CLA Language Center at elsie@umn.edu for more information.

LANG 3014. Reading Catalan for Research Purposes. (; 2 cr. ; Student Option No Audit; Every Fall)

Reading Catalan for Research Purposes is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Chicago but you enroll and receive credit for it at the University of Minnesota. This fast-paced online course prepares students to read and do research using texts in Catalan. Students will work on grammar, vocabulary, and reading skills, and they will also get introduced to some translation strategies. Part of the texts students will work on will be academic texts in their respective areas of research. Please contact the Language Center at elsie@umn.edu or 612-626-6017 for placement.

LANG 3031. Advanced Danish I. (; 3 cr. ; Student Option; Every Fall)

LANG 3031 - Advanced Danish I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course is received via online. It is intended for students who have completed the previous course. Heritage speakers and those with prior knowledge of Danish should contact

the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 3051. Advanced Indonesian I. (3 cr. ; Student Option; Every Fall)

CourseShare course hosted by University of Wisconsin-Madison. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 3061. Advanced Persian I. (; 3 cr. ; Student Option; Every Fall)

LANG 3061 - Advanced Persian I is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the Intermediate sequence. Heritage speakers and those with prior knowledge of Persian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 3062. Advanced Persian II. (; 3 cr. ; Student Option; Every Spring)

LANG 3062 - Advanced Persian II is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the previous course. Heritage speakers and those with prior knowledge of Persian should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 3071. Advanced Polish I. (3 cr. ; Student Option No Audit; Every Fall)

Advanced Polish I is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This course is received via video conferencing. It is intended for students who have completed Intermediate Polish II or equivalent. Heritage speakers and those with prior knowledge of Polish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 3111. Advanced Turkish I. (3 cr. ; Student Option; Every Fall)

CourseShare course hosted by the University of Illinois. Received via video conferencing. Please email the CLA Language Center at elsie@umn.edu for more information.

LANG 3121. Advanced Vietnamese I. (3 cr. ; Student Option No Audit; Every Fall)

CourseShare course hosted by the University of Wisconsin-Madison. Received via video conferencing. Please email the Language Center at elsie@umn.edu for more information.

LANG 3122. Advanced Vietnamese II. (3 cr. ; Student Option; Every Spring)

Advanced Vietnamese II is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course connects via video conferencing technology, and there is a fixed time and location. It is intended for students who completed Advanced I. Heritage

speakers and those with prior knowledge of Vietnamese should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 3231. Advanced Modern Greek I. (; 3 cr. ; Student Option; Every Fall)

LANG 3231 - Advanced Modern Greek I is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the Intermediate sequence. Heritage speakers and those with prior knowledge of Modern Greek should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 3232. Advanced Hebrew II: Israeli Music. (; 3 cr. ; Student Option; Every Spring)

Advanced Hebrew II: Israeli Music is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Michigan but you enroll and receive credit for it at the University of Minnesota. This course is received online. This course is intended for students at the advanced level. Heritage learners or students with prior experience with Hebrew should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 3233. Advanced Modern Greek II. (; 3 cr. ; Student Option No Audit; Every Spring)

LANG 3233 - Advanced Modern Greek II is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the previous sequence. Heritage speakers and those with prior knowledge of Modern Greek should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 3234. Advanced Hebrew: Ethics, Religion and Medicine. (; 3 cr. ; Student Option; Every Spring)

LANG 3234 - Advanced Hebrew: Ethics, Religion and Medicine is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Michigan but you enroll and receive credit for it at the University of Minnesota. This course is received online. This course is intended for students at the advanced level. Heritage learners or students with prior experience with Hebrew should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 3235. Advanced Hebrew: Hebrew Via Popular Culture. (; 3 cr. ; Student Option; Every Spring)

LANG 3235 - Advanced Hebrew: Hebrew Via Popular Culture is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Michigan but you enroll and receive credit for it at the University of Minnesota. This course is received online. This course is intended for students at the advanced level. Heritage learners or students with prior experience with Hebrew should contact

the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 3311. Writing Workshop in Italian. (; 3 cr. ; Student Option; Every Summer)

LANG 3311 - Writing Workshop in Italian is a Big Ten Academic Alliance CourseShare course. The instructor is at Rutgers University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is an advanced course intended for students who completed an intermediate Italian sequence. Registration is by permission only. Please contact the Language Center at elsie@umn.edu or 612-626-6017 to request permission to join this class.

LANG 3341. Advanced Thai I. (; 3 cr. ; Student Option; Every Fall)

LANG 3341 - Advanced Thai I is a Big Ten Academic Alliance CourseShare course. The instructor is at Michigan State University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for advanced learners. Please contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 3381. Advanced Marathi I. (; 2 cr. ; Student Option; Every Fall)

LANG 3381 - Advanced Marathi I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Chicago but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed the previous course. Please contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 3401. Regional Cultures of Brazil. (; 3 cr. ; Student Option; Every Spring)

LANG 3401 - Regional Cultures of Brazil is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Illinois but you enroll and receive credit for it at the University of Minnesota. This integrated skills language course will have students navigate Brazil from end to end, with the goal of exploring historical and cultural aspects of Brazil that aren't always covered in the media. From myths and legends, to culinary adventures, traditional music, and more, this course will cover the five geographic regions of Brazil and touch on the Brazilian diaspora around the world. This class is intended for advanced students of Portuguese.

LANG 3501. Introduction to Korean Civilization. (3 cr. ; Student Option; Every Fall)

CourseShare course hosted by the University of Michigan. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 3502. Introduction to Korean History. (3 cr. ; Student Option; Every Spring)

CourseShare course hosted by the University of Wisconsin-Madison. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 3503. Traditional Korean Poetry: Sijo. (3 cr. ; Student Option; Every Fall)

CourseShare course hosted by Rutgers University. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 3504. Korean Language in Culture and Society. (3 cr. ; Student Option No Audit; Every Fall)

CourseShare course hosted by the University of Iowa. Received via video conferencing. Please email the Language Center at elsie@umn.edu for more information.

LANG 3505. Controversies in Contemporary Korea. (3 cr. ; Student Option No Audit; Periodic Spring)

CourseShare course hosted by the University of Michigan. Received via video conferencing. Please email the Language Center at elsie@umn.edu for more information.

LANG 3506. The Koreas: Korean War to the 21st Century. (3 cr. ; Student Option; Every Fall)

LANG 3506 - The Koreas: Korean War to the 21st Century is a Big Ten Academic Alliance Korean e-school CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course is received via video conferencing. Korea has always been part and parcel of key trends and phenomena in East Asia and the world. Students who take this course will explore the transformations, the setbacks, and the dynamism that have characterized modern Korean history, with a focus on post-1945 South Korea and North Korea. By exploring society and culture, we will delve into the resilience of Korean people as they lived through a turbulent history marked by national division and the Korean War, Cold War-era development and competition, democratization, and popular memory and nostalgia. Please contact the Language Center at elsie@umn.edu or 612-626-6017 with questions.

LANG 3507. Korean Language and Contemporary Pop Culture. (; 3 cr. ; Student Option; Every Fall)

LANG 3507 - Korean Language and Contemporary Pop Culture is a Big Ten Academic Alliance Korean e-school CourseShare course. The instructor is at the University of Iowa, but you enroll and receive credit for it at the University of Minnesota. This course is received online. The purpose of this course is to introduce students to the various sociolinguistic phenomena in contemporary Korean society. The course will address topics such as general linguistic characteristics of Korean, Confucianism and honorifics, language changes, gender differences, generation differences and Korean contacts with Chinese, Japanese and English etc. In particular, the discussions will focus on various linguistic phenomena found in contemporary pop culture such as Korean movies, dramas, K-pops, and commercials. Please contact the Language Center at elsie@umn.edu or 612-626-6017 with questions.

LANG 3508. Making Places in Seoul: History of Urbanism and Development. (; 3 cr. ; Student Option; Every Fall)

LANG 3508 - Making Places in Seoul: History of Urbanism and Development is a Big Ten Academic Alliance Korean e-school CourseShare course. The instructor is at Ohio State University, but you enroll and receive credit for it at the University of Minnesota. This course is received online. This is an intermediary course for undergraduate and graduate students who are interested in urban cultures of South Korea. There is no prerequisite, although background knowledge about Korean language, geography, history, and culture is highly desirable. Please contact the Language Center at elsie@umn.edu or 612-626-6017 with questions.

LANG 3601. Sami Culture, Yesterday, and Today. (4 cr. ; Student Option; Every Spring) CourseShare course hosted by the University of Wisconsin-Madison. Received via video conferencing. Please email the CLA Language Center at elsie@umn.edu for more information.

LANG 3651. Islamic Studies Seminar: Rumi, Sufi Poet. (3 cr. ; Student Option; Every Spring) CourseShare course hosted by Rutgers University through the Digital Islamic Studies Curriculum (DISC). Received via video conferencing. Please email the CLA Language Center at elsie@umn.edu for more information.

LANG 3701. The New Scramble for Africa. (; 3 cr. ; Student Option No Audit; Every Fall) Online CourseShare course hosted by Rutgers University. Received via video conferencing. Please email the CLA Language Center at elsie@umn.edu for more information.

LANG 3751. Holocaust Literature in Translation. (; 3 cr. ; Student Option; Every Fall) Holocaust Literature in Translation is a Big Ten Academic Alliance CourseShare course. The instructor is at the Rutgers University but you enroll and receive credit for it at the University of Minnesota. This course is received online and has no scheduled meeting times. There is a one-credit additional optional class associated with this course, LANG 2133, which is by permission only. Contact the Language Center at elsie@umn.edu or 612-626-6017 with questions.

LANG 4071. Beginning Polish I. (; 4 cr. ; Student Option; Every Fall) LANG 4071 - Beginning Polish I is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but you enroll and receive credit for it at the University of Minnesota. This course is received via video conferencing. It is intended for beginners. Heritage speakers and those with prior knowledge of Polish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 4072. Beginning Polish II. (4 cr. ; Student Option; Every Spring) LANG 4072 - Beginning Polish II is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University, but

you enroll and receive credit for it at the University of Minnesota. This course is received via video conferencing. It is intended for beginners. Heritage speakers and those with prior knowledge of Polish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 4111. Beginning Turkish I Grad Research. (4 cr. ; Student Option No Audit; Every Fall) CourseShare course hosted by the University of Wisconsin-Madison. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 4112. Beginning Turkish II Grad Research. (4 cr. ; Student Option; Every Spring) Beginning Turkish II is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course connects via video conferencing technology, and there is a fixed time and location. It is intended for students who completed Beginning Turkish I. Heritage speakers and those with prior knowledge of Turkish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 4112. Beginning Turkish II Grad Research. (4 cr. ; Student Option; Every Spring) Beginning Turkish II is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course connects via video conferencing technology, and there is a fixed time and location. It is intended for students who completed Beginning Turkish I. Heritage speakers and those with prior knowledge of Turkish should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 4171. Beginning Aramaic I for Grad Research. (3 cr. ; Student Option; Every Fall & Spring) CourseShare course hosted by Penn State University. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 5010. Graduate Language Study. (; 3 cr. [max 6 cr.] ; Student Option No Audit; Every Fall & Spring) Graduate language study enrollment option for a CourseShare language course received from a Big Ten university. Enrollment is restricted to graduate students, and by permission only. Please contact the Language Center at elsie@umn.edu, 612-626-6017, with questions.

LANG 5011. Topics in Catalan Study: Representations of Violence. (3 cr. ; Student Option; Every Spring) Topics in Catalan Study: Representations of Violence is a Big Ten Academic Alliance CourseShare course. The instructor is at Indiana University but you enroll and receive credit for it at the University of Minnesota. This course will be received via video conferencing

at a scheduled time. This class is intended for advanced Catalan students and permission is required. Please contact the Language Center at elsie@umn.edu or 612-626-6017 for enrollment assistance.

LANG 5111. Advanced Turkish and Azeri III. (3 cr. ; Student Option; Every Fall) CourseShare course hosted by the University of Wisconsin-Madison. Received via video conferencing. Email the CLA Language Center at elsie@umn.edu for more information.

LANG 5121. Advanced Vietnamese III. (3 cr. ; Student Option No Audit; Every Fall) CourseShare course hosted by the University of Wisconsin-Madison. Received via video conferencing. Please email the Language Center at elsie@umn.edu for more information.

LANG 5122. Advanced Vietnamese IV. (3 cr. ; Student Option; Every Spring) Advanced Vietnamese IV is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course connects via video conferencing technology, and there is a fixed time and location. It is intended for students who completed Advanced III. Heritage speakers and those with prior knowledge of Vietnamese should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 5123. Advanced Vietnamese V. (; 3 cr. ; Student Option; Every Fall) Advanced Vietnamese Directed Study is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for advanced-level students by permission only. Heritage learners or students with prior experience with Vietnamese should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 5124. Advanced Vietnamese VI. (; 3 cr. ; Student Option; Every Spring) LANG 5124 Advanced Vietnamese VI is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for advanced-level students by permission only. Heritage learners or students with prior experience with Vietnamese should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 5125. Advanced Vietnamese Special Translation I. (; 3 cr. ; Student Option; Every Fall) LANG 5125 - Advanced Vietnamese Special Translation I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for advanced-level students by permission only. Heritage learners or students with prior experience with Vietnamese

should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 5221. Introduction to Middle Egyptian & Hieroglyphics I. (3 cr. ; Student Option No Audit; Every Spring)

CourseShare course hosted by Penn State University. Received via video conferencing. Although there are no prerequisites, previous education in Ancient Egyptian history and civilization is recommended. This course is offered as a basic introduction to that stage in the evolution of the Egyptian language known as "Middle Egyptian" (used as a vernacular c. 2300 - 1700 B.C., and as a "literary" dialect c. 2200 - 1350 B.C.) as revealed and written in the hieroglyphic script. Please email the Language Center at elsie@umn.edu for more information.

LANG 5231. Special Topics in Hebrew Studies: Israeli Innovation and Entrepreneurship. (3 cr. ; Student Option; Every Fall)

LANG 5231 Hebrew: Israeli Innovation is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Michigan, but you enroll and receive credit for it at the University of Minnesota. It is an advanced online Hebrew language course dealing with Israeli technology and entrepreneurship. It is intended for students who have completed the intermediate Hebrew sequence. Please contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 5232. Special Topics in Hebrew Studies: Gender and Identity in Israeli Culture. (3 cr. ; Student Option; Every Spring)

Special Topics in Hebrew Studies: Gender and Identity in Israeli Culture is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Maryland but you enroll and receive credit for it at the University of Minnesota. It is a fully online course. A grade of at least [C- or S] in HEBR 3012 or instructor consent is required. Please contact the Language Center at elsie@umn.edu or 612-626-6017 for enrollment assistance.

LANG 5341. Advanced Thai III. (3 cr. ; Student Option; Every Fall)

LANG 5341 - Advanced Thai III is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Wisconsin-Madison, but you enroll and receive credit for it at the University of Minnesota. This course is received via online. It is intended for students who have completed the previous course. Heritage speakers and those with prior knowledge of Thai should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 5361. Intermediate Biblical Hebrew Grad I. (3 cr. ; Student Option; Every Fall)

LANG 5361 Intermediate Biblical Hebrew Grad I is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Michigan but you enroll and receive credit for it at the University of Minnesota. This course is received online. It is intended for students who completed a Beginning Biblical

Hebrew sequence, and is being offered in place of HEBR 4104. Heritage learners or students with prior experience with Biblical Hebrew should contact the Language Center at elsie@umn.edu or 612-626-6017 for placement assistance.

LANG 5401. Regional Cultures of Brazil Graduate. (3 cr. ; Student Option; Every Spring)

LANG 5401 - Regional Cultures of Brazil is a Big Ten Academic Alliance CourseShare course. The instructor is at the University of Illinois but you enroll and receive credit for it at the University of Minnesota. This integrated skills language course will have students navigate Brazil from end to end, with the goal of exploring historical and cultural aspects of Brazil that aren't always covered in the media. From myths and legends, to culinary adventures, traditional music, and more, this course will cover the five geographic regions of Brazil and touch on the Brazilian diaspora around the world. This class is intended for graduate students who are advanced students of Portuguese.

LANG 5411. Introduction to Akkadian. (3 cr. ; Student Option; Every Spring)

Introduction to Akkadian is a Big Ten Academic Alliance CourseShare course. The instructor is at Penn State University but you enroll and receive credit for it at the University of Minnesota. This course is received online. This course aims at familiarizing students with the basics of Akkadian grammar and enabling them to read a variety of genres. Students will be introduced to the grammar of Old Babylonian as well as to the basics of cuneiform writing. Please contact the Language Center at elsie@umn.edu with questions.

LANG 5651. Islamic Studies Seminar: Rumi, Sufi Poet. (3 cr. ; Student Option; Every Spring)

CourseShare course hosted by Rutgers University through the Digital Islamic Studies Curriculum (DISC). Received via video conferencing. Please email the CLA Language Center at elsie@umn.edu for more information.

LANG 5702. Development of African

Studies. (3 cr. ; Student Option No Audit; Periodic Spring)

CourseShare course hosted by the University of Illinois. Received via video conferencing. Please email the CLA Language Center at elsie@umn.edu for more information.

Latin (LAT)

LAT 1001. Beginning Latin I. (5 cr. ; Student Option; Every Fall)

Introduction to grammar/vocabulary of classical Latin as written in Rome in 1st centuries BCE/CE. Forms/simple constructions. Some reading of simple, heavily adapted passages from ancient texts.

LAT 1002. Beginning Latin II. (5 cr. ; Student Option; Every Spring)

Continuation of Latin 1001. More complex constructions, including participles, clauses, indirect discourse. Some reading of adapted

passages from ancient texts. prereq: Grade of at least C- or S in 1001 or instr consent

LAT 3003. Intermediate Latin Prose. (4 cr. ; Student Option; Every Fall)

Introduction to Latin prose authors of 1st centuries BCE/CE. Readings of continuous passages of unadapted Latin texts (history, speeches, letters). Review of grammar/vocabulary as needed. Some discussion of major themes/issues in Roman culture as illustrated by texts. prereq: Grade of at least C- or S in 1002 or 5001 or instr consent

LAT 3004. Intermediate Latin Poetry. (4 cr. ; Student Option; Every Spring)

Introduction to Roman epic poetry. Readings of selections from Vergil's Aeneid. Quantitative meter and poetic devices. Discussion of major themes and issues as developed in Vergil's poetry.

LAT 3199. Latin AP Credit. (4-8 cr. ; No Grade Associated; Every Fall)

Prereq score of [3 or 4 or 5] on [AP Vergil or AP Latin Literature] exam.

LAT 3993. Directed Studies. (1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. prereq: instr consent and dept consent

LAT 3994. Directed Research. (1-4 cr. ; Student Option; Every Fall & Spring)

Research project using documents and other sources from the ancient world. Students select project in consultation with a faculty member who directs the research and writing. Students enrolling in this Directed Research course will complete the University's common Directed Study/Research contract with the faculty mentor/evaluator. Prereq: [Greek-Latin or Latin major], three 3xxx Latin courses. Students enrolling in this directed research course will complete the University's common Directed Research contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: - the work proposed is at the appropriate level for the course, academic in nature, and the student will be involved intellectually in the project. - the project scope is reasonable for one semester and the number of credits specified (42 hours of work per credit) - the faculty mentor is qualified to serve in this role - assessment of student learning and grading criteria are clear and appropriate - the student will be working in a respectful, inclusive environment. The contract will include the learning objectives for the course, the methods that will be employed, and how assessment will be conducted by the faculty mentor. The contract must be approved by the DUGS/academic approver of the major before the student can register.

LAT 5001. Intensive Latin. (3 cr. ; Student Option; Every Fall)

Covers material usually taught over two semesters. prereq: Prev experience in another foreign language is desirable

LAT 5003. Intermediate Latin Prose for Graduate Student Research. (4 cr. ; Student Option; Every Fall)

Introduction to Latin prose authors of 1st centuries BCE/CE. Readings of continuous passages of unadapted Latin texts (history, speeches, letters). Review of grammar/vocabulary as needed. Some discussion of major themes/issues in Roman culture as illustrated by texts. prereq: [Grade of at least [C- or S] in [1002 or 5001] or instr consent]

LAT 5004. Intermediate Latin Poetry for Graduate Research. (; 4 cr. ; Student Option; Every Spring)

Introduction to Roman epic poetry. Readings of selections from Vergil's Aeneid. Quantitative meter and poetic devices. Discussion of major themes and issues as developed in Vergil's poetry. Meets with 3004.

LAT 5100. Advanced Readings in Latin Poetry. (; 3 cr. [max 18 cr.] ; Student Option; Every Fall & Spring)

The primary material for this course will be a selection of readings from three or more different Latin poets connected by genre (e.g. epic, dramatic, lyric), theme (e.g. heroism and the hero, the body, the good life), period (e.g. Augustan, late Antique), or the like. Primary readings and critical approach will vary from year to year, making the course repeatable. Some modern secondary reading will be assigned to provide a basis for discussion and a model for student written work. prereq: [3004 or equiv], at least two yrs of college level Latin. Contact the Classical & Near Eastern Religions & Cultures Department with any questions.

LAT 5200. Advanced Readings in Latin Prose. (; 3 cr. [max 18 cr.] ; Student Option; Periodic Fall & Spring)

The primary material for this course will be a selection of readings from three or more different Latin prose authors connected by genre (e.g. historical writing, philosophy, religious texts), theme (e.g. Epicureanism and Stoicism, Christian apologetics, grammarians), period (e.g. Republican, Late Imperial), or the like. Primary readings and critical approach will vary from year to year, making the course repeatable. Some modern secondary reading will be assigned to provide a basis for discussion and a model for student written work. prereq: [LAT 3004 or equiv], at least two yrs of college level Latin. Contact the Classical & Near Eastern Religions & Cultures department (CNRC) with any questions.

LAT 5701. Latin Prose Composition. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Latin grammar, syntax, diction, and prose style. Graduated exercises in prose composition. prereq: Grad student or instr consent

LAT 5703. Epigraphy. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Practical/theoretical introduction to Latin epigraphy (study/interpretation of inscriptions). Readings/discussion of epigraphic texts. Their value as historical documents, as evidence for development of Latin language, and as literary texts. prereq: Grad student or instr consent

LAT 5993. Directed Studies. (; 1-4 cr. [max 18 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. prereq: instr consent, dept consent

LAT 5994. Directed Research. (; 1-12 cr. [max 20 cr.] ; Student Option; Every Fall & Spring)
Guided research on original topic chosen by student. prereq: Grad student or instr consent

LAT 5996. Directed Instruction. (; 1-12 cr. [max 20 cr.] ; Student Option; Every Fall & Spring)
Supervised teaching internship. prereq: Grad student or instr consent

Latin American Studies (LAS)

LAS 3401V. Honors Early Latin America to 1825. (GP,WI,HIS; 4 cr. ; A-F only; Every Fall & Spring)

Societies of Americas, Spain, and Portugal before contact. Interactions among Native Americans, African slaves, and Europeans, from colonization through independence. Religion, resistance, labor, gender, race. Primary sources, historical scholarship.

LAS 3401W. Early Latin America to 1825. (GP,WI,HIS; 4 cr. ; A-F or Audit; Every Fall & Spring)

Societies of Americas, Spain, and Portugal before contact. Interactions among Native Americans, African slaves, and Europeans, from colonization through independence. Religion, resistance, labor, gender, race. Primary sources, historical scholarship.

LAS 3402W. Modern Latin America 1825 to Present. (GP,WI,HIS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

National and contemporary period 1825 to present. Social, cultural, political, and economic change.

LAS 3429. Latin American History in Film and Text. (AH,GP; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

Cinematic representations of Latin America in the context of other historical and literary narratives. Experiences of Latinos in Hollywood. Compare U.S. films with those produced in Latin America. Specific themes vary by term (e.g., women, revolution, colonialism).

Law School (LAW)

LAW 3000. Introduction to American Law and Legal Reasoning. (3 cr. ; A-F only; Every Fall & Spring)

Law pervades all areas of modern life. Yet it remains mysterious to those without legal training. This course will equip you to better answer such questions by exploring the tools that lawyers use to interpret and apply the law. Students will learn to think like lawyers through a series of contemporary case studies that require reading, writing, thinking, and problem solving like a lawyer. Cases will be drawn from topics such as contracts, torts, civil procedure, property, business law, criminal law, sports law, privacy, and law and science.

LAW 3050. Law of Business Organizations. (3 cr. ; A-F only; Every Spring)

This course surveys the leading forms of legal business association governing the formation of business entities, including the laws of agency, partnerships, limited liability companies, and corporations. Emphasis is put on the methods lawyers use to interpret statutes and cases.

LAW 5000. Introduction to American Law and Legal Reasoning. (3 cr. ; A-F only; Every Fall)

Law pervades all areas of modern life. Yet it remains mysterious to those without legal training. This course will equip you to better answer such questions by exploring the tools that lawyers use to interpret and apply the law. Students will learn to think like lawyers through a series of contemporary case studies that require reading, writing, thinking, and problem solving like a lawyer. Cases will be drawn from topics such as contracts, torts, civil procedure, property, business law, criminal law, sports law, privacy, and law and science.

LAW 5001. Introduction to the American Legal System. (2 cr. ; A-F only; Every Fall)

This is an introductory course in American law, providing an overview of a wide variety of constitutional, statutory and common law legal issues. A primary focus will be on American constitutional law: legislative, judicial, and executive powers; the legal structure of ? checks and balances? among the three national governmental powers; the distribution of powers between the national government and state governments (federalism); and the constitutional rights of individuals (including rights of free speech, freedom of religion, due process, and equal protection). We will also examine the American system of litigation: the structure of the court system, the jurisdiction of federal (national) and state courts, and the litigation process. We will also address some common law substantive topics in American law including torts and contracts. Students will have the opportunity to learn how to read and interpret American legal materials, to do legal research within the legal system, and to write an analytical legal memorandum.

LAW 5002. MSPL Legal Research and Writing. (1 cr. ; S-N only; Every Fall)

This course covers the process of communicating about the law. Our goal is to teach students the building blocks of legal communication through multiple practice exercises so that students can repeat the process on their own after successful completion of the course. In the fall (one credit), we begin at orientation with a short exercise, then move on to email, letter, and office memorandum exercises written in an objective/predictive mode.

LAW 5025. Patent Law In Practice. (; 1 cr. ; S-N only; Every Spring)

The field of patents extends across the boundaries of business, technology, innovation, and law. In this course, students will be introduced to a broad range of patent related topics presented by leading practitioners working at the intersection of law and technology. The course is designed to provide an overview of patent law topics, for example:

Patents Now and the Future; Strategic Patents; Patent Analytics; Patent Firm Business Model; Patent Agent/Attorney Roles; Global Patent Procurement; Inventors and Inventions; Claiming Inventions; Patentable Subject Matter; Patent Litigation; Patents Appeals and Trials. Leading practitioners lead a discussion for each of these topics. Subject matter experts may include corporate and law firm lawyers, patent agents, intellectual asset managers, consultants, tech transfer officers, and business owners. Open to graduate students, open to undergraduate juniors or seniors in CSE or CBS, open to other undergraduates with instructor permission

LAW 5026. Intellectual Property In Practice. (1 cr. ; S-N only; Every Fall)

The field of intellectual property extends across the boundaries of business, technology, innovation, and law. In this course, students will be introduced to a broad range of IP related topics presented by leading practitioners working at the intersection of law and technology. Topics may include trade secrets, copyrights, trademarks, patents, IP transactions, IP litigation, emerging technologies, intellectual asset management, IP valuation, and commercialization. Lecturers may include corporate general counsels, firm lawyers, transactional lawyers, litigators, consultants, tech transfer officers, R&D Leaders, and CTO. Open to graduate students, open to undergraduate juniors or seniors in CSE or CBS, open to other undergraduates with instructor permission.

LAW 5050. Law of Business Organizations. (3 cr. ; A-F only; Every Spring)

This course surveys the leading forms of legal business association governing the formation of business entities, including the laws of agency, partnerships, limited liability companies, and corporations. Emphasis is put on the methods lawyers use to interpret statutes and cases.

LAW 5051. Business Associations/ Corporations. (4 cr. ; Student Option; Every Fall & Spring)

The initial part of this course is an introduction to the general law of multi-person unincorporated business organizations, principally partnerships, limited partnerships and limited liability companies. Matters covered include the procedures for forming such organizations and the rights and obligations of the participants as among themselves and with respect to third persons. The remaining class hours constitute the first portion of the basic Corporations course, and will cover such matters as corporate organization; the distribution of powers among the corporate board of directors, its officers and its stockholders; the proxy system; control devices in the close corporation; and the fiduciary duties of directors, officers and controlling shareholders. Matters dealing with "corporate finance" (issuance of shares, payment of dividends, and corporate reorganizations) are covered in Advanced Corporate Law.

LAW 5062. Energy Law. (3 cr. ; Student Option; Every Fall)

This course provides an introduction to U.S. energy law. The first portion of the course introduces the nation's sources of energy: coal, oil, biofuels, natural gas, hydropower, nuclear, wind, solar, geothermal energy, and energy efficiency. In doing so, it explores the physical, market, and legal structures within which these energy sources are extracted, transported, and converted into energy. The second portion of the course turns to the two major sectors of our energy economy--electricity and transportation--and the full range of federal and state regulation of each sector. The third portion of the course explores case studies of hot topics in energy law and policy that highlight the complex transitions taking place in the energy system. These topics include electric grid modernization, electric vehicles, risks and benefits associated with hydraulic fracturing and deepwater drilling for oil and gas, the development of offshore wind energy, and the continued role of nuclear energy. In addition to traditional textbook reading and class discussion, the course will include industry, government, and nonprofit guest speaker presentations. Grading will be based on a final exam given at the end of the semester as well as class discussion and weekly written postings on Canvas for the course.

LAW 5075. Ethics for Patent Agents. (1 cr. ; A-F only; Every Spring)

This course is designed to provide students with an introduction and understanding of the ethics and rules of professional responsibility and the unauthorized practice of law. Scope: This course covers ethics and professional responsibility for lawyers, ethics and professional responsibility for patent agents and patent attorney's and the unauthorized practice of law. Goals: This course will provide students with the framework that will guide their actions and conduct as future patent professionals by introducing them to various scenarios that they are likely to encounter in their professional career. By the end of the course, students will understand the principles behind the ethics and rules of professional responsibility and the unauthorized practice of law as it applies to nonlawyers. prereq: Master of Science Patent Law Students.

LAW 5076. Essentials of Business for Lawyers. (3 cr. ; Student Option; Every Fall & Spring)

This course will teach you how to: (1) Understand basic accounting principles; (2) Read an annual report and analyze financial statements; (3) Look beyond numbers to gauge the financial performance and strength of an entity; (4) Employ cash flow analysis to value a business or determine the potential financial rewards of an investment opportunity; and (5) Understand the strategic questions that business managers must confront in governing their companies. The course surveys foundational concepts, analytical techniques and practices related to finance, accounting and strategic management issues lawyers confront when working with business executives either as an outside consulting attorney or as an inside corporate counsel.

It may also consider other concepts used by business executives, including organizational behavior, marketing and quantitative analysis. The aim of the course is to help law students better appreciate the broader business context of legal decision-making so that they can contribute more effectively as a member of a firm's top management team or as outside counsel.

LAW 5078. Legislation and Regulation. (3 cr. ; Student Option; Every Fall)

This course explores lawmaking in the administrative state. Topics include: the legislative process, delegation of legislative authority to administrative agencies, the rulemaking process, statutory interpretation by courts and agencies, and judicial review of agency decisions. The course will focus on how statutes structure and constrain judicial and administrative decisionmaking.

LAW 5100. Taxation I. (3 cr. ; A-F only; Periodic Fall & Spring)

This basic course in federal income taxation introduces the student to the Internal Revenue Code and the income taxation of individuals through the following topics: definition of income, relevant accounting concepts, exclusions, deductions, income splitting, sales and dispositions of property, amortization, capital losses, and current issues of tax policy.

LAW 5102. Mergers and Acquisitions. (3 cr. ; Student Option; Periodic Fall & Spring)

This class will cover the theory behind, the Federal and state law governing, and the practice of, mergers and acquisitions. Our main focus will be what a transactional lawyer would want and need to know as to why mergers and acquisitions might occur and how and why companies or shareholders would embrace or disfavor them, how the transactions are documented and how disclosure requirements are met, and what the present cases say.

LAW 5103. Data Privacy Law. (3 cr. ; A-F only; Periodic Fall & Spring)

Every single day, the newspaper contains stories?plural intended?about data privacy and security. Whether they concern the National Security Agency, Facebook, or a data breach at a small business, the handling of personal information has become a central concern of our time. In response, a complex law of data privacy has emerged, and now it is a fast growing area of legal practice. This course will equip students to counsel clients about an array of federal, state, and international legal requirements?while also analyzing them critically and thinking about the societal challenges posed by new information technology. Assessment will include group projects and a take-home final.

LAW 5109. Creditors Remedies/Secured Transactions. (3 cr. ; Student Option; Periodic Fall & Spring)

The course covers primarily Article 9 of the Uniform Commercial Code--among the most significant commercial statutes in the world. Article 9 governs transactions in which a borrower borrows money from a lender and gives that lender an interest in some

of the borrower's property as collateral to make the lender more secure with respect to repayment. Transactions large and small are covered by Article 9: whether a person borrows money to buy a car, a manufacturer borrows money to buy its raw materials, a department store chain borrows money to purchase its inventory, or a credit card issuer sells its receivables to investors, Article 9 applies. Secured transactions are of central importance to consumer and commercial loans, mergers and acquisitions, securitizations and to bankruptcy. In addition to secured transactions, during this course we will address the remedies of unsecured creditors, statutes and procedures on levies of execution, attachment, garnishment, replevin, and receiverships. We will also address the exemptions and procedural rights available to debtors.

LAW 5127. Patent Drafting and Oral Advocacy Competition Team. (1 cr. [max 2 cr.]; A-F only; Every Fall)
This Competition team furthers students' patent research, patent drafting, and oral advocacy. In the Competition's Regional stage, the team prepares a written patent application and defends it before a judges panel. In the Competition's contingent National stage, the team amends the application and defends it before another judges panel. The course is open to 8 students (i.e., two teams of up to 4 JD and MS students). JD students should add themselves to the waitlist, share their resumes with the instructor, and request enrollment in the course. prereq or co-req one of the following: Law 5224 Patents, Law 5231 Patent Prosecution I, Law 5243 Patent Research & Writing, or Director of Patent Law Programs permission

LAW 5207. Antitrust. (3 cr. ; Student Option; Periodic Spring)
The course provides an overview of U.S. antitrust (competition) law. It covers the historical development of antitrust, the role of economic analysis in contemporary antitrust law, and the principal areas of substantive antitrust including horizontal restraints (between competitors), vertical restraints (franchise or distributional restrictions), monopolization, and mergers.

LAW 5211. Federal Securities Regulation. (3 cr. ; Student Option; Every Spring)
This course covers concepts and problems in the regulation of securities transactions under the Securities Act of 1933, the basic federal statute governing rights, duties, and remedies in connection with the financing of business operations through the distribution of securities to the public. Topics covered will include the definition of a security and the exemptions from federal registration (crucial knowledge for the small business advisor), the registration process, the contents of the prospectus, civil liabilities, and the applicability of the 1933 Act to secondary transactions (sales of securities by persons other than the issuing entity). Because of the expansive scope of federal securities law and the draconian nature of the penalties imposed even for 'innocent' violations, knowledge of this material

is vital not only for business lawyers who advise large corporations but also those whose business clients are closely held. The course will not focus, however, on litigation strategy or technique. Classes are problem-oriented. Recommended prereq: Law 5050 or 3050

LAW 5214. Insurance Law. (3 cr. ; Student Option; Every Fall)
Insurance is omnipresent in the practice of law because insurance is the primary means by which companies and individuals deal with risks. Lawyers, of course, often make a living either by counseling clients about how to plan for risks or by serving clients whose risks have developed into losses. This course will introduce students to fundamental principles of insurance law and regulation. It will survey the nature and function of insurance, insurance contract formation and meanings, and insurance regulation. We will also look at specific legal issues relating to different lines of insurance, such as property, life, health, and liability insurance.

LAW 5224. Patents. (; 3 cr. ; A-F only; Every Fall)
This course offers an overview of patent law, both for students intending to specialize in patent prosecution and those whose general practice may include patent litigation and licensing. Topics to be covered include patentable subject matter; novelty, utility, and nonobviousness; statutory bars; enablement and written description; direct and vicarious patent infringement; claim interpretation; and administrative review of patent validity.

LAW 5231. Patent Prosecution Practice I. (2 cr. ; A-F only; Every Fall)
Patent Prosecution Practice I is recommended for all students interested in intellectual property and patent law, including students considering practicing in the areas of patent prosecution, litigation, licensing, technology commercialization, and patent portfolio management. The course focuses on US patent practice and is designed to extensively develop the student's skills. Throughout the semester each student will complete two projects: (1) formulate and draft patent claims for a number of different inventions in view of prior art, (2) develop strategies for responding to a patent examiner according to rules of the U.S. Patent Office, arguing patentability and allowance of a patent application over cited prior art. Each student will be paired with a senior practicing attorney who will act as a mentor, including reviewing drafts and providing candid feedback to the student. Lectures and discussion topics include: - Organization and structure of the U.S. Patent Office, -The US patent process including the entire life cycle of a patent from application preparation and filing through examination and grant, -Formulating patent claims in view of prior art and potential infringers, -Architecting patent portfolios including all types of US patent applications, such as provisionals, utilities, continuations and divisionals, - Examination of patent applications including responding to Office Actions issued by the US Patent Office; -Inventorship and ownership

determination and legal ramifications flowing therefrom, and -US law and regulations governing patent prosecution practice. A technical background is not required to take this course.

LAW 5232. Patent Prosecution Practice II. (3 cr. ; A-F only; Every Spring)
Patent Prosecution Practice II is recommended for all students interested in intellectual property and, in particular, students interested in advancing their skills and understanding of patent law and practice. Throughout the semester each student will complete three practical and diverse assignments designed to develop the student's skills. Each student will be paired with a senior practicing attorney who will act as a mentor, including reviewing drafts and providing candid feedback to the student. Specifically, in this class, each student will: (1) prepare a complete US Patent Application based on a real invention, (2) write an appeal brief according to rules of the US Patent Trial and Appeal Board, arguing patentability and reversal of the patent examiner in view of an examination history by the US Patent Office, and (3) provide clearance counseling to a client about to launch a new product, including reviewing issued US patents and developing a full non-infringement / invalidity opinion for the client. The course grade is primarily based on these three projects in lieu of a final exam. Lectures and discussion topics throughout the semester include: -skills and strategies for writing patent applications, - appeal practice including brief writing before the Patent Trial and Appeals Board (PTAB) at the US Patent Office, -clearance analysis including invalidity and non-infringement counseling and opinions, -foreign practice including national filings in foreign countries and international filings using the Patent Cooperation Treaty (PCT), including leveraging patent prosecution highways for accelerated examination, -eligible subject matter issues including recent case law and claim drafting tips, -accelerated examination procedures within the US Patent and Trademark Office, -legal and practical considerations of infringement counseling including formulating invalidity and non-infringement opinions, - post grant review and other mechanisms for challenging issued patents before the US Patent and Trademark Office, -patent prosecution related considerations that arise in relation to participation in industry standards organizations, -patent prosecution related considerations that arise in the context of universities and technology licensing organizations, and -design patents. prereq: Master of Science Patent Law Students only.

LAW 5243. Patent Research and Writing. (2 cr. ; A-F only; Every Fall)
Patent lawyers and agents spend their entire professional careers communicating (with clients, patent examiners, judges, colleagues) no matter what their individual career paths may be. This course is about the process of research and communicating about patents. In other words, the goal of the course is to teach the building blocks of patent research and communication through

multiple practice exercises so the student may repeat the process independently after successful completion of this course. This course leverages free, patent office, and commercial research tools. Deliverables and works include: patent landscape search and report, patentability search and opinion, patent risk search and assessment, patent invalidity search and opinion. Recommended prereq: Patents (5224), Patent Prosecution Practice I (5231) or Patent Portfolio Management (5250)

LAW 5250. Patent Portfolio Management. (2 cr. ; A-F only; Every Fall)

Patent portfolio management is the art of aligning patent strategy with business objectives. In general, the successful portfolio manager must have the ability to transform complex patent information into actionable insights that provide decision-making value to a wide variety of stakeholders. This course introduces students to the various practices and skills that go into building, implementing, and managing a patent portfolio whether from the point of view of a small, innovative, start-up company or a Fortune 500 company in a highly competitive market space.

LAW 5290. Patent Law Capstone: Innovation. (3 cr. ; A-F only; Every Spring)

This capstone course introduces students to the principles of successful innovation and the integral role of patents in this process. This is a course in innovation. There are no right or wrong answers. Large companies with very smart people often launch products that fail. Venture capitalists seeking to invest in winners more-often-than-not end up investing in losers. Innovation is an art not a science. There is no "secret formula" that guarantees success. There are simply different tools, skills, methods of analysis and approaches that may or may not work better than others. We will explore the art of innovation and the integral role that patents play in turning an idea into an innovation. Goals: Students will learn how to research complex subject matter across the intersecting domains of business, finance, marketing, science, technology and intellectual property. Students will then develop the ability to present their findings in a clear and concise manner that is understandable to and can be acted upon by a cross-functional audience of high-level decision makers.

LAW 5601. International Business Transactions. (3 cr. ; Student Option; Periodic Fall & Spring)

International Business Transactions is a three-credit course whose main focus of discussion and study is the private law aspects pertaining to international business transactions, rather than issues of national and international trade regulation. Thus, the course is primarily concerned with private international business law. We examine three basic methods of doing business abroad, namely, the sales of goods (export transaction, licensing and franchising, and foreign direct investment. The course materials touch upon substantive law in areas as diverse as commercial transactions and the uniform commercial code, antitrust, intellectual property, conflict of laws, civil

procedure, contracts, bankruptcy, taxation, and international law. While knowledge or background in these areas is certainly helpful it is not necessary for success in the course and for dealing with the issues raised in the readings or in class.

LAW 5608. Trademarks. (3 cr. ; Student Option; Periodic Fall & Spring)

This course will consider how marketers secure and enforce trademark rights. Trademarks are the indicators that consumers rely upon to determine the origin of goods and services. The course will focus on U.S. federal trademark law, but will also look at state and international trademark law as well as related areas such as false advertising, publicity rights, and cybersquatting. This course will provide a solid foundation for students interested in practicing trademark law (application, enforcement, licensing, or litigation) or more general intellectual property law. It will also be useful to attorneys who do any work with trademark-dependent industries such as retail sales, advertising, or media and entertainment. Finally and more generally, trademark law offers excellent case studies of the interaction between law, culture, and technology, and of the evolution of traditional doctrine under pressure from rapid changes in surrounding circumstances.

LAW 5613. Copyright. (3 cr. ; Student Option; Periodic Fall & Spring)

Copyright subsists in original works of authorship, including literary works, music, and works of visual art. This course provides an overview of U.S. copyright law, including the requirements for copyright protection; authorship and ownership; copyright owner rights; exceptions to copyright liability, including the fair use doctrine; and duration and terminations of transfer.

LAW 5629. Patent Field Placement. (1-3 cr. ; S-N only; Every Fall, Spring & Summer)

This course provides an opportunity for students to work with and learn from lawyers and patent professionals in industry and law firms. The instructor and student will work together to find an appropriate placement that matches the student's interests and host's needs. Enrollment occurs through an application outside of the lottery process. If you are interested in participating, please contact the instructor by email as early as possible with a short explanation of: (1) why you are interested in pursuing a patent field placement; (2) the kind of work that interests you; and (3) whether you have an interest in and/or relationships with a specific potential host organization. Prereq or co-req one of the following: Law 5224 Patents, Law 5231 Patent Prosecution I, Law 5243 Patent Research & Writing, or Director of Patent Law Programs permission.

LAW 5707. Intellectual Property Transactions. (2 cr. ; A-F only; Every Spring)

Intellectual property rights have been described as a "sword and shield." Rights holders are thought to act offensively by suing or threatening to sue infringers and seeking money damages, irrespective of the holders'

marketing and product sales programs. Or they act defensively to protect their current or future market positions by having federal courts enjoin competitors. This course considers a third way: intellectual property rights are also valuable intangible assets that may be bought and sold. In this course, we will explore the principal theories and practices of intellectual property transactions. We will be considering closely the doctrines regulating the assigning and licensing of patent, copyright, trademark and other intellectual property rights, and we will be questioning critically whether these laws and practices encourage or inhibit commercial activity and innovation. While studying specific transactions in the course, we will be examining the practical uses of intellectual property law to meet commercial objectives.

LAW 5836. Trade Secret Law. (2 cr. ; Student Option; Every Spring)

This course is an exploration of perhaps the least studied of the legal regimes protecting commercially valuable information, trade secret law. Patents and copyrights receive considerably more attention, at least as studied disciplines. But the importance of trade secrets and laws protecting them are no less important, and increasingly businesses are recognizing this reality. The focus of this course will be the ways trade secrets come to exist, how they are used, and how they can be protected, and the enforcement mechanisms used to achieve that protection. We will explore the sources of state-based trade secret law, the common law and statutes, and seek an understanding of relevant federal law and the interplay of state and federal law. Because a true understanding of trade secrets only can be obtained by understanding their relation to and differences from inventions covered by patents, we also will make sure to contrast these regimes throughout the course.

LAW 5908. Independent Research and Writing. (1-2 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Students may earn 1 or 2 credits (and in exceptional circumstances, 3 credits) for researching and writing a note, article, memo, or other paper on a legal topic. At least 3,750 words are required for one credit, at least 7,500 for two credits, and at least 11,250 for three credits. To register, the student should confer with a supervising faculty member, draft a description of the proposed project, and complete the online Independent Research form. LAW 5908 is for students who are not enrolled in the Law School, as well as MSPL candidates. Other law school degree candidates should enroll in LAW 7606 or LAW 7608 instead of LAW 5908.

LAW 5909. Independent Field Placement. (1-3 cr. ; S-N only; Every Fall, Spring & Summer)

Students may earn up to three credits in a semester for work in a patent practice setting under the supervision of a qualified field supervisor and a faculty advisor. At least 50 hours of patent-related activities are required per credit. The student is responsible for

identifying a field placement setting and supervisor, finding a faculty advisor, and submitting the Independent Field Placement Enrollment Form for approval by the Associate Dean of Academic Affairs prior to enrollment.

Leadership Education (LEAD)

LEAD 1030. Connection, Identity, and Leadership. (; 1 cr. ; Student Option No Audit; Every Fall & Spring)

This course is intended to engage students in a concentrated study on identity, culture, and leadership through a digital lens. We will use reflective storytelling through our own personal experiences and the critical impact that connection has on shaping us as leaders.

LEAD 1961V. Personal Leadership in the University. (CIV,WI; 3 cr. ; A-F only; Every Fall & Spring)

Examine personal views of leadership, differences between personal/positional leadership, leadership ethics/values, personal leadership strengths/skills.

LEAD 1961W. Personal Leadership in the University. (CIV,WI; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Examine personal views of leadership, differences between personal/positional leadership, leadership ethics/values, personal leadership strengths/skills.

LEAD 3961. Leadership, You, and Your Community. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

How do effective leaders create positive systemic change within complex systems? What is community and how does it shape the work of leadership? Students examine leadership from a multi-dimensional and multicultural perspective and critically examine leadership theories in authentic, complex community settings.

LEAD 3971. Leadership Minor: Field Experience. (; 3 cr. ; A-F only; Every Fall & Spring)

Students apply and integrate leadership theory in a community experience, think critically about their positional leadership roles, extrapolate the experience to future leadership issues within their specific fields, and work through challenges of positional leadership.

LEAD 3972. Field Experience: Intercultural Internship. (; 3 cr. ; A-F only; Every Summer)

Internship-based course focused on leadership principles and intercultural values that impact the work environment. Possible internship locations include New York City, San Francisco, and Minneapolis. For students in the undergraduate Leadership Minor, this is the opportunity to apply what they have learned in a real-life setting. Prior to departure for the on-site internship in the city location, students spend a week in class at the University studying the theoretical frameworks that will provide the foundation for the 6-week internship, reflection process, and living experience. The composition of the class cohort will include international and domestic students, which provides the opportunity to

experience and reflect upon the internship and the designated city living experience through an intercultural lens. Upon completion of the internship, the class cohort will return to the University to complete a final week of class on campus.

LEAD 4481. Leadership and Social Change in Ireland. (GP; 3 cr. ; A-F only; Spring Even Year)

Learn how ordinary individuals and communities can inspire, mobilize, and engage with others to make a difference and to tackle what might appear to be an impossible public problem. The city of Belfast, Northern Ireland will provide a rich context for students to learn about the role that ordinary citizens, informal leaders, and public officials played in facilitating a reconciliation of a long-standing conflict (The Troubles), which still remains ever present. Despite public perception that Northern Ireland has moved forward from the Troubles, more walls have gone up since the peace agreement was signed, and there is still significant segregation between Protestants and Catholics. Learn how ordinary individuals and communities can inspire, mobilize, and engage with others to make a difference and to tackle what might appear to be an impossible public problem. The city of Belfast, Northern Ireland will provide a rich context for students to learn about the role that ordinary citizens, informal leaders, and public officials played in facilitating a reconciliation of a long-standing conflict (The Troubles), which still remains ever present. Despite public perception that Northern Ireland has moved forward from the Troubles, more walls have gone up since the peace agreement was signed, and there is still significant segregation between Protestants and Catholics. In addition to analyzing leadership and social change in the context of Ireland, students will simultaneously reflect on their own capacities for leadership and cultural competence, and the role that they might play in a social issue when they return to the US.

LEAD 4484. Cross-Cultural Leadership Bali. (3 cr. [max 9 cr.] ; A-F only; Every Summer)

This 4000-level study abroad course explores leadership development as related to global citizenship. It is designed for students who are interested in exploring topics and themes of leadership, globalization and happiness in a different cultural context. Specifically, this course will take students to Bali, Indonesia, and utilize the history, sites, people and agencies of Tabanan, Ubud, Sanur, and Denpasar, to explore and learn about those communities as well as how culture affects leadership and the social constructs of happiness. Students will use their knowledge of leadership?particularly the notions of community, intercultural leadership, and social constructs of happiness? to examine the current opportunities and challenges the Balinese face. Students will interact with local community leaders who are working to make change, as well as citizens in the community. In this course, students will: 1. Understand the ways in which different cultural norms and values can change the manner in which leadership skills and initiatives

are utilized to create change. 2. Explore the role that particular social, environmental, and spiritual belief systems can play in the practice of community leadership. 3. Gain knowledge about global issues in Bali and, more specifically, how different individuals can use their experiences, knowledge, and practice to make a difference. 4. Continue personal development growth through awareness of the history of Bali, as well as the cultural context of Tabanan, Ubud, Bedulu, and Denpasar, its people, and its surrounding areas. 5. Explore the intersections of culture and happiness in the Balinese context and contrast that with their own cultural understanding of happiness.

LEAD 4961W. Leadership for Global Citizenship. (GP,WI; 3 cr. ; A-F only; Every Fall, Spring & Summer)

In this final, writing intensive capstone course, students pull together the threads of leadership theory and practice worked with over the course of the Leadership Minor. In addition, students gain experience working with diverse leaders from around the world, mapping political contexts, and planning their own global leadership path within their specific field.

LEAD 4971. Directed Study, Leadership Minor. (1-4 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)

Design/carry out study project under direction of leadership minor instructors/faculty. To apply, please create a contract here: <https://goo.gl/forms/K8s9ZhrY6Vp5oRGf2> Please note: The UMN's Credit policy can be found here: <https://policy.umn.edu/education/studentwork>. One credit represents, for the average University undergraduate student, three hours of academic work per week, averaged over the semester, in order to complete the work of the course to achieve an average grade. One credit equals 42 to 45 hours of work over the course of the semester (1 credit x 3 hours of work per week x 14 or 15 weeks in a semester equals 42 to 45 hours of academic work). Students should keep the above policy in mind while determining their project and the amount of credits for enrollment. The amount of enrolled credits also proportionally influences the amount of instructor contact hours/week.

LEAD 4972. Directed Research, Leadership Minor. (1-4 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)

Students complete individually arranged research project with Leadership Minor instructor. Contact Leadership Minor office for registration requirements. *Please note - The University of Minnesota's Credit policy can be found here: <https://policy.umn.edu/education/studentwork>. One credit represents, for the average University undergraduate student, three hours of academic work per week, averaged over the semester, in order to complete the work of the course to achieve an average grade. One credit equals 42 to 45 hours of work over the course of the semester (1 credit x 3 hours of work per week x 14 or 15 weeks in a semester equals 42 to 45 hours of academic work). Students should keep the above policy in mind while determining

their project and the amount of credits for enrollment. The amount of enrolled credits also proportionally influences the amount of instructor contact hours/week. prereq: instr consent Contract URL: <https://goo.gl/forms/iw89wCSrPN30HbAz2>

Linguistics (LING)

LING 1701. Language and Society. (DSJ; 4 cr. ; Student Option; Every Fall & Spring) Role of language in human social interaction; linguistic indicators of social status and attitudes; language and sex roles; linguistic ecology; language planning for multilingual communities; implications for education and public policy.

LING 1705W. World Englishes: The Linguistics of English-based varieties around the globe. (GP,WI,SOCS; 4 cr. ; Student Option; Periodic Fall & Spring) In this course, we will explore the linguistic questions that arise concerning the many varieties of English that are spoken around the globe. Our overarching concern will be what we can learn about humans and the human mind by studying the variation found across English varieties. Our investigation will focus on three primary threads of linguistic research: methods of data collection and analysis, tools of formal grammatical analysis, and critical analysis of sociopolitical contexts of language use. By approaching the global landscape of Englishes and English-based creoles in this way, we will tackle a number of questions, including: Who is a native speaker? What is a standard? What value judgments do people ascribe to different varieties of English? What sorts of (linguistic and extra-linguistic) relationships exist between different varieties of English and their speakers? What role does English play in an increasingly globalized world? How has its role changed over time and from place to place? Through this course, students will gain an understanding of how English is situated in the global linguistic landscape, an ability to critically read linguistics articles and other media relating to language use, experience in analyzing linguistic data to understand patterns and variation, and an ability to communicate their findings and analyses effectively.

LING 1800. Topics in Linguistics. (; 1-4 cr. [max 20 cr.] ; Student Option; Periodic Fall & Spring) Topics vary. See Class Schedule.

LING 1913. Words at Work. (; 3 cr. ; A-F only; Every Fall) This course is a guided tour through the vocabulary of English, one of the largest and most varied in any of the world's languages. Among the questions it will address are: Why does English have so many (and so many different kinds of) words? Where did these words come from? Why do they mean what they mean? How are they put together? What do they tell us about history, social organization, culture and human psychology? One practical advantage of learning the answers to these and other questions is that it helps in vocabulary building and

in demystifying specialized and technical terminology. The course is also a portal into linguistics, the study of the nature of language.

LING 3001. Introduction to Linguistics. (SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

The ability to acquire and use language is a biological trait of the human species. This capacity for language manifests itself as thousands of particular languages spoken around the world in communities large and small. But what is language? What does it mean for a human to know? a particular language? How do children acquire this knowledge? How do we use language to communicate? These are some of the important questions addressed by the field of linguistics, the scientific study of the human capacity for language in its physiological, cognitive, historical, and social manifestations. This course introduces some of the essential findings of linguistics: first and foremost, that all varieties of all languages are intricately structured at multiple distinct but related levels. Second, that this intricate structure can be described in terms that are not only precise, but which apply to all human languages. We will work to replicate some of these findings by deploying simple analytical methods on data from a variety of languages. These methods allow us to answer questions about the different structural components of language: phonology (how do speech sounds pattern?), morphology (what are possible words and how are they built?), and syntax (what is the hierarchical structure underlying sequences of words?). In all instances these methods require that we pay attention to basic notions of semantics, from which more complex conceptions of meaning will emerge. Having characterized language as an intricately-structured system of knowledge, we will then possess the tools to ask a number of additional questions about language and cognition. How does such complex knowledge play into the actual task of sentence production or comprehension? What do we know about the neural implementation of this knowledge in human brains? How does child language acquisition proceed, and what makes it so much more robust than language acquisition later in life? Do animals have languages of their own? Can they learn human languages? Finally, we will turn our attention to variation in language patterns observed over the passage of time, across geographical space, and within social systems. How and why do languages change over historical time? What can we know about languages spoken before the invention of writing? What distinctions exist between languages spoken in different places, and how can we tell whether similarities are due to genealogical relationships? How do new languages emerge? How do languages disappear? How does language use vary between individuals from the same place or the same community? How do socioeconomic class, ethnicity, and gender relate to the linguistic behavior of individuals? How does language policy affect educational outcomes? What about social cohesion and conflict? Although we will find that most of these

questions lack definitive answers, we will develop an understanding of what it takes to ask them meaningfully and precisely. In particular, we will be able to eliminate false or misleading answers, especially when they fail to take into account the observable and describable properties of the human capacity for language.

LING 3001H. Honors: Introduction to Linguistics. (SOCS; 4 cr. ; A-F only; Every Spring)

Scientific study of human language. Methods, questions, findings, and perspectives of modern linguistics. Components of the language system (phonetics/phonology, syntax, semantics/pragmatics); language acquisition; language and social variables; language and cognition; language change; language processing; language and public policy. prereq: Honors student or instr consent

LING 3052V. Honors: Thesis. (WI; 3 cr. ; A-F only; Every Spring) Supervised research, writing, and revision for honors thesis begun in LING 3051H.

LING 3093. Directed Studies Honors Thesis. (; 3 cr. ; A-F only; Every Fall & Spring) Supervised planning and research for thesis under direction of Linguistics advisor. Students enrolling in this directed study/research course will complete the University's common Directed Study/Research contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: - the work proposed is at the appropriate level for the course, academic in nature, and the student will be involved intellectually in the project. - the project scope is reasonable for one semester and the number of credits specified (42 hours of work per credit) - the faculty mentor is qualified to serve in this role - assessment of student learning and grading criteria are clear and appropriate - the student will be working in a respectful, inclusive environment prereq: Linguistics honors candidate, instr consent.

LING 3101W. Languages of the World. (WI; 3 cr. ; Student Option; Every Fall) Survey of language families of the world. Classifying languages genetically/typologically. Historical relationships among languages. prereq: 3001 or 3001H or 5001 or instr consent

LING 3601. Historical Linguistics. (; 3 cr. ; Student Option; Every Spring) Historical change in phonology, syntax, semantics, and lexicon. Linguistic reconstruction. Genetic relationship among languages. prereq: 3001 or instr consent

LING 3900. Topics in Linguistics. (; 3 cr. [max 15 cr.] ; Student Option; Periodic Fall & Spring) Topics vary. See Class Schedule.

LING 4201. Syntax I. (; 3 cr. ; Student Option; Every Spring) How words are organized into phrases/sentences. Basic units of a sentence. How these units are structured. How languages may be the same, or different, in syntax. prereq: 3001 or 3001H or 5001 or instr consent

LING 4202. Syntax II. (; 3 cr. ; Student Option; Every Fall)

Syntactic theory. Principles and Parameters (P&P) approach to grammar. Focuses on Minimalist Program (MP). prereq: 4201 or 5201

LING 4302W. Phonology I. (WI; 3 cr. ; Student Option; Every Spring)

How sounds are organized/patterned in human languages. Foundation in phonological theory/problem-solving for advanced work in phonology and other fields in linguistics. Analyzing data, presenting written solutions. prereq: 3001 or 3001H or 5001 or instr consent

LING 4303. Phonology II. (; 3 cr. ; Student Option; Every Fall)

Continues work of LING 4302W with emphasis on critical reading of current phonological literature. Phonological phenomena in the context of new developments in the field. Optimality Theory and the phonology-morphology interface. prereq: Ling 4302W

LING 4901W. Capstone Seminar in Linguistics. (WI; 3 cr. ; S-N only; Every Fall & Spring)

Revision/expansion of a paper completed for a linguistics course. prereq: Ling major, [jr or sr]

LING 5001. Introduction to Linguistics. (4 cr. ; Student Option; Every Fall, Spring & Summer)

Scientific study of human language. Methods, questions, findings, and perspectives of modern linguistics. Components of the language system (phonetics/phonology, syntax, semantics/pragmatics); language acquisition; language and social variables; language and cognition; language change; language processing; language and public policy; language and cognition.

LING 5105. Field Methods in Linguistics I. (; 4 cr. ; Student Option; Every Fall)

Techniques for obtaining/analyzing linguistic data from unfamiliar languages through direct interaction with native speaker. prereq: [[4201 or 5201], [4302W or 5302]] or instr consent

LING 5106. Field Methods in Linguistics II. (4 cr. ; Student Option; Every Spring)

Techniques for obtaining/analyzing linguistic data from unfamiliar languages through direct interaction with a native speaker. prereq: [5105, grad major] or instr consent

LING 5201. Syntactic Theory I. (3 cr. ; Student Option; Every Fall)

Concepts/issues in current syntactic theory. prereq: Ling 5001 and graduate student or honors student, or instructor consent

LING 5202. Syntactic Theory II. (3 cr. ; Student Option; Every Spring)

Modern syntactic theory. Syntactic phenomena in various languages. Syntactic argumentation, development of constraints on grammar formalisms. prereq: 5201 or instructor consent. LING 5201 is directed towards honors students and graduate students.

LING 5205. Semantics. (; 3 cr. ; Student Option; Every Fall & Spring)

Analysis of sentence meaning. Semantic properties. Relations such as analyticity, entailment, quantification, and genericity.

Philosophical background, formal techniques of semantic analysis, how sentence meaning depends on word meaning, syntax, and context. The role of semantics in grammatical theory. prereq: [4201 or 5201] or instr consent

LING 5206. Linguistic Pragmatics. (; 3 cr. ; Student Option; Every Spring)

Analysis of linguistic phenomena in relation to beliefs and intentions of language users; speech act theory, conversational implicature, presupposition, information structure, relevance theory, discourse coherence. prereq: [4201 or 5201] or instr consent

LING 5207. Advanced Semantics. (3 cr. ; A-F only; Every Fall)

In this course, we will explore some semi-advanced to advanced topics in the field of natural language semantics. Broadly construed, natural language semanticists study how human beings process complexity in meaning in language, with the building blocks being how small units of meaning compose together to form larger and larger units, all of which are produced and understood in milliseconds. Building on the fundamental foundations of semantic theory learnt in Semantics, Advanced Semantics is geared towards providing expansive knowledge on several vital topics that current vibrant research in the field is concerned with. The array of topics include quantifier scope, definiteness and indefiniteness, plurals and mass/count nouns, attitude predicates and attitude ascription, event semantics, tense and aspect, modality and conditionals, questions, focus and alternative semantics, and imperatives. As we make our way through the critical last few decades of formal semantics through these vast and diverse topics, we will balance empirical coverage and formalism with development of intuition and methodology. Prerequisites: LING 5205 - Semantics I

LING 5302. Phonological Theory I. (3 cr. ; Student Option; Every Fall)

How sounds are organized/patterned in human languages. Phonological theory/problem-solving for advanced work in linguistics. Analyzing data. Presenting written solutions to problem sets. prereq: 5001 or honors student or instructor consent. LING 5302 is directed towards honors students and graduate students.

LING 5303. Phonological Theory II. (3 cr. ; Student Option; Every Spring)

Phonology of human languages. Reading papers in the literature. Doing research in phonology. prereq: 5302 or instr consent. LING 5303 is directed towards honors and graduate students.

LING 5461. Conversation Analysis. (; 3 cr. ; Student Option; Periodic Fall)

Discourse processes. Application of concepts through conversation analysis. prereq: 3001 or 3001H or 5001 or instr consent

LING 5462. Field Research in Spoken Language. (; 3 cr. ; Student Option; Periodic Spring)

Transcribing/analyzing talk and movement related to talk. Applying concepts to recorded

conversations. prereq: 3001 or 3001H or 5001 or instr consent

LING 5601. Historical Linguistics. (; 3 cr. ; Student Option; Every Spring)

Historical change in phonology, syntax, semantics, and lexicon. Linguistic reconstruction. Genetic relationship among languages. prereq: 3001 or 3011H or 5001

LING 5801. Introduction to Computational Linguistics. (; 3 cr. ; Student Option; Spring Odd Year)

Methods/issues in computer understanding of natural language. Programming languages, their linguistic applications. Lab projects. prereq: [4201 or 5201] or programming experience or instr consent

LING 5900. Topics in Linguistics. (; 3 cr. [max 9 cr.]; Student Option; Periodic Fall & Spring)

Topics vary. See Class Schedule.

LING 5993. Directed Study. (1-3 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)

Directed study for Linguistics. Prereq instr consent, dept consent, college consent.

MN Studies in Intl Devel Prog (MSID)

MSID 4001. International Development: Critical Perspectives on Theory and Practice. (; 4 cr. ; Student Option; Every Fall & Spring)

Explore a wide variety of perspectives on international development, with the host country as a case study. This course begins with 20 hours of common discussion on international development. The remaining course is divided into sections, and you select from the following sections in order to prepare for your internship or research project: (see track descriptions in syllabus for more information).

MSID 4002. MSID Country Analysis. (; 4 cr. [max 8 cr.]; A-F only; Every Fall & Spring)

Study abroad course.

MSID 4003. Community Engagement in the Global South. (; 4 cr. ; Student Option; Every Fall & Spring)

An internship or research project with a host-country development agency or project provides an unparalleled opportunity to study community characteristics, development strategies and problems, organizational structure and culture, and cross-cultural communication issues. The length of the internship or research project is 6 weeks during the first semester. You typically spend approximately 25 to 30 hours each week at your internship or research site, although this may vary depending on the specific site and project. A list of sample past internships and research projects is available. Written assignments help link experiences to theories and issues raised in the classroom. A program faculty member or the on-site director visits you at least once at your internship or research site during the internship/research period. At

the end of each semester, you gather in the host city or a retreat site for a seminar, which helps integrate your experiences and newly acquired knowledge. 12 contact hours of this course are incorporated into the classroom phase and provide specific training on research methodology to prepare students for their research or internship project.

MSID 4004. Case Studies in International Development. (; 4 cr. [max 8 cr.] ; A-F only; Every Fall & Spring)
Study abroad course.

MSID 4005. Advanced International Development Internship. (; 4 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)
Engage in an extended internship with a nongovernmental organization throughout spring semester in order to gain practical hands-on experience in a grassroots community setting.

MSID 4006. Applied Field Methods. (; 4 cr. [max 8 cr.] ; A-F only; Every Fall & Spring)
Study abroad course.

MSID 4007. MSID Directed Research. (; 4 cr. [max 8 cr.] ; A-F only; Every Fall & Spring)
Study abroad course.

MSID 5001. International Development: Critical Perspectives on Theory and Practice. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)
Study abroad course.

MSID Program in Thailand (THAI)

THAI 1001. Beginning Thai I. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

THAI 1002. Beginning Thai II. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

THAI 3001. Intermediate Thai I. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

THAI 3002. Intermediate Thai II. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

THAI 4001. International Development: Human Rights & Marginalized Communities. (SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)
This course will focus on human rights broadly defined, including social work as well as other efforts to educate and work with vulnerable populations. The course will look at the roles of local people, nonprofits, government agencies, and intergovernmental entities in determining how to best work with and serve vulnerable populations and how these different stakeholders collaborate while addressing complex, often sensitive situations. Course content will focus on citizenship and orphan/vulnerable children, as well as human trafficking, disabilities, migrant workers, and

LGBT issues in the Thai context, as well as minority issues, especially with the hill tribes of Northern Thailand. Students in this course will utilize the content learned in this collaborative classroom setting and apply it individually toward a specific internship placement or research topic during the second half of the semester. This course encourages students to think critically about development theories and practices. For the majority of examples and reading, the course will draw on case studies from Thailand and links to global development issues. We will explore ? development? as a contested value and process on multiple scales?local, national, and global. We will place special emphasis on the practice of development: What does it mean to actually ?do? development in a cross-cultural international setting? We will examine the roles of outsiders and facilitators and how local communities and organizations can be empowered through the development process.

THAI 4002. International Development: Entrepreneurship & Sustainable Food Systems. (SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)
Food systems and sustainability are critical environmental and economic issues in understanding development. This course focuses on two connected issues: food production and agriculturally based entrepreneurship, including but not limited to coffee growing and production, sustainable and organic food production, and related topics. A key part of the course will be understanding the natural interconnectedness between the environment, where crops are cultivated, and the business of selling these crops on a local and/or international scale. The course will examine agricultural commodity production (coffee) from bean to cup, examining the growing, production, selling, and business of coffee as both a local production process, international commodity, and local consumption. We will further explore spaces for innovation in sustainable food production, in particular around community-supported sustainable and organic agriculture, and the role of small-scale production in ensuring the resilience and sustainability of the global food supply. This course encourages students to think critically about development theories and practices. A majority of examples and reading will be drawn on case studies from Thailand and their links to global development issues. ?Development? as a contested value and process will be explored in multiple scales? local, national, and global. Special emphasis will be on the practice of development: What does it mean to actually ?do? development in a cross-cultural international setting? We will examine the roles of outsiders and facilitators and how local communities and organizations can be empowered through the development process.

THAI 4003. International Development: OneHealth: Humans, Animals, & Environment. (SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)
This course will focus on the concept of ?One Health??integrating the health sciences so

that health is understood as a broader concept rather than a narrow disciplinary focus. Issues related to this topic will include public health, community education about health, veterinary, and animal care issues and organizations (and how human and animal health are linked), clinics, local hospitals, and traditional medicine. Special emphasis will be placed on contemporary issues in Thailand, especially success with public health and family planning, as well as issues around HIV/AIDS education and prevention, zoonotic disease such as COVID-19, and related issues. Students in this course will utilize the content learned in this collaborative classroom setting and apply it individually toward a specific internship placement or research topic during that second half of the semester. This course encourages students to think critically about development theories and practices. A majority of examples and reading will be drawn on case studies from Thailand and their links to global development issues. ?Development? as a contested value and process will be explored in multiple scales? local, national, and global. Special emphasis will be on the practice of development: What does it mean to actually ?do? development in a cross-cultural international setting? We will examine the roles of outsiders and facilitators and how local communities and organizations can be empowered through the development process.

THAI 4004. International Development: Sustainable Architecture & Design. (SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)
This course will examine sustainable design, including vernacular architecture, sustainable product design, urban planning, alternative (green) power (wind/solar/hydro), sustainable engineering, and sustainable and alternative architecture. It will focus on how design can be used in development to support sustainability, especially in the built and manufactured environment, drawing on culturally and ecologically appropriate design principles. This course encourages students to think critically about development theories and practices. A majority of examples and reading will be drawn on case studies from Thailand and their links to global development issues. ?Development? as a contested value and process will be explored in multiple scales?local, national, and global. Special emphasis will be on the practice of development: What does it mean to actually ?do? development in a cross-cultural international setting? We will examine the roles of outsiders and facilitators and how local communities and organizations can be empowered through the development process.

THAI 4101. Historical & Political Context of Thailand. (4 cr. ; Student Option; Every Fall, Spring & Summer)
This course explores the history of modernization, conditions of social transition, and current issues that characterize Thailand and influence relationships among various social groups. Students will enhance their understanding of the process of modernization and multi-level adjustment of Thai society in different historical contexts. Cultural diversity,

political transition, and economic development are integral in analyzing and understanding these topics. Thailand is unique in southeast Asia for its lack of colonization. It also has a long history of development in southeast Asia, serving as a regional hub for international development. This course will examine the development process in Thailand, its political and social history, and especially the current struggles of modernity and as an emerging economy in southeast Asia. While many of the basic issues of development have been successfully dealt with (literacy is high, clean water and basic needs are met, etc.), Thailand is now dealing with growing inequality, challenges of post-modernity, and increasing demand for popular participation in politics within a patron-client-based society.

THAI 4201. Research in Thailand. (4 cr. ; Student Option; Every Fall, Spring & Summer) In this course, the MSID student will learn about various research concepts and practices; make decisions involved in research, including selecting a topic and title for their study, developing statements of problems, and choosing ethical research questions and appropriate research design; learn about issues related to research ethics; and develop their skills in choosing data collection instruments and analysis of the data they collect for their research. The course does this by introducing various topics in the research cycle and providing a forum in which students can share with one another their research experience at each stage of the process. Through the course students will develop, defend, and challenge their own values and beliefs. Research projects in this course are ideally projects that fit with the development agency's goals and activities; therefore, the student's research interests must blend with what is realistically happening at the development agency. Students must have approved proposals before proceeding onto their research sites to allow them to collect necessary data and complete data analysis before heading back to Chiang Mai at the end of the six-week field period. It is likely that students will participate in field activities, meetings, and other forms of engagement that will be indirectly related to and could inform their research projects. This course also includes an optional 10 hours of Thai language instruction as needed.

THAI 4896. Internship in Thailand. (4 cr. ; Student Option; Every Fall, Spring & Summer) This course provides a cross-cultural experience of working on various development issues with a regional nonprofit organization. The course focuses on guiding students to understand their own identity as they integrate theory with reality by participating in local development sites. Students are prepared for entering into their community work through discussions on stakeholder and agency analysis, culture-specific gender and diversity context, ethics, and power and privilege. Through the course students will develop, defend, and challenge their own values and beliefs. The mentoring continues while students are at their internship placement

as they come in contact with social actors, community organizations, and local and national authorities in various regions of Chiang Mai province at the marginal urban and rural levels. The students are urged to play an active role in their internships by providing suggestions and solutions, discussing alternatives, and investigating all areas of their internship placement to garner a holistic view of the realities of development work. Through practical internship experiences as well as readings, discussions, and written assignments, students will deepen their understanding of the host-country cultural context and development work from an international perspective, as well as critically examine their own worldview. This course also includes an optional 10 hours of Thai language instruction as needed.

Madrid Learning Abroad Program (MADR)

MADR 1002. Beginning Spanish. (5 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

MADR 1003. Intermediate Spanish III. (5 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

MADR 1004. Intermediate Spanish IV. (5 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

MADR 1401. Carlos III University of Madrid Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern Abroad in Madrid study abroad program to represent a course taken at Carlos III University of Madrid. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MADR 1402. Carlos III University of Madrid Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern Abroad in Madrid study abroad program to represent a course taken at Carlos III University of Madrid. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MADR 1403. Carlos III University of Madrid Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern Abroad in Madrid study abroad program to represent a course taken at Carlos III University of Madrid. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MADR 1404. Carlos III University of Madrid Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern Abroad in Madrid study abroad program to represent a course taken at Carlos

III University of Madrid. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MADR 1405. Carlos III University of Madrid Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern Abroad in Madrid study abroad program to represent a course taken at Carlos III University of Madrid. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MADR 3001. Financial Management. (3 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

MADR 3002. Ecology of Spain. (3 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

MADR 3003. Philosophy of Religion. (3 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

MADR 3004. Management and Organizational Behavior. (3 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

MADR 3005. Management and Ethics in a Cross-Cultural Context. (3 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

MADR 3006. World Religions. (3 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

MADR 3007. Contemporary Moral Problems: Ethics. (3 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

MADR 3008. Fundamentals of Marketing. (3 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

MADR 3009. Political History of Contemporary Spain. (3 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

MADR 3011. International Media. (3 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

MADR 3012. Internships in Spain. (3-6 cr. ; Student Option; Every Fall, Spring & Summer) Study abroad course.

MADR 3013. Spanish Civilization. (3 cr. ; Student Option; Every Fall, Spring & Summer) This course aims to offer a general view of Spanish culture and society through readings, lectures, and cultural activities. This semester will focus on a few topics portraying the transformations experienced in the country during the last years: the political system, social and economic problems, multi-ethnic society, new role of women, new family models, and present image of Spain. We will combine lectures, PowerPoint presentations, videos, discussions of required readings, and group debates. Being in Spain gives you a

great opportunity to widen your approach to culture through language, and one of the aims of this class is to help you achieve this goal. All students are expected to come to all sessions prepared, with all indicated assignments completed beforehand.

MADR 3014. Corporate Social Responsibility. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

MADR 3015. Modern Masters: Goya, Picasso, Miro and Dali. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
study abroad course

MADR 3016. Topics in International Marketing. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

MADR 3017. Spanish Conversation. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

MADR 3018. Introduction to Biological Psychology. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

MADR 3019. Culture, Globalization & Media. (3 cr. ; Student Option; Every Fall, Spring & Summer)
The aim of this course is to introduce the notion of "culture" as the set of mental, socially mediated constructs employed by individuals and groups to interpret reality. From that basis, this course examines the set of conflicts currently underway both within Western societies?as seen, for instance, in the "Culture Wars" as well as in the latest US presidential election?as well as the tensions between the Western and non-Western cultures?such as those of India, China, and the Arab worlds?with an emphasis in the role played by the media and the cultural industries.

MADR 3021. Art at the Prado Museum. (AH; 3 cr. ; Student Option; Every Fall, Spring & Summer)
The aim of this course is to make students familiar with the most relevant and internationally outstanding Spanish and European artists within the Prado Museum Permanent Collections. The course will help students to fully understand and assimilate art history fundamental concepts and movements such as Renaissance, Baroque, and Neoclassicism, with a specific concentration on Spanish masters such as El Greco, Velázquez, and Goya. Simultaneously, it will help students confront Spain's and Europe most controversial history: from the dark Medieval Ages to the beginning of the 19th Century. Two observations will be fundamental to our investigations. The first is that art history involves the study not simply of formal concepts. A work of art has a physical presence that is offered by the artist but his/her ideas, convictions, and claims are shaped in large measure by specific social circumstances. The relevance of the latter are those that turn an artwork into a masterpiece.

Thus, techniques and styles of representation are just the beginning of art history research. The second observation has to do with the relationship between art and culture: Art does not simply (or passively) reflect a given culture, but rather actively participates in its formation and development. A work of art, then, is the deepest expression of a social, religious, political, as well as intellectual context. Thus, thorough the artworks' analysis, students will develop critical and intellectual thinking by the means of observation, research, and interpretation.

MADR 3022. Spanish Civilization - ENG. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course aims to offer a general view of Spanish culture and society through readings, lectures and cultural activities. This semester we will focus on a few topics portraying the transformations experienced in the country during the last years: the political system, the social and economic problems, the multi-ethnic society, the new role of women, the new family models and the present image of Spain. We will combine lectures, power point presentations, videos, discussions of required readings, group debates. Being in Spain gives the student a great opportunity to widen his/her approach to culture through language and one of the aims of this class is to help them to achieve this goal. All students are expected to come to all sessions prepared for them. All indicated assignments are to be completed beforehand.

MADR 3023. Human Neuroanatomy. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course provides a broad introduction to the nervous system with an emphasis on the human nervous system. It will introduce the structure and function of neurons, the main anatomical units of the nervous system, and the main functional systems. We will approach functional systems through an understanding of the anatomical circuitry. We will study the fundamental concepts of neural communication early in the course and re-examine them later in the course relative to specific functional systems. Although the major focus will be the normal nervous system, we will introduce common diseases for each main topic. Students will gain an understanding of the nature of many common neurological diseases, which will provide further insight into how the normal nervous system functions. Through the assigned readings, lectures, and exercises, students are expected to gain an understanding of the neural circuitry and information processing responsible for the diverse range of human behaviors.

MADR 3024. Spanish for the Workplace. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course is designed and customized for students during their academic stay abroad in the city of Madrid. The course is specifically designed to improve students' oral and written business communication skills through language immersion and study of the local

cultural and work environment. In addition to academic study, the course will provide an overview of Spanish social culture as it applies to the professional workplace, focusing on specific fields of expertise that are of interest to the students.

MADR 3025. Modern Masters: Goya, Picasso, Dalí & Mir. (AH,GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

The aim of this course is to make students familiar with the most relevant and internationally outstanding Spanish Modern artists: Goya, Picasso, Dalí & Mir. With a specific concentration on these Spanish masters, the course will bring students to fully understand and assimilate such fundamental concepts and movements of art history as Impressionism, Cubism, Surrealism, Abstraction, and Minimalism. Simultaneously, it will explore one of the most controversial periods of Spanish and European history, from the 19th through the dawn of the 20th Century. Two observations will be fundamental to our investigations. The first is that art history involves the study of more than simply formal concepts. A work of art has a physical presence that is offered by the artist, but his/her ideas, convictions, and claims are shaped in large measure by specific social circumstances. The relevance of the latter are those that turn an artwork into a masterpiece. Thus, techniques and styles of representation are just the beginning of art history research. The second observation has to do with the relationship between art and culture. Art does not simply (or passively) reflect a given culture, but rather actively participates in its formation and development. A work of art, then, is the deepest expression of a social, religious, political, and intellectual context. Thus, through the analysis of works of art, students will develop critical and intellectual thinking by the means of observation, research, and interpretation.

MADR 3026. 100% Made in Spain: Design and Quality. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course focuses on the aesthetic and cultural changes in consumers and the ability of the Made in Spain managers to fine tune their marketing, communications, branding, and retailing efforts to an increasingly fast-paced environment. The course provides students with an extensive preparation on what are the most important asset of Made in Spain products: their ability to represent a paradigm shift. The course explores the evolutionary phenomena of the four F's (fashion and footwear, food and wines, furniture and building materials, and fabricated metal products and machinery) as well as design, renewable energy, railway construction, e-commerce, and other industrial sectors. The course will lead students to understand the evolutionary strategic Made in Spain management and philosophy. The Spain Brand has appreciably revalued in the last four years (Repsol, Telefónica, Acciona, Endesa), thanks above all to the presence of Spanish products throughout the world and in all areas of activity, of which we lead in at least

a dozen. The internationalization accomplished by Spanish companies has allowed them to have a leading position (among the first ten countries in the world) in the food industry, fashion, gastronomy, technology, research, renewable energy, railway construction, organ transplantation, and sports. From Antoni Gaudí to the Culdesac studio, including Oscar Tusquets and Nani Marquina, Spain has always been a benchmark for quality design with international projection. This course looks at Made in Spain from both an economic and business point of view and shows a brief tour of the world of national designers and some of its most emblematic pieces. The Spanish fashion industry plays a fundamental role in economic development, with around 19,500 companies that make a contribution to GDP of 2.8%, and in the context of a highly competitive globalized market. As a result, Spain achieves the fifth place in importance in Europe after Italy, Germany, the United Kingdom, and France, both in production volume and in employment. This is due in large part to the design of products with high added value, leather and footwear accessories, and the use of modern marketing and distribution techniques that have revolutionized the sector.

MADR 3027. Contemporary Spanish History through Film. (GP,HIS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Spanish cinema provides an excellent route for understanding social and political change throughout the 20th and 21st Centuries. As the most important artistic medium of modernity, cinema allows one to construct and deconstruct many myths and identities. This course will analyze the most relevant Spanish film productions primarily as socio-historical documents (content). Topics in Spain may include the Republic and Civil War (Fernán Gmez and Buñuel), the '60s comic criticism of dictatorship (García Berlanga), and censorship (Lazaga), the transition to democracy (García and Almodóvar), and the new '90s cinema (Amenábar, de la Iglesia, Medem, Coixet, and Bollaín).

MADR 3031. Introduction to Sensation and Perception. (3 cr. ; Student Option; Every Fall, Spring & Summer)

To develop an understanding of the psychological, biological, and physical bases of sensory experience in humans and animals. First we will consider the philosophical questions that humans have long posed about perception, and study the methods and techniques scientists use to try to answer them. We will study the sensory pathways, fundamental perceptual processing, and higher-level meaning-making, emphasizing the senses of vision and hearing. We will more briefly consider the orienting senses, skin senses, chemical senses (smell and taste), and the perception of time. Students must have successfully completed an introductory psychology course as a prerequisite.

MADR 3032. Learning and Behavior. (3 cr. ; Student Option; Every Fall, Spring & Summer) This course will cover methods and findings of research on learning and behavioral change.

Additionally, students will learn about twentieth-century theoretical perspectives, including contemporary models. There will be an emphasis on animal learning behavior and behavioral psychology.

MADR 3206. Health Psychology. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Recent advances in psychological, medical, and physiological research have led to a new way of thinking about health and illness and understanding that our health is not only the product of biological processes but also of psychological, behavioral and social processes. Health psychology is a relatively young field of study that examines the relationship between psychology and health. The course highlights differences between health psychology and the biomedical model and examines the kinds of questions asked by health psychologists like: How our personality may affect our health? What does stress do to our health? What psychological and social factors cause people to behave in unhealthy ways? What can psychologists do to help cure illness? Are there ethnic and gender variations in health? Does it matter how your doctor talks to you?

MADR 3301. Cross-Cultural Psychology. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course's aim is to understand how cultural factors influence human behavior and development. Additionally, the course may discuss interaction between different cultures and how to solve the difficulties that may arise during the acculturation process. The course studies the vision and treatment of mental disorders in different cultures, especially the differences and similarities between Spanish and North American cultures. It will also analyze and compare mental health systems of both countries.

MADR 3401. Carlos III University of Madrid Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern Abroad in Madrid study abroad program to represent a course taken at Carlos III University of Madrid. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MADR 3402. Carlos III University of Madrid Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern Abroad in Madrid study abroad program to represent a course taken at Carlos III University of Madrid. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MADR 3403. Carlos III University of Madrid Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern Abroad in Madrid study abroad program to represent a course taken at Carlos III University of Madrid. The specific course title will appear for each student in the Notes

field directly underneath this course on their transcript.

MADR 3404. Carlos III University of Madrid Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern Abroad in Madrid study abroad program to represent a course taken at Carlos III University of Madrid. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MADR 3405. Carlos III University of Madrid Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern Abroad in Madrid study abroad program to represent a course taken at Carlos III University of Madrid. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MADR 3604. Introduction to Abnormal Psychology. (3 cr. ; Student Option; Every Fall, Spring & Summer)

The purpose of this course is to give the student an opportunity to explore current issues in understanding and treating abnormal behavior. The course will provide an initial overview of history, perspectives, assessment (DSM), diagnosis, and treatment, followed by an in-depth look at several disorders from a combined biological, developmental, and cultural approach. The focus will be to achieve an understanding of the various ways that human behavior can be compromised and the various factors that affect our ability to adapt.

MADR 3711. Psychology in the Workplace. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Application of psychological theory/research to recruitment, personnel selection, training/development, job design, work group design, work motivation, leadership, performance assessment, job satisfaction measurement Industrial / Organizational Psychology is the application of the scientific study of human behavior and thinking to work organizations. I/O Psychology is both an academic discipline and a professional discipline; thus, in this class we focus on both research and the application of research findings to practical problems in the workplace. I/O Psychologists are concerned with the recruitment, selection, training, motivation, and job performance of individual at work. They are also involved in issues such as teamwork, leadership, and job attitudes.

MADR 4901. Research Laboratory in Psychology. (3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) Study abroad course

Management (MGMT)

MGMT 1001H. Honors: Contemporary Management. (3 cr. ; A-F only; Every Fall & Spring)

How/why organizations differ in their forms/purposes in relation to complex/changing

environments/technologies. Challenges related to international management and social responsibility. Models of effective leadership/teamwork. prereq: [Fr or soph] honors

MGMT 3001. Fundamentals of Management. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

This course is about the foundational principles of management, encompassing disciplinary and topical boundaries. We will look at these principles from the perspective of how they guide action, specifically: planning, organizing, leading and controlling. By the end of the course, students will know the basics of how to set up organizations to be effective and innovative, and not just efficient. During the course, you will engage with the material in the course and understand how management frameworks can be used to choose the right internal structures and processes that can best react to your particular industry context and general business environment.

MGMT 3004. Strategic Management. (; 3 cr. ; A-F only; Every Fall & Spring)

Business strategy. How business firms set and pursue their goals. Key categories of strategic issues and concepts/frameworks managers use to analyze and address those issues. Attention to specific firms and situations. prereq: CSOM, soph or jr

MGMT 3015. Introduction to Entrepreneurship. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Fundamentals of entrepreneurship. Career paths, including new business start-ups, franchising, acquisitions (including family business succession), corporate venturing, and entre-preneurial services. Legal structures for new business formation. Aspects of business law/ethics.

MGMT 3039. Intercultural Business Communication. (GP; 3 cr. ; A-F only; Every Spring)

This course teaches students how to create culturally aware messages in business settings. Students will learn to recognize the cultural dimensions and communication patterns of various social identities that form at the intersection of nationality, religion, race, ethnicity, and gender. Through intercultural development assessments, case studies, simulations, business writing assignments, and discussions, students will: 1) reflect on their own cultural identities and worldview, 2) recognize how different cultural values can impact business success, and 3) engage in debates about the complex ethical, political, and social issues that arise from cross-cultural exchange.

MGMT 3045. Understanding the International Environment of Firms: International Business. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Theories, frameworks, tools, and facts for understanding the environment of firms in international competition. Main world-level economic flows (trade, investment, finance). How country-/industry-level economic, political, and sociocultural factors influence behavior/

functions of firms in international competition. prereq: MGMT 3001 or 3004

MGMT 3061. Leadership in Practice: Everyday Moments of Leadership. (2 cr. ; A-F only; Every Spring)

Every day, life gives us opportunities to practice leadership: experiencing group conflicts, recognizing the achievements of a classmate, overhearing an offensive joke, observing microaggressions, sharing innovative ideas with your team. In this course, you will learn how to investigate and respond to these moments of leadership using fundamental leadership science and frameworks based on leadership theory and empirical evidence. These moments provide an opportunity to become something, to do something different, usually through understanding complex issues, navigating change, empathy, and influencing others. The course will expose you to fundamental leadership science and frameworks backed by leadership theory and empirical evidence. You will focus on understanding personal leadership strengths and vulnerabilities through assessments, reflection, and feedback. To improve your leadership capabilities, you must know from what point you are starting. Throughout the class, there will be reflection exercises and assessments that will help you understand your values, default traits, and work styles as you navigate everyday moments of leadership. Leadership skills are best learned by integrating and applying evidence-based theoretical concepts to practical situations. These skills are difficult to meaningfully assess with exams and typical assignments. Thus, we will learn with practical exercises and the application of course materials to your life as a leader. The experiential learning of the class will allow you to navigate leadership moments and bring the course concepts to life. PREREQUISITE: Carlson School Centennial Scholar or by instructor approval

MGMT 3090. Topics in Leadership. (; 2-4 cr. ; Student Option; Periodic Fall & Spring) Topics Vary

MGMT 4001. Social Venturing in Action. (; 4 cr. ; A-F only; Every Spring)

Capstone course. Students choose projects with nonprofit organizations in local communities. Readings/discussions tie managerial theory to experiences. The focus of this course is on sectors of the economy that provide goods and services with motivation beyond generating profits for investors. The non-profit sector and impact-related for-profit organizations are a large, growing, and increasingly entrepreneurial part of our economy. Non-profit administration and social entrepreneurship require knowledge of subjects unique to this sector. This class will provide a basis of knowledge about these issues from the standpoint of practitioners and researchers. Because the landscape of the non-profit and impact-related for-profit world is broad, one seminar course cannot possibly cover all of the important and interesting issues in this field. In this course, we will focus our attention by exploring a number of issues that involve the

intersection of the for-profit and the not-for-profit economies. prereq: Senior standing

MGMT 4008. Entrepreneurial Management. (; 4 cr. ; A-F only; Every Fall & Spring)

Management of a new venture after founding. Internal/external challenges of managing a startup organization. Working with resource constraints and understanding how business models may change over time. prereq: MGMT 3015 or MGMT 3010 or IBUS 3010

MGMT 4031. Industry Analysis in a Global Context. (2 cr. [max 3 cr.] ; A-F only; Every Fall & Spring)

This course covers concepts and tools required to devise strategies that enable a global business to create superior value for customers and to capture a sufficient share of that value. It will offer perspectives on analyzing competitive situations and identifying and evaluating strategic options. In particular, it focuses on: - Applying fundamental concepts of strategic management--including strategy identification, the relationship of strategy and organization, industry analysis, competitor analysis, firm and industry evolution--coupled with economic theory and quantitative analysis to evaluate competitive strategies in a global context; - Developing an awareness of the impact of external environmental forces and of strategic actions by the firm and its rivals on business strategy. - Integrating knowledge gained in previous and concurrent core courses with a focus on understanding applying analytical concepts that are most useful to business analysts and managers. prereq: Mgmt 3004

MGMT 4032. Corporate Strategy. (2 cr. ; A-F only; Every Fall & Spring)

This course examines issues of corporate strategy, i.e., issues associated with creating and managing a firm that operates in multiple businesses. Some of the key questions we shall seek to address through this course are: ? What are the drivers of corporate scope? How should a firm choose the activities/businesses it participates in? ? What are the sources of value for a firm from being diversified across multiple businesses? ? What are the challenges associated with managing across multiple businesses and markets? ? How are these challenges best dealt with? What structures and processes enable successful corporate diversification over time? The learning objective of this course is to help you learn to identify and define successful corporate strategies and offer solutions for the common problems that diversified firms face. The course not only introduces you to core concepts around corporate strategy, but it also seeks to develop your ability to critically evaluate the strategies of multi-business firms, through the extensive use of case discussions. prereq: Mgmt 3004

MGMT 4033. Strategy Implementation. (2 cr. ; A-F only; Every Spring)

This course focuses on implementing and executing strategy at both the organizational and functional level. It will focus on the relationship between strategy formulation and execution, the systematic and structural problems with implementing strategy,

and various methods to minimize these problems. The course is designed both as a standalone topic and to deepen the student's understanding of the other strategic concepts covered in the strategy minor. prereq: Mgmt 3004 or 3001.

MGMT 4034. Technology Strategy. (2 cr. ; A-F only; Every Spring)

This course addresses challenges and opportunities in the strategic management of technology and innovation. The course will equip students with the conceptual frameworks, tools, and language for analyzing and managing businesses in environments of technological change. We will examine how new technologies transform industries and create new markets, strategies for addressing technological change, and approaches for managers to shape and/or respond to new technologies. Because innovating or responding to new technologies often involves strategic and organizational change, we will also discuss how organizations change in response to new technologies. We will use a combination of readings, lectures, case discussions, and simulations. The final team project provides an opportunity to explore in-depth the technology strategy and innovation challenges of a particular organization. The class is heavily discussion-based, which means that all students must read the material and be prepared to contribute to the learning process. prereq: Mgmt 3004 or 3001

MGMT 4035. Mergers & Acquisitions Strategy. (2 cr. ; A-F only; Every Spring)

This course focuses on the strategic use of mergers and acquisitions (M&A) as a means of new market entry and growth. It covers such questions as: when should one pursue an acquisition? What are the sources of value from an acquisition? What are the common challenges acquirers face? What should acquirers look for in a potential target? How should they integrate a target post-acquisition? It also considers the sell-side strategies for firms looking to exit businesses through divestiture. The learning objective of this course is to help you learn to identify and define successful mergers and acquisitions, and offer solutions for the common problems that firms face when undertaking acquisitions. The course not only introduces you to core concepts around M&A, it also seeks to develop your ability to critically evaluate firms' M&A choices, and to effectively communicate your assessment of these choices to a business audience. prereq: Mgmt 4032

MGMT 4044. Negotiation Strategies. (; 4 cr. ; A-F only; Every Fall)

This course is an introduction to the theory and practice of negotiation as the art and science of securing agreements between two or more interdependent parties seeking to maximize their own outcomes. The concepts you learn and the skills you develop in this class will apply to both your work and personal negotiations. At the heart of this class is the idea that the best way to learn to negotiate is by engaging in negotiation and then rigorously analyzing your experience. Therefore, this

course is designed to be a highly interactive learning experience. The role of the course instructor is to help you get the most out of this experience by selecting relevant and compelling exercises and readings, as well as by facilitating engaging and meaningful discussion of class negotiations, negotiation research and best practices.

MGMT 4055. Managing Innovation and Change In Action. (2 cr. ; A-F or Audit; Every Fall & Spring)

This course focuses on how business organizations innovate and change. The course covers foundational topics and combines both theoretical insights and practical knowledge based on cases and hands-on exercises. The class topics address the following questions: ? What are the sources, types and patterns of innovation? ? What are the characteristics of an organization's innovation ecosystem? ? How do organizations compete and collaborate in innovation ecosystems? ? What are some external forces shaping organizational innovations? ? How do organizations adapt to these external forces? By the end of this course, students will: Learn the key principles of success and failure of innovation and change in business organizations across different products, services and geographies. Apply course concepts to real organizational cases, diagnose problems and recommend solutions. Use clear written, verbal and online communication skills. Collaborate to create novel solutions to tasks and problems. Demonstrate the use of a wide range of qualitative and quantitative sources to support conclusions and recommendations. prereq: MGMT 3001 or MGMT 3004 or MGMT 3010 or MGMT 3015

MGMT 4080W. Applied Technology Entrepreneurship. (WI; 4 cr. ; Student Option; Every Spring)

Team projects based on commercializable technologies or innovations. Teams present their ideas to investors and industry professionals. Students are encouraged to submit their business plans to Minnesota Cup.

MGMT 4100. Topics in Management. (; 2-4 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Topics vary for each offering.

MGMT 4101. Independent Study in Strategic Management and Organization. (; 1-4 cr. [max 8 cr.] ; Student Option; Periodic Fall & Spring)

Students contract with faculty on independent studies. prereq: instr consent or dept consent

MGMT 4171W. Entrepreneurship in Action I. (WI; 4 cr. ; A-F only; Every Fall)

Two-semester course. In fall, students identify a business opportunity, develop concept, determine resources required, and launch the business. In spring, students implement business plan, manage business, and determine exit strategy. prereq: 3010, [4008 or concurrent registration is required (or allowed) in 4008], completed coursework in business core, CSOM upper division, approved application

MGMT 4172. Entrepreneurship in Action II. (; 4 cr. ; A-F only; Every Spring)

Second of two-semester sequence. In fall, students identify business opportunity, develop concept, determine resources required, and launch business. In spring, students implement business plan, manage business, and determine exit strategy. prereq: 4171

MGMT 4173. New Venture Financing & Seed Stage Investing. (2-4 cr. ; Student Option No Audit; Every Fall & Spring)

This experiential course is offered to University undergraduate students interested in learning about new venture financing through the operation of an independent angel investment fund. It serves as an introduction to the subject matter, while providing a forum for the students to review investment opportunities, connect with members from the entrepreneurial and investor communities, and learn about startup fundraising through direct participation in the investment process. This course is being offered to complement a student-owned private venture capital fund in collaboration with individual accredited investors, which was initially formed in April of 2018. In addition to the ongoing management of the fund operations and reporting, the students will be responsible for ongoing capital raising. Final authority for all investment decisions rests with the students.

MGMT 4175W. New Business Feasibility and Planning. (WI; 4 cr. ; A-F only; Every Fall & Spring)

The purpose of this course is to provide students with the following insights into ? Techniques for developing and screening business ideas ? Criteria for properly assessing idea feasibility ? Equipping yourself with the necessary information and analysis to develop a useful business plan ? Preparing an effective business plan ? Effectively pitching the plan to stakeholders, primarily prospective investors The class makes use of lecture, videos, articles, cases, class exercises, assignments, and quizzes to help develop depth of understanding amongst students of the relevant subject matter of this course. prereq: MGMT 3010 or MGMT 3015 or IBUS 3010

MGMT 4505. Senior Seminar in International Business. (2 cr. ; A-F only; Every Fall & Spring)

Globalization and the technological developments of the digital age have created exciting new opportunities for managers who seek growth and profits by accessing resources and serving markets worldwide. At the same time, managing across cultures and nations in a world where foreign companies are not always viewed in a positive light, poses its own challenges. This course will address the global context and then focus on the strategic and cultural challenges involved in managing activities across borders, in an increasingly interconnected world. It will build on the concepts introduced in MGMT 3040, as well as the student's ?Study abroad? experience (if any, given recent travel restrictions). Our course is taking place in the midst of an unprecedented (peace-time) world-wide

threat. The pandemic has created a host of paradoxes. Countries have closed their borders and yet, have never depended so much on each other to deal with the common threat. We are acutely aware that one country's failure is every country's failure when one single item is on top of everyone's agenda. Even though these are challenging times for all of us, they also provide an extremely rich context within which we can discuss the topics on our syllabus. prereq: CSOM sr, completed semester abroad, IB major or minor

MGMT 5018. Philanthropy & Fundraising Strategy. (2 cr. ; A-F only; Every Spring)

This brief experiential course explores the evolving world of philanthropy and provides an opportunity to directly influence a real-life nonprofit's funding strategies. It shows students how, despite resource constraints, nonprofit organizations can effectively build meaningful engagement and financial support around society's most pressing needs. It provides an immersive experience supported by a professional ecosystem where students can learn, be inspired and leave this class more driven (and capable) to be a force for good. By the end of this course, students will have gained hands-on consulting experience in partnership with nonprofit organizational leaders, active consultants and major philanthropists. They will have devised and presented implementable strategies at the virtuous nexus between potential donors and their client's organizational needs - solutions which increase engagement and promote lasting symbiotic relationships between the private and nonprofit sectors. They will be well-positioned to make a significant positive impact throughout their careers in the Twin Cities and beyond.

MGMT 5102. StartUp: Customer Development and Testing. (2 cr. ; A-F only; Every Fall & Spring)

Provides a structured process with faculty and mentor oversight for students at any level and from any college at the University to learn the initial process of customer development by testing market acceptance of a specific new business concept. Students primarily take this course individually and must have an idea or technology that they are interested in pursuing. The goal of the course is to teach the process to quickly and efficiently test the value and market fit for a new concept.

Management of Technology (MOT)

MOT 4001. Leadership, Professionalism and Business Basics for Engineers. (; 2 cr. ; A-F only; Every Fall & Spring)

Elements of business, environment in which technology/business operate. Classes of 15 to 20 students.

MOT 4002. Technically Speaking Leadership Lecture Series. (1 cr. ; A-F only; Every Fall & Spring)

The course features a selection of highly accomplished industry speakers, including UMN alumni, who share their unique insights on industry developments, leadership, and

innovation accumulated through experience in their careers. The lecture series serves as a discovery course for topics at the intersection of technology innovation and entrepreneurship.

MOT 4002. Technically Speaking Leadership Lecture Series. (1 cr. ; A-F only; Every Fall & Spring)

The course features a selection of highly accomplished industry speakers, including UMN alumni, who share their unique insights on industry developments, leadership, and innovation accumulated through experience in their careers. The lecture series serves as a discovery course for topics at the intersection of technology innovation and entrepreneurship.

MOT 5001. Technological Business Fundamentals. (2 cr. ; A-F only; Every Fall)

Basics of operations, strategy, decision-making in technology-driven business. Market opportunity assessment, finance/financial decision-making, organizational roles. Work in teams to analyze aspects of business opportunity. prereq: Degree seeking or non-degree graduate students

MOT 5002. Creating Technological Innovation. (2 cr. ; A-F or Audit; Every Spring)

Course provides students with techniques to create new ideas, and lead an organization to bring them successfully to market. It will include examples of the dynamics of technological industries, and technology strategies. Topics include effective practices to generate ideas, processes to move them to market, and intellectual property. Students will work in teams to develop a strategy to commercialize a new technology. prereq: Degree seeking or non-degree graduate students.

MOT 5003. Technological Business Planning Workshop. (1 cr. [max 2 cr.] ; A-F only; Every Fall & Spring)

Applies lessons of 5001 or 5002 directly to technology of the student's choosing, possibly thesis topic. Aspects of strategic technology plan or business plan, culminating in presentation of plan. Must be taken in parallel with 5001 or 5002. prereq: Degree seeking or non-degree graduate students. Student must also enroll for MOT 5001 or MOT 5002.

MOT 5101. Introduction to Electrification. (3 cr. ; A-F or Audit; Every Fall)

Introduction to Electrification is the first in a series of electrification courses intended to prepare technologists, engineers, scientists, and technically minded managers for the migration to an electric future. It will cover electrification trends in the industry, the current state of the art, and a survey of core technologies and safety procedures key to the electrification process. There will be lecture and hands-on components.

MOT 5991. MOT Independent Study. (; 1-3 cr. [max 1 cr.] ; S-N or Audit; Periodic Fall)

Independent study in MOT-related topic. prereq: MOT grad student

Managerial Communications (MCOM)

MCOM 5400. Managerial Communications for the HR Professional. (; 2 cr. ; A-F only; Every Fall & Spring)

Memo writing, oral presentations, and team communication required of HR professional. Emphasizes hands-on, experiential learning, including videotaping. prereq: HRIR student

MCOM 5500. Enhancing Your Executive Image in Business Communications. (2 cr. [max 4 cr.] ; A-F only; Every Fall)

Techniques to project executive presence in all business communications. prereq: MBA student

MCOM 5515. Persuasive Writing in Business. (; 2 cr. ; A-F only; Periodic Fall)

Writing to motivate/affect change. Form/content. Techniques of persuasion. Producing polished text. Writing with power. prereq: MBA student

MCOM 5535. Strategies and Skills for Managerial Presentations. (; 2 cr. ; A-F only; Periodic Fall)

Delivering key messages with clarity/confidence, regardless of audience or setting. Maximizing impact as a speaker, seated/standing. Personal communication style and audience. Tailoring message. Handling questions/answers. Using audio/visual tools. Presenting as a team. prereq: MBA or Mgmt Science MBA student

Manufacturing Operations Mgmt (MM)

MM 3001W. Manufacturing in the Global Economy. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

In this course, you'll find out just how innovative, strategic, and creative manufacturing is. The course is a great elective for students seeking a better understanding of the core sector in both U.S. and international economies. The overall objective of MM 3001W is to explore different facets of manufacturing in today's global economy, and the three dimensions of the high-performance manufacturing organization (HPMO) model-- leadership, product quality, and innovation--are paramount in that exploration. You'll take a look at past and current Minnesota manufacturing companies (3M and Red Wing Shoes, for example) that are surviving and thriving in today's economy, and also learn why some of those Minnesota companies have failed. As a writing intensive course, MM 3001W also prepares students to be successful writers, both in their coursework at the University of Minnesota and in their future careers, as special attention will be paid to real-world writing applications, skills, and processes. Prerequisites: None.

MM 3205. Engineering for Manufacturing Operations. (; 3 cr. ; A-F or Audit; Every Fall)

What makes a factory run? In this course, you'll learn all about those intricacies and gain the tools and skills required to create high-output systems that can reliably function day in, day out. You will do most of your learning through creative exercises. For example,

you'll take apart a flashlight to create the tools needed for manufacturing, and you'll validate a piece of equipment while toasting a loaf of bread. Your final project will be designing and manufacturing your own holiday card. Since the best learning happens when there's flexibility to fail, the instructor creates assignments that have a little ambiguity to them. (Students can even turn in homework twice to improve their grade, if needed.) By the end of this course, you'll have the confidence to work effectively across silos, and you'll have a wealth of career advice from an instructor with over 20 years' experience leading teams at Fortune 500 companies. Prerequisite: None

MM 3305. Advanced 3D Printing for Innovative Business Practices. (3 cr. ; A-F or Audit; Every Fall & Spring)

Revolutionize your world with speed and creativity. Three-D printing and additive manufacturing are changing how we work and how manufacturing itself happens. In this course, you'll hone the ability to innovate and to lead others in discovery. The first half of the semester is spent learning how to use additive technology and the second half how it can be applied to real-world industries. By the end of the course, you'll use computer-aided design and the U of M's 3D printing lab to build your own solution to a problem. Join this community of forward-thinking makers and tap some of the most high-tech resources at the U. Prerequisites: None

MM 4011. Virtual Reality and Simulation in Manufacturing. (3 cr. ; A-F or Audit; Every Spring)

Virtual reality meets manufacturing in this course for creative problem solvers. By mastering the use of simulation software (Simio), you'll be able to assess product flow along an assembly line and suggest sequences that dramatically improve efficiency, thereby cutting costs. The skill set students acquire in this course has opened innumerable doors for job seekers because visual representations provide hard evidence that certain models will be successful. Learn how to simulate many different processes at once and be introduced to augmented and virtual reality, new technologies that are being introduced to speed up the development of manufacturing lines. This course will enhance any career path that involves operations and efficiency. Prerequisite: None

MM 4012. Advanced Manufacturing: Applied Process and Technology. (3 cr. ; A-F or Audit; Every Spring)

Prepare to take a deep dive into the nitty-gritty as well as the art of manufacturing. You will study the myriad details that comprise the manufacturing process, tracing how raw materials are transformed into sophisticated devices in the most efficient ways. You will learn three important things that can be applied directly to any job: 1) how to deconstruct the value-added steps of a manufacturing assembly, 2) how to construct a process flow diagram, and 3) how to perform a process capability study. If you want to gain expertise in how factory work is planned, measured,

studied, improved, and optimized, then you've come to the right place. Beyond this, you will also walk away with an understanding that manufacturers are true artisans whose expertise shapes our world in countless ways. prereq: A course such as MM 3001W, or relevant manufacturing experience.

MM 4035. Global Supply Chain

Management. (3 cr. ; A-F or Audit; Every Fall)

A supply chain is the process that ensures that any particular thing gets made and distributed efficiently and with high quality. It comprises diverse suppliers, all of whom have a different role to play. You will learn about the complex ballet that ties these suppliers together into a larger system and schedule a supply chain. Through weekly online group work and real-life case study analysis, you will come to understand the value of interrelationships between product development, purchasing, manufacturing, customer service, and distribution. Your subject matter will be the real-world function of supply chains for familiar products, and by the end of the course, you will know how to think about effective supply chains. You'll also have opportunities to do a complete analysis of a real organization as well as interview a professional who works with supply chains on a daily basis. prereq: None.

MM 4039. The Science of Sourcing: Partnerships for Success. (3 cr. ; A-F or Audit; Every Spring)

Learn how to maneuver with ease inside the complex network of global manufacturing and outsourcing. The Science of Sourcing is all about setting up a sourcing strategy that hinges on two things: core competencies of your business and, of course, customer satisfaction. By the end of this course, you'll be able to do three things really well: 1) identify which products or processes should be outsourced, 2) perform estimates for cost and comparison of outsourcing options, and finally, 3) execute step-by-step outsourcing as you choose suppliers. You'll also be exposed to the art of managing an outsourced manufacturer relationship, which includes contracts and performance metrics. It's all about upholding quality and value. Prerequisite: A course such as MM 3001W, or relevant manufacturing experience.

MM 4045. The Product Life Cycle in a Regulated Industry. (3 cr. ; A-F or Audit; Every Spring)

There's much to learn when it comes to designing, developing, manufacturing, and selling something, but this course skillfully covers it all while teaching how to successfully commercialize a product. Students will delve into real-world analysis of product regulation of any kind—from a box of cereal to a medical device. After this course, you'll be able to a) improve efficiency in any part of a product's life cycle, b) develop soft skills needed to clearly communicate your ideas for improvement, and c) fully wrap your brain around human factors and customer requirements that must be considered before the product's development is complete. This material has

endless applications in the workplace. prereq: None.

MM 4102. Optimizing Operations

Management. (3 cr. ; A-F or Audit; Every Fall)

In this course, students learn how to put the pieces of the manufacturing puzzle together—they delve into the details of an organization's operations strategy and develop an understanding of how the system works, from product concept to finished reality. Emphasis is placed on learning valuable techniques for improving organizational performance, which include computer-enhanced problem solving and decision making. You will develop critical thinking skills that allow you to think holistically about how to create order out of chaos in an operations unit. Through weekly online group work assignments; opportunities to give dynamic multimedia group presentations; interviewing a real-world operations manager; and mastering the stages of forming, storming, norming, and performing, you will leave feeling prepared to take on whatever operations management challenges come your way. prerequisite: None.

MM 4193. Capstone Directed Study. (3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

You've learned a lot so far in the Manufacturing Operations Management program. Now it's time to use all that hard-earned knowledge as you embark on your capstone project. A culminating experience using all the skills and concepts you're familiar with, the capstone is an opportunity for you to identify a specific problem, question, or course of study pertaining to manufacturing operations. This will be your primary focus over the length of the course. Working with your capstone adviser, you will develop a project requiring 135 hours or more of research and work. You will then generate data and use appropriate models to create comprehensive reports and solutions to the project you've chosen, and you will present your findings at the end of the semester. The capstone course is a great option for students who are already employed full-time and wish to select a project that's somehow connected to their employment. prereq: MM major or minor or certificate, departmental approval

MM 4201. Quality Engineering and Management. (3 cr. ; A-F or Audit; Every Fall)

Quality makes or breaks an organization. Without continuous quality improvement, performance fails, sales drop, and organizations die. This course delves into three essential truths: 1) the customer is the ultimate judge of quality; 2) every process has variation, which must be fully understood before it can be improved; and 3) a lean, mean, structured plan will make problem solving a cinch when it comes to process improvement. Students will learn more than just the technical aspects of quality management; they will also learn the history and modern application of quality, quality management tool interfaces, and what it takes to be a leader in quality as a profession. prereq: none, but knowledge of statistics will be very helpful.

MM 4311. Sustainable Lean Manufacturing: Eliminating the Waste. (3 cr. ; A-F or Audit; Every Spring)

One of the most important skills you can cultivate in manufacturing (or really any line of work) is the ability to clear away the clutter and streamline the process. Sustainable Lean Manufacturing teaches students three things: 1) wasted time, effort, and money exist in every process involving a product or service; 2) it's possible to clearly see and identify where waste occurs; and 3) there's a surefire set of tools and techniques to make a process less wasteful and more efficient. Bottom line: students leave this course viewing everyday life with a different perspective, knowing there's always room for improvement in workflow. prereq: None

MM 4596. Internship. (1 cr. [max 3 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

An MM internship provides students with the opportunity to gain hands-on experience working with professionals in a manufacturing setting and get an insider's view of manufacturing operations management in the workplace. In consultation with a faculty adviser, students apply classroom learning and prepare for the transition from school to full-time MM employment. Students seeking credit for the internship are expected to find employment that primarily draws upon the intern's academic knowledge in management level tasks and allows for new learning in these areas. prereq: [MM major or minor or certificate or instr consent], dept consent

Marketing (MKTG)

MKTG 3001. Principles of Marketing. (3 cr. ; A-F or Audit; Every Fall, Spring & Summer) Introduction to terms, concepts, and skills for analyzing marketing problems. Factors outside the organization affecting its product, pricing, promotion, and distribution decisions. Cases from actual organizations. prereq: ECON 1101 or ECON 1165

MKTG 3001H. Honors:Principles of Marketing. (3 cr. ; A-F only; Every Fall) Honors: Introduction to terms, concepts, and skills for analyzing marketing problems. Factors outside the organization affecting its product, pricing, promotion, and distribution decisions. Cases from actual organizations. prereq: ECON 1101 or ECON 1165, Honors Student

MKTG 3005. Introduction to Applying Analytical Tools for Solving Business Problems. (2 cr. ; A-F only; Every Fall) The ability to make intelligent business decisions based on large data and information is becoming increasingly important for businesses and managers. This course provides a practitioner-oriented introduction of applying analytical tools in business setting. This class entails hands-on computer exercises on real data sets to apply various analytical techniques in common business applications. This course assumes that students have knowledge of fundamental analytical tools and statistical methods. The class emphasizes understanding model assumptions to help

students with appropriate model selection; interpreting results in order to make optimal business decisions; designing experiments in a business setting and analyzing the experimental data to advance business objectives. prereq: SCO 2550 or equivalent statistics course

MKTG 3011. Marketing Research. (4 cr. ; A-F or Audit; Every Fall & Spring)

This course focuses on managing the entire marketing research process, which involves collecting and analyzing relevant, timely, and accurate information to gain customer insights and drive effective marketing decision making. Students learn fundamental techniques of data collection and analysis to solve specific marketing problems. The class offers hands-on learning-by-doing opportunities through group projects for students to practice every stage of marketing research. prereqs: 3001 and BA 2551 or SCO 2550 or equivalent statistics course

MKTG 3041. Buyer Behavior. (4 cr. ; A-F or Audit; Every Fall & Spring)

Application of behavioral sciences to buyer behavior. Perception, attitudes, learning, persuasion, motivation, decision-making, social/cultural influences, managerial implications. prereq: 3001

MKTG 4031. Sales Management. (4 cr. ; A-F or Audit; Every Fall & Spring)

Hiring, motivating, performance enhancement. Customer relationship management, data analysis, quantitative methods. Developing metrics to evaluate individual/group performance in attaining an organization's strategic goals. prereq: MKTG 3040 or 3041

MKTG 4051. Advertising and Promotion. (4 cr. ; A-F or Audit; Every Fall & Spring)

Managing/integrating communication aspects of marketing. Advertising, sales promotion, public relations. Setting objectives, selecting media. Measuring effectiveness. Sales promotion techniques. Issues in global IMC. prereq: MKTG 3011 and MKTG 3041 (or 3010 & 3040) or instructor approval

MKTG 4061. Marketing Channels. (4 cr. ; A-F or Audit; Every Fall & Spring)

Today, a brand's marketing channel strategy directly impacts its brand value. And if designed properly, a channel strategy acts as a key differentiator for any organization. In this class, we will study how to select the right channel partners, and properly motivate their actions. We will also explore the connections between marketing channels and supply chains. By the end of the course you will see how organizations create significant brand value via their marketing channels. prereq: MKTG 3011 and MKTG 3041 (or 3010 & 3040) or instructor approval

MKTG 4072. Marketing-in-Action: Marketing Practicum. (4 cr. ; A-F or Audit; Every Fall)

This course focuses on what marketers do in real-life. Each week begins with guidance on approaching a typical task, then developing recommendations by working in groups during class with ongoing feedback from the instructor, and concluding with a short

presentation. Weekly topics may include identifying marketing challenges (ala Shark Tank), segmenting customers, pricing a product, and developing an advertising plan. The course concludes with a multi-week, interactive simulation in which students compete in groups as they manage a product. prereq: MKTG 3001 and BA 2551 or SCO 2550 or equivalent statistics course

MKTG 4074. Data-Driven Marketing. (4 cr. ; A-F only; Every Spring)

This course emphasizes various analytical techniques and statistical models with hands-on applications of marketing data and software tool kits. The course will cover classic marketing topics such as segmentation, positioning, new product development, advertising, and pricing. It will focus on how to choose and apply the most effective statistical tool to analyze questions on marketing topics and then translate the information from analysis into data-driven decisions. The goal is to increase students' comfort level of analyzing large marketing databases and help understand how a scientific approach can enhance marketing decision making by converting data into insights. prereq: Mktg 3011 (or 3010)

MKTG 4076. Digital Marketing. (2 cr. [max 4 cr.] ; A-F only; Every Spring)

The Internet and digital technologies have continued to alter the way consumers search information, make transactions, and share experiences, as well as the way firms market towards and engage with consumers. In today's digital era, it is imperative for marketers to understand how to gain a competitive edge by leveraging digital media to set targeting strategies and implement the marketing mix. This course will provide a structured framework to introduce students to the most up-to-date tactics, applications, and trends in digital marketing. The course is organized around three main sections developed by the instructor: - Internet marketing, which explores the impact of Internet on (1) consumer behaviors and (2) advertising strategies. - Social marketing, which focuses on (1) the formation of online social networks and (2) social media analytics. - Mobile marketing, which examines (1) location-based targeting and (2) the management of omni-channel marketing. prereq: Mktg 3011 (or 3010)

MKTG 4081W. Marketing Strategy. (WI; 4 cr. ; A-F or Audit; Every Fall & Spring)

Determining product markets where organizations should compete based on ability to create/maintain competitive advantage. External environment of business. Constructing/evaluating global marketing strategies. Largely case-based. This is the capstone course in the Marketing major. prereq: Mktg 3011, Mktg 3041, (or Mktg 3010 & Mktg 3040) and 8 Mktg elective credits

MKTG 4082W. Brand Management. (WI; 4 cr. ; A-F only; Every Fall & Spring)

How do firms build great brands, such as Apple and Nike? How do firms leverage their popular brands to expand into new markets, new products, and new countries? This

course focuses on questions like these to help students understand how to use brand strategies to successfully build, measure, and manage brands. Students participate in a course-long project to research and evaluate brand strategies used by a brand of their choosing. The course includes lectures, cases, and project check-ins between group members and their instructor. prereq: Mktg 3010/3011 and Mktg 3040/3041

MKTG 4085. Nudge: Improving Decisions about Health, Wealth, and Happiness. (2 cr. ; A-F only; Every Spring)

People do surprising and funny things. Business leaders, policy makers, and scientists long have been interested in why people do what they do, and for a long time that interest has fallen under the rubric of a "rational man" model. It is now clear that the rational model is imperfect, at best. This course takes a look at the less rational side of life, studying the shortcuts, the low road, and the error-prone processes that enable people to feel, decide, and act efficiently--despite costs to rationality. For most of the past 200 years, most of what organizations, politicians, and well-meaning people did in order to make consumers change their behavior consisted of what might be called "shoves"--heavy-handed, choice-restricting, highly-incentivized, information-dense treatments that basically told consumers what to do (or else!). Those, by and large, do not work. Not only do they not work, but they are also costly and can even make the unwanted behavior emerge even more than before the shove by creating boomerang or counterproductive effects. prereq: MKTG 3001

MKTG 4090. Marketing Topics. (; 2-4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall & Spring)

Selected topics and problems of current interest considered in depth. Class discussion and course projects.

Martin Luther King, Jr Program (MLK)

MLK 1001. CLA First-Year Experience I. (1 cr. ; S-N only; Every Fall)

This course is designed to help MLK students transition into the University of Minnesota and the College of Liberal Arts. The course will include various opportunities to engage, create, and reflect on your own unique experiences and identify effective strategies, skills, and tools to be successful in your first year and beyond.

MLK 1002. CLA First-Year Experience II. (1 cr. ; S-N only; Every Spring)

This course is designed to help MLK students achieve their individual goals by promoting proactive educational and career planning, introducing CLA's Core Career Competencies, and encouraging students to reflect on how they are developing them in their first year.

Master of Business Admin (MBA)

MBA 5200. Directed Studies for Curricular Practical Training. (; 1-3 cr. ; S-N only; Every Fall & Spring)

CPT is work authorization which allows a student to work in a job directly related to the student's major area of study before degree completion. prereq: International student with approval from the Program Office

Master of Business Taxation (MBT)

MBT 5223. Tax-exempt Organizations. (2 cr. ; A-F or Audit; Spring Odd Year)

Tax law/issues concerning Section 501(c)(3) and other tax-exempt organizations. Qualification, procedures. Unrelated business income, private foundations (including intermediate sanctions), joint ventures. prereq: ACCT 5135

Master of Development Practice (MDP)

MDP 5001. Ways of Knowing for Sustainable Development. (; 2 cr. ; A-F or Audit; Every Fall)

Complexities of interdisciplinary study of development and a range of ways of knowing the field of development studies and sustainability. Approaches practiced by physical, biological, social science, and humanities scholars. "Ways of knowing" in different cultures/groups and from a variety of situated perspectives. Key issues and concepts and key methodological challenges facing us as we engage in interdisciplinary and international development study and practice. Sustainable livelihoods. Team taught when possible by faculty from biological, social sciences, and humanities, or at minimum will include guest lecturers who can offer a range of disciplinary perspectives on questions of development. prereq: Grad MDP major or instr consent

MDP 5002. Program Development Workshop. (3 cr. [max 4 cr.] ; A-F only; Every Spring)

Research/writing skills to support work in international development. Discussion of basic qualitative research methods/data analysis. Qualitative/quantitative data, collaborative research/analysis. Relationship between research/policy. prereq: MDP grad student or instr consent

MDP 5004. International Field Experience. (; 3 cr. ; S-N or Audit; Every Summer)

International field experience. prereq: MDP grad student or instr consent

MDP 5005. Qualitative Methods for Development Practice. (3 cr. ; A-F only; Every Spring)

Course introduces students to qualitative inquiry and analysis in the field of international and/or sustainable development practice. It provides students with first hand experience in research design for development practice applications, including data collection and analysis. The course includes lectures, discussions, presentations, and project based learning. It is considered introductory as a single semester is insufficient to introduce, design, and conduct a comprehensive qualitative inquiry and analysis.

MDP 5100. Post-Field / Pre-Capstone Seminar. (; 1 cr. ; A-F only; Every Fall)

This project-focused seminar meets once at the beginning of the fall semester to collect observations, reflections and insights from the summer field placements. Then, throughout the fall semester, the seminar will meet periodically to stage the spring capstone course. Staging includes a capstone overview session, presentation of projects, team selection process and initial client engagements, the latter being particularly important for teams aspiring to travel during the winter or spring breaks.

MDP 5200. Capstone Workshop in Development Practice. (3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Learning from field experiences. Analytical/practical skills developed in academic training. Apply skill/experiences to "real world" problem provided by local or international development-focused organization. Reflective practice. prereq: MDP grad student or instr consent

Materials Science (MATS)

MATS 1001. Advances in Chemical Engineering and Materials Science. (; 1 cr. ; S-N or Audit; Every Fall)

Introduction to chemical engineering, materials science/engineering. Practical examples of important advances in both fields. Design problems, career opportunities. Lectures, demonstrations, interactive exercises. prereq: Credit will not be granted if credit has been received for: : ChEn 1001; Recommended for [chemical engineering, materials science/engineering] majors

MATS 2001. Introduction to the Science of Engineering Materials. (3 cr. ; A-F only; Every Fall, Spring & Summer)

Structure-property relationships of engineering materials. Atomic structure and bonding. Crystal structures. Imperfections in solids. Strength of materials, strengthening mechanisms. Phase transformations. Heat treatment/control of micro-structures. Materials selection/design. Integrating properties of metals, ceramics, polymers, and composites. prereq: CHEM 1061, CHEM 1065, [MATH 1272 or MATH 1372], PHYS 1301W, CSE student

MATS 2002. Introduction to the Science of Engineering Materials Laboratory. (; 1 cr. ; A-F only; Every Fall, Spring & Summer)

Lab experiments dealing with mechanical properties of engineering materials. Elastic modulus, tensile strength, creep, impact strength, fracture. prereq: [2001 or concurrent registration is required (or allowed) in 2001], IT student

MATS 3001. Thermodynamics of Materials. (; 3 cr. ; A-F or Audit; Every Fall)

Fundamental thermodynamic concepts, 1st, 2nd, 3rd Laws. Behavior of gases, liquids, solids. Phase diagrams. Reaction equilibria involving gases, condensed phases. Use of computer-based thermodynamic program(s). Electrochemistry. prereq: MatS upper div

MATS 3002. Mass Transport and Kinetics. (; 3 cr. ; A-F or Audit; Every Spring)

Mass transport in solids: solid state diffusion, Fick's laws, defects/diffusion mechanisms. Mass transport in fluids: fluid flow, diffusion with convection, mass transfer. Kinetics of chemical reactions and phase transformations. Computer-based problems illustrating applications. prereq: 3001, 3141, [MATH 2373 or equiv], upper div Mat

MATS 3011. Introduction to Materials Science and Engineering. (3 cr. ; Student Option; Every Fall & Spring)

Builds progressively from electrons to atoms to bonding to crystal structures. Defects, X-ray diffraction, phase diagrams. Microstructure as basis for understanding mechanical/electrical properties. Metals, polymers, ceramics, semiconductors, composites. prereq: CHEM 1061, CHEM 1065, [MATH 1272 or MATH 1372], PHYS 1302, CSE student

MATS 3012. Metals and Alloys. (3 cr. ; A-F or Audit; Every Fall)

Structure of metals/alloys. Crystal structure/defects (point defects, dislocations, grain boundaries). Microstructure. Properties of metals, especially mechanical properties. prereq: [3011, [MatS or ChEn upper div]] or instr consent

MATS 3013. Electrical and Magnetic Properties of Materials. (; 3 cr. ; A-F or Audit; Every Fall)

Electronic/magnetic properties of solids. Simple band theory of solids. Free electron theory of conductivity/transport. Optical/dielectric response functions. Elementary theory of magnetism. Electronic devices. Superconductivity. Computer-based problems to illustrate applications. prereq: 3011, [CHEM 4502 or PHYS 2303], [upper div MatS or ChEn] or instr consent

MATS 3041. Industrial Assignment I. (2 cr. ; A-F only; Every Fall, Spring & Summer)

Industrial work assignment in engineering co-op program. Formal report on technical project related to industrial work. prereq: MatS upper div, completion of required courses in MatS program through fall sem of 3rd yr, GPA of at least 2.80, regis in co-op program

MATS 3045. Materials Science and Engineering Industrial Internship. (1 cr. [max 2 cr.] ; Student Option No Audit; Every Fall, Spring & Summer)

Industrial internship, three to eight months. Formal report on technical project related to industrial work. prereq: MatS Upper Division. GPA of at least 2.8.

MATS 3141. Numerical Methods for Materials Science. (3 cr. ; A-F only; Every Spring)

Mathematics and numerical/computation methods for Materials Science. Example problems include: diffusion problems; coupled diffusion/kinetics problems; nucleation, growth and crystallization; quantum mechanics/electrostatic problems relevant to electronic/magnetic/optical devices. The use of MatLab will be emphasized. prereq: Math 2374 or equivalent, MatS 3011 (or &) Coreqs: Math 2373 or equivalent, Chem 4502/Phys 2303

MATS 3801. Structural Characterization Lab. (; 4 cr. ; A-F only; Every Fall)

Characterization of structure of engineering materials by optical/electron microscopy, atomic force microscopy, x-ray diffraction, spectroscopic method, related methods. Crystallography, defects, microstructure, macromolecular structure. Specimen preparation, data collection/analysis, maintaining laboratory notebook. prereq: [3011, MatS upper div] or dept consent

MATS 3851W. Materials Properties Lab.

(WI; 4 cr. ; A-F or Audit; Every Spring) Characterization of properties of engineering materials. Mechanical, electrical, optical, magnetic, and thermal properties. Relationship between properties and materials structure. Specimen preparation. Data collection and analysis, including statistical analysis. Laboratory notebook and report writing. prereq: [3801, 3013, MatS upper div] or dept consent

MATS 4041. Industrial Assignment II. (2 cr. ; A-F only; Every Fall, Spring & Summer)

Industrial assignment in engineering co-op program. Application of materials science principles to engineering design problems in an industrial work environment. Formal written report and presentation. prereq: 3041, GPA of at least 2.80, registration in co-op program

MATS 4212. Ceramics. (3 cr. ; A-F or Audit; Every Fall)

Crystal structures, non-crystalline (glass) structures, microstructure. Ceramic phase relationships: binary/ternary diagrams. Ceramic properties: thermal, mechanical, electrical, magnetic, optical. Computer applications. prereq: [3011, [3001 or CHEN 3101], [MatS or ChEn upper div]] or instr consent

MATS 4214. Polymers. (; 3 cr. ; A-F or Audit; Every Spring)

Polymer structure-property relations: structure/morphology of crystalline/amorphous state. Crystallization kinetics. Vitrification and glass transition. Mechanical properties, failure, permeability, optical/electrical properties, polymer composites, effect of processing on properties. prereq: [3011, [3001 or CHEN 3101], [upper div MatS or ChEn]] or instr consent

MATS 4221. Materials Performance. (4 cr. ; A-F only; Every Fall)

Thermal/mechanical processing to control properties/other applications. Analysis of costs/performance, failure in metallurgical structures by use of fracture mechanics methodology. prereq: 3012, AEM 2031, Upper div MatS

MATS 4223W. Polymer Laboratory. (WI; 2 cr. ; Student Option; Every Spring)

Synthesis, characterization, and physical properties of polymers. Free radical, condensation, emulsion, anionic polymerization. Infrared spectroscopy/gel permeation chromatography. Viscoelasticity, rubber elasticity, crystallization.

MATS 4301W. Materials Processing. (WI; 4 cr. ; A-F only; Every Spring)

Casting, solidification and plastic forming of metals. Powder processing, forming

operations, sintering of ceramics. Processing of thermoplastic/thermoset polymers. Computer applications of data collection/reduction. prereq: 4212, [4214 or concurrent registration is required (or allowed) in 4214] Upper Div MatS

MATS 4312. Principles and Applications of Solar Cells. (3 cr. ; A-F only; Every Fall)

This course begins with a discussion of current energy conversion and consumption before focusing on the working principles and applications of solar cells. Students will understand the operation of solar cells based on optical absorption, carrier generation and recombination, and charge separation in semiconductors. Several different materials platforms for solar cells are discussed including monocrystalline, thin film (inorganic, organic, and hybrid semiconductors), and tandem devices. Students will also develop an understanding of associated cost and economic considerations.

MATS 4400. Senior Design Project. (; 3 cr. ; A-F only; Every Spring)

Work in teams to apply expertise in materials science/engineering toward a specific project. With mentor from industry or faculty member guidance, each team defines a problem/follows design steps that culminate in a product design. prereq: Sr MatS major

MATS 4591. Independent Study in Materials Science. (; 1-3 cr. [max 6 cr.] ; Student Option No Audit; Every Fall, Spring & Summer)

Library, theoretical, laboratory or design studies of scientific or engineering topics in materials science for an individual student. Course content and credits by arrangement with professor. Design credits available if arranged with professor. May be used for upper division Honors Program experience if arranged with professor. prereq: Upper div mat sci

MATS 4593. Directed Study in Materials Science. (; 1-4 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)

This course can take two forms: (a) Library, theoretical or design studies of scientific or engineering topics in materials science for an individual or a small group of students. Course content and credits by arrangement with professor. Design credits available if arranged with professor. (b) Special topics course offered only once, e.g., by a visiting professor. prereq: upper div MatS

MATS 4594. Directed Research in Materials Science. (; 1-3 cr. [max 6 cr.] ; Student Option No Audit; Every Fall, Spring & Summer)

Research studies of scientific or engineering topics in materials science for an individual or small group of students. Course content and credits by arrangement with professor. Design credits available if arranged with professor. May be used for upper division Honors Program experience if arranged with professor. prereq: Upper div mat sci

MATS 5517. Microscopy of Materials. (; 3 cr. ; A-F or Audit; Every Spring)

A basic introduction to electron microscopy (EM) methods and techniques for materials characterization. The course is intended for

junior- and senior-level undergraduates and graduate students interested in obtaining a basic understanding of characterization with EM. Topics to be covered include an introduction to instrumentation, basics of scattering theory, and a survey of imaging, diffraction, and analytical measurement techniques. Current and emerging techniques will also be covered, including machine learning and big data for EM and time-resolved measurements. Students will research a specific topic of interest over the course of the semester, culminating in a project paper and a class presentation.

MATS 5531. Electrochemical Engineering. (3 cr. ; Student Option; Periodic Fall)
Fundamentals of electrochemical engineering. Topics include electrochemical mass transfer electrokinetics, thermodynamics of cells, modern sensors, formation of thin films and microstructured materials. Computer-based problems will be assigned. prereq: MatS 3011 or instr consent, upper div CSE or grad

MATS 5771. Colloids and Dispersions. (3 cr. ; A-F or Audit; Every Fall)
Preparation, stability, coagulation kinetics, or colloidal solutions. DLVO theory, electrokinetic phenomena. Properties of micelles, other microstructures. prereq: Physical chemistry

MATS 5801. Optimization in Chemical and Energy Systems Engineering. (3 cr. ; A-F or Audit; Every Fall)
Mathematical optimization is a rigorous and systematic method for modeling and solving decision-making problems. It has become an indispensable tool in various disciplines, including economics, science, and engineering. In this course, students are introduced to the theory of mathematical optimization, systematic approaches to modeling complex optimization problems, and state-of-the-art algorithms for solving them. While the presented methods are general, we focus on applications in chemical engineering, energy systems engineering, and related disciplines. Many of the applications are directly related to the efficient design and operation of sustainable industrial systems.

MATS 5802. Machine Learning for Chemical Sciences and Engineering. (3 cr. ; A-F or Audit; Periodic Fall & Spring)
This course is meant to be an introduction for advanced-undergraduates or graduate students to probabilistic machine learning (ML) and to recent advances at the intersection of chemical sciences/engineering and ML. The course provides an introduction to Machine Learning with a Bayesian perspective, thus placing a lot of emphasis on Bayesian reasoning and methods. After an overview of the fundamental concepts necessary to tackle the subject, namely Probability Theory, Decision Theory, Information Theory, and an exploration of simple probability distributions, the students will be introduced to Mixture Models, Linear Methods and Neural Networks (NN). These topics will lay the foundation for a discussion of molecular descriptors, Behler-Parrinello NN, Message Passing NN, and possibly, Kernel Methods for quantum chemistry.

MATS 5803. Chemical and Materials Technology Commercialization. (3 cr. ; A-F only; Every Fall)
Introduction to chemical and materials technology commercialization including a focus on products, markets, customers, and processes for bringing innovations to market.

Mathematics (MATH)

MATH 1001. Excursions in Mathematics. (MATH; 3 cr. ; Student Option; Every Fall & Spring)
Introduction to the breadth and nature of mathematics and the power of abstract reasoning, with applications to topics that are relevant to the modern world, such as voting, fair division of assets, patterns of growth, and opinion polls. prereq: 3 yrs high school math or placement exam or [grade of at least C- in PSTL 731 or 732]

MATH 1031. College Algebra and Probability. (MATH; 3 cr. ; Student Option; Every Fall, Spring & Summer)
Graphs of equations and functions, transformations of graphs; linear, quadratic, polynomial, and rational functions, with applications; inverses and compositions of functions; exponential and logarithmic functions with applications; basic probability rules, conditional probabilities, binomial probabilities. prereq: 3 yrs high school math or satisfactory score on placement exam or grade of at least C- in [PSTL 731 or PSTL 732 or CI 0832]

MATH 1038. College Algebra and Probability Submodule. (1 cr. ; A-F or Audit; Every Fall, Spring & Summer)
For students who need probability/permutations/combinations portion of 1031. Meets with 1031, has same grade/work requirements. prereq: 1051 or 1151 or 1155

MATH 1040. Topics in Mathematics. (1 cr. ; S-N only; Every Fall & Spring)
See Specific Topic Titles

MATH 1042. Mathematics of Design. (MATH; 4 cr. ; Student Option; Every Fall)
A tour of mathematics relevant to principles of design that support the "making" of things: from objects to buildings. Project-based problem solving. Systems of equations, trigonometry, vectors, analytic geometry, conic sections, transformations, approximation of length, area, and volume. Prereq: Satisfactory score on placement test or grade of at least C- in [1031 or 1051]

MATH 1049. Intermediate Algebra Skills. (1 cr. ; S-N only; Every Fall & Spring)
This course serves as a co-requisite course to MATH 1031 and MATH 1051. It is designed to reinforce the skills in Intermediate Algebra and Trigonometry that are necessary for success in College Algebra. Students should enroll in this course if their placement exam score indicates that their preparedness for College Algebra is borderline. Other students with sufficiently high placement exam scores can enroll in MATH 1031/1051 without registering for MATH 1049. Students enrolled in this course should be concurrently enrolled in MATH 1031

or MATH 1051. This course is designed to build computational skills in material that is important for success in MATH 1031/1051. Skills include signed expressions, simplifying rational numbers and radicals, evaluating expressions, functions and function notation, and simplifying monomial expressions.

MATH 1051. Precalculus I. (MATH; 3 cr. ; Student Option; Every Fall, Spring & Summer)
Graphs of equations and functions, transformations of graphs; linear, quadratic, polynomial, and rational functions with applications; zeroes of polynomials; inverses and compositions of functions; exponential and logarithmic functions with applications; coverage beyond that found in the usual 3 years of high school math. prereq: 3 yrs of high school math or satisfactory score on placement test or grade of at least C- in [PSTL 731 or PSTL 732 or CI 0832]

MATH 1139. College Algebra Skills. (1 cr. ; S-N only; Every Fall & Spring)
This course serves as a co-requisite course to MATH 1142. It is designed to reinforce the skills in College Algebra that are necessary for success in Short Calculus. Students should enroll in this course if their placement exam score indicates that their preparedness for Short Calculus is borderline. Other students with sufficiently high placement exam scores can enroll in MATH 1142 without registering for MATH 1139. Students enrolled in this course should be concurrently enrolled in MATH 1142. This course is designed to review computational skills in material that is important for success in MATH 1142. Skills include simplifying rational expressions, rationalizing the denominator, functions and function notation, factoring polynomials, the distance formula, equations of lines, exponential and logarithmic functions, and systems of equations.

MATH 1142. Short Calculus. (MATH; 4 cr. ; Student Option; Every Fall, Spring & Summer)
A streamlined one-semester tour of differential and integral calculus in one variable, and differential calculus in two variables. No trigonometry/does not have the same depth as MATH 1271-1272. Formulas and their interpretation and use in applications. prereq: Satisfactory score on placement test or grade of at least C- in [1031 or 1051]

MATH 1149. College Algebra Skills. (1 cr. ; S-N only; Every Fall & Spring)
This course serves as a co-requisite course to MATH 1151. It is designed to reinforce the skills in College Algebra that are necessary for success in Trigonometry. Students should enroll in this course if their placement exam score indicates that their preparedness for Trigonometry is borderline. Other students with sufficiently high placement exam scores can enroll in MATH 1151 without registering for MATH 1149. Students enrolled in this course should be concurrently enrolled in MATH 1151. This course is designed to review computational skills in material that is important for success in MATH 1151. Skills include simplifying rational expressions, rationalizing the denominator, functions and function

notation, factoring polynomials, congruent and similar triangles, distance formula, equations of lines, exponential functions, and sequences.

MATH 1151. Precalculus II. (MATH; 3 cr. ; Student Option; Every Fall, Spring & Summer) Properties of trigonometric functions and their inverses, including graphs and identities, with applications; polar coordinates, equations, graphs; complex numbers, complex plane, DeMoivre's Theorem; conic sections; systems of linear equations and inequalities, with applications; arithmetic and geometric sequences and series. prereq: Satisfactory score on placement exam or grade of at least C- in [1031 or 1051]

MATH 1155. Intensive Precalculus. (MATH; 5 cr. ; Student Option; Every Fall & Spring) Graphs of equations and functions; polynomial and rational functions; inverses and composition of functions; exponentials and logarithms; trig functions, graphs, identities; polar coordinates; complex numbers; systems of linear equations; arithmetic, geometric sequences, series; applications. prereq: 3 yrs high school math or satisfactory score on placement exam or grade of at least C- in [PSTL 731 or PSTL 732]

MATH 1241. Calculus and Dynamical Systems in Biology. (MATH; 4 cr. ; Student Option; Every Fall & Spring) Differential/integral calculus with biological applications. Discrete/continuous dynamical systems. Models from fields such as ecology/evolution, epidemiology, physiology, genetic networks, neuroscience, and biochemistry. prereq: [4 yrs high school math including trig or satisfactory score on placement test or grade of at least C- in [1151 or 1155]], CBS student

MATH 1269. Precalculus Skills. (1 cr. ; S-N only; Every Fall & Spring) This course serves as a co-requisite course to MATH 1241, MATH 1271, and MATH 1371. It is designed to reinforce the skills in College Algebra and Trigonometry that are necessary for success in Calculus. Students should enroll in this course if their placement exam score indicates that their preparedness for Calculus is borderline. Other students with sufficiently high placement exam scores can enroll in MATH 1241/1271/1371 without registering for MATH 1269. Students enrolled in this course should be concurrently enrolled in MATH 1241, MATH 1271, or MATH 1371. This course is designed to review computational skills in material that is important for success in an introductory Differential Calculus. Skills include simplifying rational expressions, factoring, binomial theorem, finding roots, quadratic formula, rationalizing denominators, equations of lines, laws of exponents and logarithms, graphs of common functions, the unit circle, trig identities, inverse trig functions, isolating variables, similar triangles, geometric formulas, inequalities, functions and function notation, domain and range of functions, inverse functions, composition of functions, symmetry, recursion and sequences, and solving systems of equations.

MATH 1271. Calculus I. (MATH; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Differential calculus of functions of a single variable, including polynomial, rational, exponential, and trig functions. Applications, including optimization and related rates problems. Single variable integral calculus, using anti-derivatives and simple substitution. Applications may include area, volume, work problems. prereq: 4 yrs high school math including trig or satisfactory score on placement test or grade of at least C- in [1151 or 1155]

MATH 1272. Calculus II. (; 4 cr. ; Student Option; Every Fall, Spring & Summer) Techniques of integration. Calculus involving transcendental functions, polar coordinates. Taylor polynomials, vectors/curves in space, cylindrical/spherical coordinates. prereq: [1271 or equiv] with grade of at least C-

MATH 1371. CSE Calculus I. (MATH; 4 cr. ; Student Option; Every Fall & Spring) Differentiation of single-variable functions, basics of integration of single-variable functions. Applications: max-min, related rates, area, curve-sketching. Use of calculator, cooperative learning. prereq: CSE or pre-bioproduct concurrent registration is required (or allowed) in biosys engn (PRE), background in [precalculus, geometry, visualization of functions/graphs], instr consent; familiarity with graphing calculators recommended

MATH 1372. CSE Calculus II. (; 4 cr. ; Student Option; Every Spring) Techniques of integration. Calculus involving transcendental functions, polar coordinates, Taylor polynomials, vectors/curves in space, cylindrical/spherical coordinates. Use of calculators, cooperative learning. prereq: Grade of at least C- in [1371 or equiv], CSE or pre-Bioproduct/Biosys Engr

MATH 1471. UM Talented Youth Mathematics Program--Calculus I, First Semester. (MATH; 2 cr. [max 4 cr.] ; A-F or Audit; Every Fall) Accelerated honors-level sequence for selected mathematically talented high school students. Single variable calculus through differentiation and its applications.

MATH 1472. UM Talented Youth Mathematics Program--Calculus I, Second Semester. (MATH; 2 cr. [max 4 cr.] ; A-F or Audit; Every Spring) Accelerated honors sequence for selected mathematically talented high school students. Integration and its applications.

MATH 1473. UM Talented Youth Mathematics Program--Calculus II, First Semester. (MATH; 2 cr. [max 4 cr.] ; A-F or Audit; Every Fall) Accelerated honors sequence for selected mathematically talented high school students. Sequences and series, differential equations, 3D analytical geometry, and methods of proof.

MATH 1474. Honors Calculus IIB for Secondary Students. (; 3 cr. ; Student Option; Every Spring) Accelerated honors sequence. Linear Algebra from geometric viewpoint. First-order systems of differential equations. prereq: 1473H

MATH 1571H. Honors Calculus I. (MATH; 4 cr. ; A-F only; Every Fall) Differential/integral calculus of functions of a single variable. Emphasizes hard problem-solving rather than theory. prereq: Honors student and permission of University Honors Program

MATH 1572H. Honors Calculus II. (; 4 cr. ; A-F only; Every Spring) Continuation of 1571. Infinite series, differential calculus of several variables, introduction to linear algebra. prereq: 1571H, honors student, permission of University Honors Program

MATH 2142. Elementary Linear Algebra. (; 4 cr. ; Student Option; Every Fall & Spring) This course has three primary objectives. (1) To present the basic theory of linear algebra, including: solving systems of linear equations; determinants; the theory of Euclidean vector spaces and general vector spaces; eigenvalues and eigenvectors of matrices; inner products; diagonalization of quadratic forms; and linear transformations between vector spaces. (2) To introduce certain aspects of numerical linear algebra and computation. (3) To introduce applications of linear algebra to other domains such as data science. Objectives (2) and (3) will be taught with hands-on computer projects in a high-level programming language. Prerequisites: MATH 1272 or equivalent

MATH 2241. Mathematical Modeling of Biological Systems. (3 cr. [max 4 cr.] ; Student Option; Every Fall & Spring) Development, analysis and simulation of models for the dynamics of biological systems. Mathematical topics include discrete and continuous dynamical systems, linear algebra, and probability. Models from fields such as ecology, epidemiology, physiology, genetics, neuroscience, and biochemistry. prereq: [1241 or 1271 or 1371] w/grade of at least C-

MATH 2243. Linear Algebra and Differential Equations. (; 4 cr. ; Student Option; Every Fall, Spring & Summer) Linear algebra: basis, dimension, matrices, eigenvalues/eigenvectors. Differential equations: first-order linear, separable; second-order linear with constant coefficients; linear systems with constant coefficients. prereq: [1272 or 1282 or 1372 or 1572] w/grade of at least C-

MATH 2263. Multivariable Calculus. (; 4 cr. ; Student Option; Every Fall, Spring & Summer) Derivative as linear map. Differential/integral calculus of functions of several variables, including change of coordinates using Jacobians. Line/surface integrals. Gauss, Green, Stokes Theorems. prereq: [1272 or 1372 or 1572] w/grade of at least C-

MATH 2373. CSE Linear Algebra and Differential Equations. (; 4 cr. ; Student Option; Every Fall & Spring) Linear algebra: basis, dimension, eigenvalues/eigenvectors. Differential equations: linear equations/systems, phase space, forcing/resonance, qualitative/numerical analysis of nonlinear systems, Laplace transforms. Use of computer technology. prereq: [1272 or 1282 or

1372 or 1572] w/grade of at least C-, CSE or pre-Bio Prod/Biosys Engr

MATH 2374. CSE Multivariable Calculus and Vector Analysis. (; 4 cr. ; Student Option; Every Fall & Spring)

Derivative as linear map. Differential/integral calculus of functions of several variables, including change of coordinates using Jacobians. Line/surface integrals. Gauss, Green, Stokes theorems. Use of computer technology. prereq: [1272 or 1282 or 1372 or 1572] w/grade of at least C-, CSE or pre-Bioprod/Biosys Engr

MATH 2471. UM Talented Youth

Mathematics Program--Calculus II, Second Semester. (MATH; 2 cr. [max 4 cr.]; A-F or Audit; Every Spring)

Accelerated honors sequence for selected mathematically talented high school students. Theoretical and geometric linear algebra.

MATH 2472. UM Talented Youth

Mathematics Program--Calculus III, First Semester. (MATH; 2 cr. [max 4 cr.]; A-F or Audit; Every Fall)

Accelerated honors sequence for selected mathematically talented high school students. Geometry of surfaces and curves in \mathbb{R}^n . Multivariable calculus through differentiation using linear algebra.

MATH 2473. UM Talented Youth

Mathematics Program--Calculus III, Second Semester. (MATH; 2 cr. [max 4 cr.]; A-F or Audit; Every Spring)

Accelerated honors sequence for selected mathematically talented high school students. Multivariable integration and classical vector analysis.

MATH 2474. Advanced Topics for

Secondary Students. (; 3 cr. ; Student Option; Every Spring)

Topics may include linear algebra, combinatorics, advanced differential equations, probability/statistics, numerical analysis, dynamical systems, topology/geometry. Emphasizes concepts/explorations. prereq: 2473H

MATH 2573H. Honors Calculus III. (; 4 cr. ; A-F only; Every Fall)

Integral calculus of several variables. Vector analysis, including theorems of Gauss, Green, Stokes. prereq: Math 1572H or Math 2574H, honors student and permission of University Honors Program

MATH 2574H. Honors Calculus IV. (; 4 cr. ; A-F only; Every Spring)

Advanced linear algebra, differential equations. Additional topics as time permits. prereq: Math 1572H or Math 2573H, honors student and permission of University Honors Program

MATH 2999. Special Exam. (5 cr. ; Student Option;)

MATH 3283W. Sequences, Series, and Foundations: Writing Intensive. (WI; 4 cr. ; Student Option; Every Fall & Spring)

Introduction to reasoning used in advanced mathematics courses. Logic, mathematical induction, real number system, general/monotone/recursively defined sequences,

convergence of infinite series/sequences, Taylor's series, power series with applications to differential equations, Newton's method. Writing-intensive component. prereq: [concurrent registration is required (or allowed) in 2243 or concurrent registration is required (or allowed) in 2263 or concurrent registration is required (or allowed) in 2373 or concurrent registration is required (or allowed) in 2374] w/grade of at least C-

MATH 3592H. Honors Mathematics I. (; 5 cr. ; A-F only; Every Fall)

First semester of three-semester sequence. Focuses on multivariable calculus at deeper level than regular calculus offerings. Rigorous introduction to sequences/series. Theoretical treatment of multivariable calculus. Strong introduction to linear algebra. prereq: dept consent; for students with mathematical talent

MATH 3593H. Honors Mathematics II. (; 5 cr. ; A-F or Audit; Every Spring)

Second semester of three-semester sequence. Focuses on multivariable calculus at deeper level than regular calculus offerings. Rigorous introduction to sequences/series. Theoretical treatment of multivariable calculus. Strong introduction to linear algebra. prereq: 3592H or instr consent

MATH 4065. Theory of Interest. (; 4 cr. ; A-F only; Every Fall & Spring)

Time value of money, compound interest and general annuities, loans, bonds, general cash flows, basic financial derivatives and their valuation. Primarily for students who are interested in actuarial mathematics. prereq: 1272 or 1372 or 1572

MATH 4067W. Actuarial Mathematics in Practice. (WI; 3 cr. ; A-F only; Every Spring)

Real world actuarial problems that require integration of mathematical skills with knowledge from other disciplines such as economics, statistics, and finance. Communication and interpersonal skills are enhanced by teamwork/presentations to the practitioner actuaries who co-instruct. prereq: 4065, ACCT 2050, ECON 1101, ECON 1102

MATH 4152. Elementary Mathematical

Logic. (; 3 cr. ; Student Option; Every Spring) Propositional logic. Predicate logic: notion of a first order language, a deductive system for first order logic, first order structures, Godel's completeness theorem, axiom systems, models of formal theories. prereq: one soph math course or instr consent

MATH 4242. Applied Linear Algebra. (; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Systems of linear equations, vector spaces, subspaces, bases, linear transformations, matrices, determinants, eigenvalues, canonical forms, quadratic forms, applications. prereq: 2243 or 2373 or 2573

MATH 4281. Introduction to Modern Algebra. (; 4 cr. ; Student Option; Periodic Fall)

Equivalence relations, greatest common divisor, prime decomposition, modular arithmetic, groups, rings, fields, Chinese

remainder theorem, matrices over commutative rings, polynomials over fields. prereq: 2283 or 3283 or instr consent

MATH 4428. Mathematical Modeling. (; 4 cr. ; Student Option; Every Spring)

Modeling techniques for analysis/decision-making in industry. Optimization (sensitivity analysis, Lagrange multipliers, linear programming). Dynamical modeling (steady-states, stability analysis, eigenvalue methods, phase portraits, simulation). Probabilistic methods (probability/statistical models, Markov chains, linear regression, simulation). prereq: 2243 or 2373 or 2573

MATH 4471W. Mathematics for Social Justice. (WI; 4 cr. ; A-F only; Every Spring)

This course will introduce you to quantitative literacy, critical thinking, and problem solving skills in socially relevant contexts. While students may be accustomed to thinking about mathematics as an abstract set of principles and proofs, this course will encourage thinking about mathematics in concrete contexts as a way to improve our communities and the world. Students will develop the ability and inclination to understand and develop realistic solutions to issues of social, political, and economic justice. Examples of specific topics include: the Flint water crisis, sea level change in an island community, gerrymandering, and racial bias in policing. The mathematical tools used will include basic statistics, modeling, and data analysis, among others. While most students in this class will be "good at math," this class explores using math to do good. Prereq: Math 1272 or instructor consent

MATH 4512. Differential Equations with Applications. (; 3 cr. ; Student Option; Every Fall & Spring)

Laplace transforms, series solutions, systems, numerical methods, plane autonomous systems, stability. prereq: 2243 or 2373 or 2573

MATH 4567. Applied Fourier Analysis. (; 4 cr. ; Student Option; Every Fall & Spring)

Fourier series, integral/transform. Convergence. Fourier series, transform in complex form. Solution of wave, heat, Laplace equations by separation of variables. Sturm-Liouville systems, finite Fourier, fast Fourier transform. Applications. Other topics as time permits. prereq: 2243 or 2373 or 2573

MATH 4603. Advanced Calculus I. (; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Axioms for the real numbers. Techniques of proof for limits, continuity, uniform convergence. Rigorous treatment of differential/integral calculus for single-variable functions. prereq: [[2243 or 2373], [2263 or 2374]] or 2574 or instr consent

MATH 4604. Advanced Calculus II. (; 4 cr. ; Student Option; Every Spring)

Sequel to MATH 4603. Topology of n-dimensional Euclidean space. Rigorous treatment of multivariable differentiation and integration, including chain rule, Taylor's Theorem, implicit function theorem, Fubini's Theorem, change of variables, Stokes' Theorem. prereq: 4603 or 5615 or instr consent

MATH 4653. Elementary Probability. (; 4 cr. ; Student Option; Every Fall & Spring)
Probability spaces, distributions of discrete/continuous random variables, conditioning. Basic theorems, calculational methodology. Examples of random sequences. Emphasizes problem-solving. prereq: [2263 or 2374 or 2573]; [2283 or 2574 or 3283] recommended

MATH 4707. Introduction to Combinatorics and Graph Theory. (; 4 cr. ; Student Option; Every Fall & Spring)
Existence, enumeration, construction, algorithms, optimization. Pigeonhole principle, bijective combinatorics, inclusion-exclusion, recursions, graph modeling, isomorphism. Degree sequences and edge counting. Connectivity, Eulerian graphs, trees, Euler's formula, network flows, matching theory. Mathematical induction as proof technique. prereq: 2243, [2283 or 3283]

MATH 4990. Topics in Mathematics. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

MATH 4991. Independent Study. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

MATH 4992. Directed Reading. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
TBD

MATH 4993. Directed Study. (; 1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
TBD

MATH 4995. Senior Project for CLA. (; 1 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Directed study. May consist of paper on specialized area of math or original computer program or other approved project. Covers some math that is new to student. Scope/topic vary with instructor. prereq: 2 sem of upper div math, dept consent

MATH 4997W. Senior project (Writing Intensive). (WI; 1 cr. [max 2 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Directed study. A 10-15 page paper on a specialized area, including some math that is new to student. At least two drafts of paper given to instructor for feedback before final version. Student keeps journal of preliminary work on project. Scope/topic vary with instructor. prereq: 2 sem upper div math, dept consent

MATH 5067. Actuarial Mathematics I. (; 4 cr. ; Student Option; Every Fall)
Future lifetime random variable, survival function. Insurance, life annuity, future loss random variables. Net single premium, actuarial present value, net premium, net reserves. prereq: 4065, [one sem [4xxx or 5xxx] [probability or statistics] course]

MATH 5068. Actuarial Mathematics II. (; 4 cr. ; Student Option; Every Spring)
Multiple decrement insurance, pension valuation. Expense analysis, gross premium, reserves. Problem of withdrawals. Regulatory

reserving systems. Minimum cash values. Additional topics at instructor's discretion. prereq: 5067

MATH 5075. Mathematics of Options, Futures, and Derivative Securities I. (; 4 cr. ; Student Option; Every Fall)
Mathematical background (e.g., partial differential equations, Fourier series, computational methods, Black-Scholes theory, numerical methods--including Monte Carlo simulation). Interest-rate derivative securities, exotic options, risk theory. First course of two-course sequence. prereq: Two yrs calculus, basic computer skills

MATH 5076. Mathematics of Options, Futures, and Derivative Securities II. (; 4 cr. ; A-F or Audit; Every Spring)
Mathematical background such as partial differential equations, Fourier series, computational methods, Black-Scholes theory, numerical methods (including Monte Carlo simulation), interest-rate derivative securities, exotic options, risk theory. prereq: 5075

MATH 5165. Mathematical Logic I. (; 4 cr. ; Student Option; Every Fall)
Theory of computability: notion of algorithm, Turing machines, primitive recursive functions, recursive functions, Kleene normal form, recursion theorem. Propositional logic. prereq: 2283 or 3283 or Phil 5201 or CSci course in theory of algorithms or instr consent

MATH 5248. Cryptology and Number Theory. (; 4 cr. ; Student Option; Every Fall)
Classical cryptosystems. One-time pads, perfect secrecy. Public key ciphers: RSA, discrete log. Euclidean algorithm, finite fields, quadratic reciprocity. Message digest, hash functions. Protocols: key exchange, secret sharing, zero-knowledge proofs. Probabilistic algorithms: pseudoprimes, prime factorization. Pseudo-random numbers. Elliptic curves. prereq: 2 sems soph math

MATH 5251. Error-Correcting Codes, Finite Fields, Algebraic Curves. (; 4 cr. ; Student Option; Every Spring)
Information theory: channel models, transmission errors. Hamming weight/distance. Linear codes/fields, check bits. Error processing: linear codes, Hamming codes, binary Golay codes. Euclidean algorithm. Finite fields, Bose-Chaudhuri-Hocquenghem codes, polynomial codes, Goppa codes, codes from algebraic curves. prereq: 2 sems soph math

MATH 5285H. Honors: Fundamental Structures of Algebra I. (; 4 cr. ; Student Option; Every Fall)
Review of matrix theory, linear algebra. Vector spaces, linear transformations over abstract fields. Group theory, including normal subgroups, quotient groups, homomorphisms, class equation, Sylow's theorems. Specific examples: permutation groups, symmetry groups of geometric figures, matrix groups. prereq: [2243 or 2373 or 2573], [2283 or 2574 or 3283]

MATH 5286H. Honors: Fundamental Structures of Algebra II. (; 4 cr. ; Student Option; Every Fall & Spring)

Ring/module theory, including ideals, quotients, homomorphisms, domains (unique factorization, euclidean, principal ideal), fundamental theorem for finitely generated modules over euclidean domains, Jordan canonical form. Introduction to field theory, including finite fields, algebraic/transcendental extensions, Galois theory. prereq: 5285

MATH 5335. Geometry I. (; 4 cr. ; Student Option; Every Fall)
Advanced two-dimensional Euclidean geometry from a vector viewpoint. Theorems/problems about triangles/circles, isometries, connections with Euclid's axioms. Hyperbolic geometry, how it compares with Euclidean geometry. prereq: [2243 or 2373 or 2573], [concurrent registration is required (or allowed) in 2263 or concurrent registration is required (or allowed) in 2374 or concurrent registration is required (or allowed) in 2574]

MATH 5345H. Honors: Introduction to Topology. (; 4 cr. ; A-F only; Every Fall)
Rigorous introduction to general topology. Set theory, Euclidean/metric spaces, compactness/connectedness. May include Urysohn metrization, Tychonoff theorem or fundamental group/covering spaces. prereq: [2263 or 2374 or 2573], [concurrent registration is required (or allowed) in 2283 or concurrent registration is required (or allowed) in 2574 or concurrent registration is required (or allowed) in 3283]

MATH 5378. Differential Geometry. (; 4 cr. ; Student Option; Every Spring)
Basic geometry of curves in plane and in space, including Frenet formula, theory of surfaces, differential forms, Riemannian geometry. prereq: [2263 or 2374 or 2573], [2243 or 2373 or 2574]; [2283 or 3283] recommended]

MATH 5385. Introduction to Computational Algebraic Geometry. (; 4 cr. ; Student Option; Every Fall)
Geometry of curves/surfaces defined by polynomial equations. Emphasizes concrete computations with polynomials using computer packages, interplay between algebra and geometry. Abstract algebra presented as needed. prereq: [2263 or 2374 or 2573], [2243 or 2373 or 2574]

MATH 5445. Mathematical Analysis of Biological Networks. (; 4 cr. ; Student Option; Every Spring)
Development/analysis of models for complex biological networks. Examples taken from signal transduction networks, metabolic networks, gene control networks, and ecological networks. prereq: Linear algebra, differential equations

MATH 5447. Theoretical Neuroscience. (; 4 cr. ; Student Option; Every Fall)
Nonlinear dynamical system models of neurons and neuronal networks. Computation by excitatory/inhibitory networks. Neural oscillations, adaptation, bursting, synchrony. Memory systems. prereq: 2243 or 2373 or 2574

MATH 5467. Introduction to the Mathematics of Image and Data Analysis. (; 4 cr. ; Student Option; Every Spring)

Background theory/experience in wavelets. Inner product spaces, operator theory, Fourier transforms applied to Gabor transforms, multi-scale analysis, discrete wavelets, self-similarity. Computing techniques. prereq: [2243 or 2373 or 2573], [2283 or 2574 or 3283 or instr consent]; [[2263 or 2374], 4567] recommended

MATH 5485. Introduction to Numerical Methods I. (4 cr. ; Student Option; Every Fall) Solution of nonlinear equations in one variable. Interpolation, polynomial approximation. Methods for solving linear systems, eigenvalue problems, systems of nonlinear equations. prereq: [2243 or 2373 or 2573], familiarity with some programming language

MATH 5486. Introduction To Numerical Methods II. (4 cr. ; Student Option; Every Spring) Numerical integration/differentiation. Numerical solution of initial-value problems, boundary value problems for ordinary differential equations, partial differential equations. prereq: 5485

MATH 5490. Topics in Applied Mathematics. (4 cr. [max 12 cr.] ; Student Option; Periodic Fall & Spring) Topics vary by instructor. See class schedule.

MATH 5525. Introduction to Ordinary Differential Equations. (4 cr. ; Student Option; Periodic Fall & Spring) Ordinary differential equations, solution of linear systems, qualitative/numerical methods for nonlinear systems. Linear algebra background, fundamental matrix solutions, variation of parameters, existence/uniqueness theorems, phase space. Rest points, their stability. Periodic orbits, Poincare-Bendixson theory, strange attractors. prereq: [2243 or 2373 or 2573], [2283 or 2574 or 3283]

MATH 5535. Dynamical Systems and Chaos. (4 cr. ; Student Option; Every Fall & Spring) Dynamical systems theory. Emphasizes iteration of one-dimensional mappings. Fixed points, periodic points, stability, bifurcations, symbolic dynamics, chaos, fractals, Julia/Mandelbrot sets. prereq: [2243 or 2373 or 2573], [2263 or 2374 or 2574]

MATH 5583. Complex Analysis. (4 cr. ; Student Option; Every Fall, Spring & Summer) Algebra, geometry of complex numbers. Linear fractional transformations. Conformal mappings. Holomorphic functions. Theorems of Abel/Cauchy, power series. Schwarz' lemma. Complex exponential, trig functions. Entire functions, theorems of Liouville/Morera. Reflection principle. Singularities. Laurent series. Residues. prereq: 2 sems soph math [including [2263 or 2374 or 2573], [2283 or 3283]] recommended

MATH 5587. Elementary Partial Differential Equations I. (4 cr. ; Student Option; Every Fall) Emphasizes partial differential equations w/physical applications, including heat, wave, Laplace's equations. Interpretations of boundary conditions. Characteristics, Fourier series, transforms, Green's functions, images, computational methods. Applications include

wave propagation, diffusions, electrostatics, shocks. prereq: [2243 or 2373 or 2573], [2263 or 2374 or 2574]

MATH 5588. Elementary Partial Differential Equations II. (4 cr. ; A-F or Audit; Every Spring) Heat, wave, Laplace's equations in higher dimensions. Green's functions, Fourier series, transforms. Asymptotic methods, boundary layer theory, bifurcation theory for linear/nonlinear PDEs. Variational methods. Free boundary problems. Additional topics as time permits. prereq: [[2243 or 2373 or 2573], [2263 or 2374 or 2574], 5587] or instr consent

MATH 5615H. Honors: Introduction to Analysis I. (4 cr. ; Student Option; Every Fall) Axiomatic treatment of real/complex number systems. Introduction to metric spaces: convergence, connectedness, compactness. Convergence of sequences/series of real/complex numbers, Cauchy criterion, root/ratio tests. Continuity in metric spaces. Rigorous treatment of differentiation of single-variable functions, Taylor's Theorem. prereq: [[2243 or 2373], [2263 or 2374], [2283 or 3283]] or 2574

MATH 5616H. Honors: Introduction to Analysis II. (4 cr. ; Student Option; Every Spring) Rigorous treatment of Riemann-Stieltjes integration. Sequences/series of functions, uniform convergence, equicontinuous families, Stone-Weierstrass Theorem, power series. Rigorous treatment of differentiation/integration of multivariable functions, Implicit Function Theorem, Stokes' Theorem. Additional topics as time permits. prereq: 5615

MATH 5651. Basic Theory of Probability and Statistics. (4 cr. ; Student Option; Every Fall & Spring) Logical development of probability, basic issues in statistics. Probability spaces, random variables, their distributions/expected values. Law of large numbers, central limit theorem, generating functions, sampling, sufficiency, estimation. prereq: [2263 or 2374 or 2573], [2243 or 2373]; [2283 or 2574 or 3283] recommended.

MATH 5652. Introduction to Stochastic Processes. (4 cr. ; Student Option; Every Fall & Spring) Random walks, Markov chains, branching processes, martingales, queuing theory, Brownian motion. prereq: 5651 or Stat 5101

MATH 5654. Prediction and Filtering. (4 cr. ; Student Option; Every Spring) Markov chains, Wiener process, stationary sequences, Ornstein-Uhlenbeck process. Partially observable Markov processes (hidden Markov models), stationary processes. Equations for general filters, Kalman filter. Prediction of future values of partially observable processes. prereq: 5651 or Stat 5101

MATH 5705. Enumerative Combinatorics. (4 cr. ; Student Option; Every Fall & Spring) Basic enumeration, bijections, inclusion-exclusion, recurrence relations, ordinary/exponential generating functions, partitions,

Polya theory. Optional topics include trees, asymptotics, listing algorithms, rook theory, involutions, tableaux, permutation statistics. prereq: [2243 or 2373 or 2573], [2263 or 2283 or 2374 or 2574 or 3283]

MATH 5707. Graph Theory and Non-Enumerative Combinatorics. (4 cr. ; Student Option; Every Fall & Spring) Basic topics in graph theory: connectedness, Eulerian/Hamiltonian properties, trees, colorings, planar graphs, matchings, flows in networks. Optional topics include graph algorithms, Latin squares, block designs, Ramsey theory. prereq: [2243 or 2373 or 2573], [2263 or 2374 or 2574]; [2283 or 3283 or experience in writing proofs] highly recommended; Credit will not be granted if credit has been received for: 4707

MATH 5711. Linear Programming and Combinatorial Optimization. (4 cr. ; Student Option; Every Fall & Spring) Simplex method, connections to geometry, duality theory, sensitivity analysis. Applications to cutting stock, allocation of resources, scheduling problems. Flows, matching/transportation problems, spanning trees, distance in graphs, integer programs, branch/bound, cutting planes, heuristics. Applications to traveling salesman, knapsack problems. prereq: 2 sems soph math [including 2243 or 2373 or 2573]

MATH 5900. Tutorial in Advanced Mathematics. (1-6 cr. [max 120 cr.] ; A-F or Audit; Every Fall, Spring & Summer) Individually directed study.

MATH 5990. Topics in Mathematics. (3-4 cr. [max 12 cr.] ; Student Option; Periodic Fall & Spring) Topics vary by instructor. See class schedule.

Mathematics Education (MTHE)

MTHE 3101. Mathematics and Pedagogy for Elementary Teachers I. (3 cr. ; A-F or Audit; Every Fall, Spring & Summer) Math content knowledge of K-6 in an environment modeling pedagogy for future implementation. Integrated content/methods. Problem solving, connections, communication, reasoning, representation. Functions, proportionality, number, numeration. prereq: [College algebra, elementary FOE or Early Childhood student, jr status or above] or instr consent

MTHE 3102. Mathematics and Pedagogy for Elementary Teachers II. (3 cr. ; A-F or Audit; Every Fall, Spring & Summer) Math content knowledge of K-6 in an environment modeling pedagogy for future implementation. Integrated content/methods. Problem solving, connections, communication, reasoning, representation. Geometry, measurement, probability, statistics. prereq: 3101, college algebra

MTHE 5011. Arithmetic Structures in School Mathematics. (3 cr. ; Student Option; Every Summer) Pedagogy, content, and instructional strategies for teaching arithmetic. Content and issues

relevant to the K-8 mathematics curriculum. Instructional materials and technology appropriate for elementary or middle school arithmetic. Credit hours and targeted level vary with particular classes. prereq: Enrollment in math initial licensure program or tchg exper

MTHE 5021. Algebraic Structures in School Mathematics. (; 3 cr. ; Student Option; Every Fall)

Pedagogy, content, and instructional strategies for teaching arithmetic. Content and issues relevant to the algebra curriculum. Instructional materials and technology appropriate for arithmetic. Each offering of the course will focus on either elementary/middle or middle/secondary grade levels. prereq: Tchg exper or instr consent

MTHE 5031. Geometric Structures in School Mathematics. (; 3 cr. ; Student Option; Every Spring)

Pedagogy, content, and instructional strategies for teaching school geometry. Content and issues relevant to the geometry curriculum. Instructional materials and technology appropriate for geometry. Each offering will focus on either elementary/middle or middle/secondary grade levels. prereq: Enrollment in math initial licensure program

MTHE 5115. Applications of Teaching Mathematics. (3 cr. ; A-F only; Every Fall)

The purpose of this course is to examine mathematics teaching in diverse school settings and help you inquire and reflect about your own teaching practice and its impact on you, and the students you will meet. Throughout this course we will collaboratively inquire about teaching and learning, observe and analyze instruction, and reflect on your own and each other's teaching. We will develop and integrate technological knowledge that works together with pedagogical and content knowledge to make math teaching more effective. prereq: You must be enrolled in the Mathematics initial licensure program to take this course.

MTHE 5155. Rational Number Concepts and Proportionality. (; 3 cr. ; Student Option; Fall Even Year)

The relationship between the development of rational number concepts and proportional reasoning skills. Examination of how newer school curricula treat these concepts. Application of materials in the classroom and analysis of results. Reading and responding to current research. prereq: Educ student or instr consent

MTHE 5171. Teaching Problem Solving. (; 3 cr. ; Student Option; Periodic Spring & Summer)

Investigation of fundamental concepts and principles of problem solving, reasoning, and proof. Emphasis on activities and applications appropriate for junior and senior high classes. Pedagogical experiences to prepare teachers to teach problem solving, reasoning, and proof in classrooms.

MTHE 5172. Teaching Probability and Statistics. (; 3 cr. ; Student Option; Fall Odd Year)

Investigation of fundamental concepts and principles of probability and statistics. Emphasis on activities and applications appropriate for junior and senior high school classes. Pedagogical experiences to prepare teachers to integrate quantitative literacy accurately and effectively in classrooms.

MTHE 5305. Middle School Mathematics Methods. (; 2 cr. ; A-F only; Every Fall)

The unique needs of middle school students in the mathematics classroom. Mathematics content and pedagogical skills. Adolescent development/psychology. Field placement in a middle school mathematics classroom. prereq: Elem ed licensure student

MTHE 5314. Teaching and Learning Mathematics. (; 3 cr. ; Student Option; Every Fall)

Methods, materials, and curriculum development. Principles of learning. Review of research. Preparation/evaluation of tests, units, and materials of instruction. Recent developments in mathematics curriculum and in instructional alternatives. Issues in teaching/learning. Program planning/evaluation. prereq: Math Ed or MEd or CI MEd or grad student or instr consent

MTHE 5355. Mathematics for Diverse Learners. (; 3 cr. ; Student Option; Every Fall & Spring)

Mathematical concepts and methods for exceptional students, both low achieving and gifted. Experimental materials and methods designed for underachieving students. prereq: Teaching license or student in elem ed or special ed or instr consent

MTHE 5366. Technology-Assisted Mathematics Instruction. (; 3 cr. ; Student Option; Every Spring)

Technology--including computers, programmable and graphing calculators, and video--as instructional tools in mathematics; design and evaluation of technology-based mathematics lessons; the effect of technology on the mathematics curriculum; managing the technology-enriched classroom.

MTHE 5696. Student Teaching in Mathematics. (; 1-8 cr. ; S-N only; Every Spring)

Student teaching in secondary school mathematics classes. prereq: MEd/initial licensure student or instr consent

MTHE 5993. Directed Studies in Mathematics Education. (; 2 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Secondary school classroom teaching project to improve specific teaching skills, planned by student, approved/directed by student's adviser. prereq: Math ed MEd student, instr consent

Mechanical Engineering (ME)

ME 2011. Introduction to Engineering. (; 4 cr. ; A-F or Audit; Every Fall)

Skills critical for practicing engineers. Mechanical engineering, engineering design. Visual, written, and oral communication forms. Computer-based design tools.

Substantial design projects, including prototype construction. prereq: CSE pre-major

ME 2021. Introduction to Programming and Computations for Mechanical Engineers. (4 cr. ; A-F or Audit; Every Fall & Spring)

This course introduces programing concepts and numerical methods, specific to engineers using MATLAB. Programming concepts include variable types, data structures, programming logic, debugging, file input and output, functions, and data visualization. These topics will then be used to develop numerical methods, topics to include root finding, differentiation, integration, systems of equations, and an introduction to solving ordinary differential equations. An emphasis will be placed on using these methods to solve mechanical engineering problems. prereq: Completed or concurrent registration in Math 1272 or 1372 or 1572H

ME 3041. Industrial Assignment I. (2 cr. ; A-F only; Every Fall, Spring & Summer)

Industrial work assignment in engineering intern program. Evaluation based on student's formal written report covering the quarter's work assignment. prereq: ME upper div, enrolled in ME co-op program

ME 3080. Topics in Mechanical Engineering. (; 1-4 cr. [max 16 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Specialized topics within various areas of mechanical engineering. Topics vary each semester. prereq: dept consent

ME 3221. Fundamentals of Design & Manufacturing. (; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Material behavior and failure in design and manufacturing. Models for material removal, bulk deformation, sheet metal forming, and consolidation processes. Characterization of process capabilities and parts. prereq: 2011, AEM 3031, MatS 2001

ME 3222. Mechanisms & Machine Design. (; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Selection of standard mechanical components such as bearings, gears, and fasteners. Analysis and synthesis of motion in machines. Displacement, velocity, and acceleration of mechanisms. Machine design project: Apply lecture topics to develop new machines that fulfill customer specifications. prereq: [3221 or concurrent registration is required (or allowed in 3221), [CSci 1113 or equiv]

ME 3281. System Dynamics and Control. (; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Dynamics of mechanical, electrical, thermal, fluid, and hybrid systems. System response using Laplace transform and numerical integration. Fourier transform and convolution. Transfer functions and frequency response. Introduction to classical control. prereq: AEM 2021, [Math 2243 or Math 2373], ME upper div

ME 3324. Introduction to Thermal Science. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Thermodynamics, heat transfer. Thermal properties of substances. First/second laws

of thermodynamics. Steady/unsteady heat conduction. Thermal resistance concept. Convection heat transfer. Radiative heat transfer between solid surfaces. Boiling/condensation heat transfer. prereq: Chem 1061, Chem 1065, Math 2243 or Math 2373, Phys 1301. [CSE student]

ME 3331. Thermodynamics. (3 cr. ; A-F only; Every Fall, Spring & Summer)
Properties, equations of state, processes, cycles for reversible and irreversible thermodynamic systems. Modes of energy transfer. Equations for conservation of mass, energy, entropy balances. Application of thermodynamic principles to modern engineering systems. prereq: Chem 1061, Chem 1065, Phys 1301

ME 3332. Fluid Mechanics. (3 cr. ; A-F only; Every Fall, Spring & Summer)
Mass, momentum conservation principles. Fluid statics, Bernoulli equation. Control volume analysis, dimensional analysis, internal and external viscous flow. Momentum and energy considerations. Introduction to boundary layers. prereq: Math 2243 or Math 2373, 3331

ME 3333. Heat Transfer. (3 cr. ; A-F only; Every Fall, Spring & Summer)
Mechanisms of heat transfer. Conduction, convection, radiation. Boundary layer analysis using momentum and energy equations. Applications such as fins, heat exchangers, electronics cooling, bioheat transfer, energy conversion technologies, phase change energy storage and boiling. prereq: 3332

ME 3990. Curricular Practical Training. (1 cr. [max 2 cr.] ; S-N only; Every Fall, Spring & Summer)
Industrial work assignment involving advanced mechanical engineering technology. Reviewed by faculty member. Final report covering work assignment. prereq: ME major

ME 4031W. Basic Mechanical Measurements Laboratory. (WI; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Experimental methods, statistical estimates of experimental uncertainty, calibration, signal conditioning, selected transducers for mechanical measurements, data acquisition/processing. Temperature, pressure, humidity, stress-strain, force, velocity, flow/radiative properties. prereq: IE 4521, upper div ME

ME 4043W. Industrial Assignment II. (WI; 4 cr. ; A-F only; Every Fall, Spring & Summer)
Solution of system design problems that require developing criteria, evaluating alternatives, and generating a preliminary design. Final report emphasizes design communication and describes design decision process, analysis, and final recommendations. prereq: 3041

ME 4044. Industrial Assignment III. (; 2 cr. ; A-F only; Every Fall, Spring & Summer)
Industrial work assignment in engineering co-op program. Evaluation based on student's formal written report covering semester work assignment. prereq: ME upper div, registration in ME co-op program

ME 4053. Mechanical Engineering Modeling. (4 cr. ; Student Option; Every Fall & Spring)
This course is aimed at teaching undergraduate students mechanical engineering modeling, technical analysis and technical design capabilities from a non-compartmentalized perspective. The course focuses on, (i) modeling complex, multi-disciplinary mechanical engineering problems by identifying critical elements of a problem, (ii) design and development of analysis tools using analytical and numerical techniques and (iii) developing optimized solutions/designs to problems/challenges. PREREQ: ME 3221, ME 3222, ME 3281, ME 3331, ME 3332, ME 3333

ME 4054W. Design Projects. (WI; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Students work in teams and undertake single, substantial design project. Design problems are open-ended. Product design process. Teams give formal presentation of progress at mid-semester design review, show completed work at design show. prereq: 2011, 3221, 3222, 3281, 3331, 3332, 3333, 4031W, AEM 2021, AEM 3031, EE 3005, ME upper div

ME 4080. Topics in Mechanical Engineering. (; 1-4 cr. [max 8 cr.] ; Student Option; Every Fall)
Topics vary each semester. prereq: ME upper div

ME 4081H. Mechanical Engineering Honors Thesis I. (; 2 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Unstructured research course enabling honors students to do independent research supervised by faculty. Selection of suitable topics according to individual interests and faculty approval. Thesis and oral defense. prereq: ME upper div honors student, instr consent

ME 4082H. Mechanical Engineering Honors Thesis II. (WI; 2 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Unstructured research course enabling honors students to do independent research supervised by faculty. Selection of suitable topics according to individual interests and faculty approval. Thesis and oral defense. prereq: ME upper div honors student, instr consent

ME 4090. Advanced Engineering Problems. (; 2-4 cr. ; Student Option; Every Fall, Spring & Summer)
Independent research project with faculty advisor in mechanical engineering, typically related to advisor's research interests. Student contacts advisor to develop project description well before project's start date. prereq: ME upper div, instr consent

ME 4131W. Indoor Environment & Energy Laboratory. (WI; 4 cr. ; A-F or Audit; Every Fall)
Experiments in psychrometrics, refrigeration, air conditioning, solar energy, indoor air quality, and other topics related to refrigeration, building heating/cooling, and indoor air quality. prereq: ME 3333, ME 4031W, admitted to upper division/ME major

ME 4231. Motion Control Laboratory. (; 4 cr. ; A-F or Audit; Every Fall & Spring)
Microprocessor programming, digital filters, frequency response testing, modeling of electromechanical systems, closed loop velocity and position control, programmable logic controllers, factory automation, open loop position control of a vibratory system using input shaping, closed loop position control using pole placement. prereq: 3281, 4031W, ME upper div

ME 4232. Fluid Power Control Lab. (; 4 cr. ; A-F or Audit; Every Fall & Spring)
Fluid power fundamentals. Description/operation of components. Fluid power symbols/circuits. Component sizing. Modeling/simulation, system identification, controller design/implementation. Connecting/making measurements on hydraulic circuits. Lab. prereq: 3281, 4031W, ME upper div

ME 4331. Thermal Energy Engineering Laboratory. (; 4 cr. ; A-F or Audit; Every Fall & Spring)
Measurement/analysis of heat transfer in single phase, multiphase, reacting environments. Experimental measurements relevant to thermal/fluid systems, statistical design of experiments/uncertainty analysis. Heat exchange. prereq: [3331, 3332, 3333, 4031W], [ME upper div or grad student]

ME 4431W. Energy Conversion Systems Laboratory. (WI; 4 cr. ; A-F or Audit; Every Fall & Spring)
Analyze operation/control of engines, power plants, heating/ventilation systems. Performance characteristics of devices, measurement techniques. Interpretation of experimental data. Presentation of results. prereq: 3333, 4031W, [ME upper div or grad student]

ME 4583. Design for Life: Water in Tanzania. (GP,TS; 3 cr. ; A-F only; Every Spring)
Teams will evaluate community needs and infrastructure to design potable water-handling systems in rural Tanzania, typically off the power grid. Fluid mechanics: complex distribution networks, system losses, pump selection, borehole development; field measurements. Designs must address Tanzanian design guidelines.

ME 5070. Topics in Mechanical Engineering. (; 1-4 cr. [max 8 cr.] ; Student Option; Periodic Fall, Spring & Summer)
Specialized topics within areas of mechanical engineering. Emphasis on topics of current interest. Topics vary each semester. prereq: CSE upper div or grad student

ME 5101. Vapor Power Cycles. (; 4 cr. ; A-F or Audit; Periodic Spring)
Vapor power cycle analysis, regeneration, reheat, compound cycle modifications, combined gas turbine--vapor cycle systems, components, fuels and combustion, heat sources -- solar, nuclear, geothermal, low T cycles, bottoming cycles, environmental concerns. EES software used extensively for cycle analysis. prereq: CSE upper div or grad student

ME 5103. Thermal Environmental

Engineering. (; 4 cr. ; A-F or Audit; Every Fall)
Thermodynamic properties of moist air; psychrometric charts; HVAC systems; solar energy; human thermal comfort; indoor air quality; heating and cooling loads in buildings. prereq: 3331 or 3332, 3333, CSE upper div or grad

ME 5113. Aerosol/Particle Engineering. (; 4 cr. ; A-F or Audit; Every Fall)

Kinetic theory, definition, theory and measurement of particle properties, elementary particle mechanics, particle statistics; Brownian motion and diffusion, coagulation, evaporation and condensation, sampling and transport. prereq: CSE upper div or grad student

ME 5133. Aerosol Measurement Laboratory. (; 4 cr. ; A-F or Audit; Periodic Spring)

Principles of aerosol measurement. Single particle analysis by optical and electron microscopy. Aerosol samplers and inertial collectors. Integral mass concentration and number concentration detectors. Size distribution by laser particle counter and differential mobility particle sizer. Aerosol generation and instrument calibration. prereq: CSE upper div or graduate student

ME 5221. Computer-Assisted Product Realization. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Injection molding with emphasis on design of manufacturing processes. Tooling design and specification of processing conditions using computer-based tools; process simulation software and computer-controlled machine tools. Simultaneous process and part design. Production of tooling and parts. Part evaluation. prereq: 3221, AEM 3031, CSci 1113, MatS 2001

ME 5223. Materials in Design. (; 4 cr. ; Student Option; Every Fall)

Fundamental properties of engineering materials. Fabrication, treatment. Physical/corrosive properties. Failure mechanism, cost/value analysis as related to material selection/specification. prereq: 3221, ME upper division or grad student

ME 5228. Introduction to Finite Element Modeling, Analysis, and Design. (; 4 cr. ; A-F or Audit; Every Fall)

Finite elements as principal analysis tool in computer-aided design (CAD); theoretical issues and implementation aspects for modeling and analyzing engineering problems encompassing stress analysis, heat transfer, and flow problems for linear situations. One-, two-, and three-dimensional practical engineering applications. prereq: CSE upper div or grad, 3221, AEM 3031, CSci 1113, MatS 2001

ME 5229. Finite Element Method for Computational Mechanics: Transient/Dynamic Applications. (4 cr. ; A-F or Audit; Spring Odd Year)

Computational mechanics involving transient/dynamic situations for solids and structures, heat transfer, fluid flow, nano-mechanics and the like. Development and analysis

of numerical methods and computational algorithms. Stability and accuracy of algorithms, convergence issues; linear/nonlinear situations. Implicit, explicit, mixed, and variable time discretization approaches; modal-based methods for engineering problems. CSE upper div or grad, CSci 1113, ME 3221, ME 3333, ME 5228 or equiv

ME 5241. Computer-Aided Engineering. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Apply computer-aided engineering to mechanical design. Engineering design projects and case studies using computer-aided design and finite element analysis software; design optimization and computer graphical presentation of results. prereq: 3222, CSci 1113 or equiv, CSE upper div or grad

ME 5243. Advanced Mechanism Design. (; 4 cr. ; A-F or Audit; Periodic Summer)

Analytical methods of kinematic, dynamic, and kinetoelastodynamic analysis and synthesis of mechanisms. Computerized design for function, path, and motion generation based on Burmeister theory. prereq: CSE upper div or grad, 3222 or equiv, basic kinematics and dynamics of machines; knowledge of CAD packages such as Pro-E recommended

ME 5247. Applied Stress Analysis. (; 4 cr. ; A-F or Audit; Spring Odd Year)

Intermediate-level solid mechanics with application to common machine elements such as unsymmetrical beams, non-circular shafts and plates. Stress functions. Introduction to energy methods for stress analysis. Experimental methods for measuring strains and determining related stresses, with lab. prereq: AEM 3031, MatS 2001, ME 3221

ME 5248. Vibration Engineering. (; 4 cr. ; Student Option; Periodic Summer)

Apply vibration theory to design; optimize isolators, detuning mechanisms, viscoelastic suspensions and structures. Use modal analysis methods to describe free vibration of complex systems, relating to both theoretical and test procedures. prereq: CSE upper div or grad, 3281

ME 5281. Feedback Control Systems. (; 4 cr. ; Student Option; Every Fall)

Continuous and discrete time feedback control systems. Frequency response, stability, poles and zeros; transient responses; Nyquist and Bode diagrams; root locus; lead-lag and PID compensators, Nichols-Ziegler design method. State-space modeling/control. Digital implementation. Computer-aided design and analysis of control systems. prereq: 3281

ME 5286. Robotics. (; 4 cr. ; A-F or Audit; Every Spring)

The course deals with two major components: robot manipulators (more commonly known as the robot arm) and image processing. Lecture topics covered under robot manipulators include their forward and inverse kinematics, the mathematics of homogeneous transformations and coordinate frames, the Jacobian and velocity control, task programming, computational issues related to robot control, determining path

trajectories, reaction forces, manipulator dynamics and control. Topics under computer vision include: image sensors, digitization, preprocessing, thresholding, edge detection, segmentation, feature extraction, and classification techniques. A weekly 2 hr. laboratory lasting for 8-9 weeks, will provide students with practical experience using and programming robots; students will work in pairs and perform a series of experiments using a collaborative robot. prereq: [3281 or equiv], [upper div ME or AEM or CSci or grad student]

ME 5312. Solar Thermal Technologies. (; 4 cr. ; A-F or Audit; Spring Odd Year)

Solar radiation fundamentals. Measurement/processing needed to predict solar irradiance dependence on time, location, and orientation. Characteristics of components in solar thermal systems: collectors, heat exchangers, thermal storage. System performance, low-temperature applications. Concentrating solar energy, including solar thermo-chemical processes, to produce hydrogen/solar power systems and photovoltaics. Solar design project. prereq: [3333, CSE upper Div] or grad student

ME 5332. Intermediate Fluid Mechanics. (4 cr. ; A-F or Audit; Every Fall)

Bridge between introductory fluid mechanics and advanced graduate level course. Principles of incompressible and compressible flows, boundary layer theory, and analysis using differential formulations of the governing conservation equations. Analysis of phenomena relevant to the practice of engineering is emphasized through problem solving. prereq: ME 3332, Admitted to upper division/ME major or graduate student

ME 5341. Case Studies in Thermal Engineering and Design. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Characteristics of applied heat transfer problems. Nature of problem specification, incompleteness of needed knowledge base, accuracy issues. Categories of applied heat transfer problems. prereq: 3333, CSE upper div or grad student

ME 5344. Thermodynamics of Fluid Flow With Applications. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Conservation of mass, momentum, energy. Relevant thermodynamic properties. Nozzles, diffusers, thrust producers, shocks. Fluid-wall frictional interactions. Wall heat transfer, internal heat release. Temperature recovery. Mass addition. Chemical thermodynamics/applications. prereq: 3333, CSE upper div or grad student

ME 5351. Computational Heat Transfer. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Numerical solution of heat conduction/ analogous physical processes. Develop/use computer program to solve complex problems involving steady/unsteady heat conduction, flow/heat transfer in ducts, flow in porous media. prereq: 3333, CSE upper div or grad student

ME 5446. Introduction to Combustion. (; 4 cr. ; A-F or Audit; Every Fall)

Thermodynamics, kinetics, energy and mass transport, pollutants in reacting systems. Reactors, laminar and turbulent flames. Ignition, quenching, and flame stability. Diffusion flames. Combustion in reciprocating engines, furnaces, and turbines, with emphasis on internal combustion engine performance and emissions. prereq: 3331, 3332, 3333, CSE upper div or grad student

ME 5461. Internal Combustion Engines. (; 4 cr. ; A-F or Audit; Every Spring)

Basic spark ignition and diesel engine principles, air, fuel-air and actual engine cycles, cycle modeling, combustion and emissions, knock phenomena, air flow and volumetric efficiency, mixture requirements, ignition requirements and performance. Lectures/complementary labs. prereq: CSE upper div or grad student, C or better in [3332, 3333] or 3324

ME 5462. Gas Turbines. (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Gas turbine cycles, regeneration, recuperation, reheat, intercooling, combined cycle plants, and thermochemical regeneration. Axial and radial flow compressors and turbines; combustor designs, energy analysis, emissions, and noise. Turbojet, fanjet, turboprop engine performance. Stationary power plants, vehicular propulsion, hybrid vehicles. prereq: 3331, 3332, 3333, CSE upper div or grad student

ME 5666. Modern Thermodynamics. (; 4 cr. ; A-F only; Every Fall & Spring)

Applications of thermodynamics to natural phenomena. Multiscale approach. Student group projects, with undergrads and grad students in same group. Three hours/week classroom instruction, one hour/week project discussion. Project presentations at weeks 8 and 14 are webcast. prereq: 3331 or equiv

Medical Device Innovation (MDI)

MDI 5001. Technical Writing Essentials. (0.5 cr. [max 1 cr.] ; A-F only; Every Fall)

This course lays the groundwork for the Medical Device Innovation capstone as well as aspects of technical writing critical for success in the Medical Device Innovation MS program. prereq: grad MDI major

MDI 5002. Technology Foresight and Forecasting. (2 cr. [max 3 cr.] ; A-F only; Every Fall, Spring & Summer)

Tools and techniques for technology forecasting, assessment, foresight for decision making in medical device industry. Topics include technology dynamics, research and development, portfolio management, and resource allocation. prereq: grad MDI major

MDI 5003. Technology Foresight & Forecasting Analytical Lab. (1 cr. ; A-F only; Every Fall)

This course is a continuation of MDI 5002: Technology Foresight & Forecasting and will afford students with an opportunity to complete the therapeutic area analysis they began in the summer semester, prepare a Powerpoint

presentation in consultation with the instructor, and then present the results of their analysis to a group of MDI faculty. prereq: grad MDI major

MDI 5004. Clinical Foundations of Medical Device Innovation. (3 cr. ; A-F only; Every Fall, Spring & Summer)

Master essential topics to deepen knowledge of Clinical Environment in which products will be conceived, tested, used. Topics include surgical protocols, physician, surgeon, nursing, technical support functions. Medical terminology, anatomy/physiology, ethnology research, Healthcare Law, Medicare/Medicaid, HIPAA requirements. prereq: MDI grad student. Non-MDI graduate students and non-degree graduate students may register for this course with permission of the MDI program.

MDI 5006. Finance, Valuation, and Entrepreneurship. (3 cr. ; A-F only; Every Summer)

Course provides students the opportunity to develop the entrepreneurial skills important in managing design, development, and commercialization of medical devices. Focuses on creating value within the organization, financial methods important to managers in technology-based organizations, and business plan development. Topics include budgeting capital, projecting financial needs, and managing working capital. Registration is limited to MDI students only.

MDI 5008. Quality, Regulatory and Operations Management. (3 cr. ; A-F only; Every Fall, Spring & Summer)

Course provides students with understanding of the global regulatory environment in which the medical device industry operates. Students gain a fundamental understanding of critical quality systems regulations including ISO13485/ISO14971 and their relationship to the FDA's cGMP regulations. Students gain practical experience using tools that are essential to both product development and continuation/sustaining engineering including: design control procedures, FMEA, verification and validation, internal and external (supplier) management and audit methods. prereq: MDI graduate student only

MDI 5010. Product Innovation & Development Management. (2 cr. [max 3 cr.] ; A-F only; Every Spring)

Framework for conceptualization, design, development, commercialization process for medical products. Survey of key steps in innovation, from engineering/business perspective. Cross-functional development of concepts/processes. prereq: Grad MDI student. Non-MDI graduate students and non-degree graduate students may register for this course with permission of the MDI program.

MDI 5012. Medical Industry Strategic Analysis. (3 cr. ; A-F only; Every Fall, Spring & Summer)

Application of macro environmental analysis to medical device industry. Methods reviewed. Industry-relevant case studies/macro environmental analysis of firms of interest. Political, economic, social, technological, legal, ecological factors that impact medical

innovation. Prereq: MDI grad student. Non-MDI graduate students and non-degree graduate students may register for this course with permission of the MDI program.

MDI 5013. Biodesign Practicum I. (2 cr. ; A-F only; Every Fall, Spring & Summer)

First of three part series of practicum courses for MDI program. Focus on teaching innovation steps/process using known/pre-assigned clinical needs as examples in collaboration with Medical Device Center. Essential steps in BioDesign process. Apply knowledge to specific real-world examples. prereq: Grad MDI student

MDI 5014. Biodesign Practicum II. (2 cr. ; A-F only; Every Fall, Spring & Summer)

Second of three part series of practicum courses for MDI program. Clinical environment, including research tools/methods, filtering/translating needs, ideation/prototype development, communication with functional managers, corporate executives/investors. prereq: Grad MDI student

MDI 5015. Biodesign Practicum III. (2 cr. ; A-F only; Every Spring)

Medical Device Innovation Practicum III is the third of a three part series. Students will gain a high-level understanding of essential steps in the BioDesign process related to ideation. The steps of the ideation process will include brainstorming and prototyping of potential solutions, risk assessment, and business strategy development. Students will prepare and present a technical evaluation that articulates the value of their new technology or device to functional managers, corporate executives, and/or investors. prereq: Grad MDI student

MDI 5020. Medical Device Innovation Capstone. (1-2 cr. ; A-F only; Every Spring & Summer)

The MDI capstone is an independent, original, and applied investigation on a relevant subject, problem, or issue in areas of medical device technologies, policy, business, and innovation. All students in the MDI program are required to complete a capstone project as part of the program. Registration is open to MDI students only.

MDI 5050. Interpersonal & Team Effectiveness. (1 cr. ; A-F only; Every Summer)

MDI 5050 builds the context and capability innovation leaders need to manage effective interpersonal relationships and develop high performance teams. Emphasis is placed on foundational principles and practices that help leaders self-manage, engage and influence key stakeholders, and generate shared commitment for team and project success. Students will increase their self-awareness through self and peer feedback and develop an action plan to enhance their leadership effectiveness in both their current work role and their MDI practicum teams. prereq: Grad MDI student

MDI 5051. Leading Innovation & Change. (1 cr. ; A-F only; Every Fall)

MDI 5051 explores the role and differentiating capabilities of outstanding innovation leaders in complex and dynamic environments. Emphasis is placed on principles and practices that help leaders focus on the right strategies, build the organizational capability required to execute a strategy, lead change initiatives and sustain commitment versus compliance among diverse stakeholders. Students will practice improving their team effectiveness and develop a change leadership plan to support implementation of either a current work initiative or their upcoming Capstone Project. prereq: Grad MDI Student and completion of MDI 5050.

MDI 5060. MDI Independent Study. (1-3 cr. ; A-F only; Periodic Fall, Spring & Summer) Independent study in MDI-related topic. prereq: MDI grad student

Medical Industry Leadrshp Inst (MILI)

MILI 3585. Navigating the Healthcare Marketplace with Economic, Social and Policy Lenses. (SOCS; 3 cr. ; A-F only; Every Fall)

The healthcare marketplace constitutes over three trillion dollars in the United States and several trillion spent throughout the world. With growing demand for medical technology and the aging of the population, the scale and complexity of the healthcare supply chain is expected to dramatically increase over the next two decades. The healthcare sector is comprised of several markets for goods and services, including physician services, hospital services, insurance, pharmaceuticals and medical devices, and information technology. At the core of it all is healthcare consumers: us as patients, patient family members and caregivers. This course aims to 1) provide a historical evolution and social transformation of the healthcare sector, 2) critically review the current survey of the health economy, 3) discuss new health policy and reform initiatives and compare to international health system models. The overall goal is to provide an understanding of the scale and interactions between different health sector markets and consumers; to identify market opportunities and policy initiatives, as well as barriers to this expanding and global industry.

MILI 3589. Medical Technology and Society. (TS; 3 cr. ; A-F or Audit; Every Spring)

Course Description Innovations in medical technologies are one of the leading areas of economic growth in the world. Whether new technologies take the form of pharmaceutical, medical device, biotechnology, information technology of some combination of these innovations, the opportunities for both private enterprise and social welfare are substantial. However, these innovations are not without cost, and require reimbursement from either a privately or publicly financed health care delivery system. Thus, the demand for the evaluation of new medical technologies continues to grow as new treatments are developed and health care costs continue to rise. This course aims to

provide knowledge of the skills, data, and methodology required to critically evaluate new medical technologies from a social perspective as well as from a business perspective in order to meet financial investment and regulatory compliance objectives. The course will provide an introduction to the analytic tool kit needed to critically evaluate new medical technologies including: 1. Understanding regulatory pathways such as the FDA approval 2. Understanding the U.S. payment policy & reimbursement for medical technology 3. Assessing unmet needs and the relevant market for the technology 4. Evaluating the social and economic value to convince payers to cover and reimburse the technology 5. Recognizing provider, healthcare organization and market-level factors that influence adoption of new medical technologies. Throughout the course, students will work on team-based hands-on exercises that will provide them gain further understanding of the impact of medical technology from the perspectives of an innovator, a regulator, a payer, a public entity, and consumers of the medical technology including physicians, hospitals, health systems and patients.

MILI 3963. Health Market Analytics. (3 cr. ; A-F only; Every Spring)

This course prepares students to analyze large health care databases with a focus on advanced applications with health insurance claims data. The course is designed to be a STEM offering with the use of statistical programming languages including R, Tableau, and SAS. This course is designed to appeal to students with an interest in developing data science as core skill and already have knowledge of some programming tools, and experience with data manipulation in Excel, SQL, or Access. Prerequisite: We recommend that students have a background in statistics. Consider MKTG 3005 - or STAT 3011 or equivalent course. We also recommend a previously taken class with Excel, R, SAS, SQL, or Access.

MILI 5995. Medical Industry Valuation Laboratory. (; 2 cr. ; A-F only; Every Fall, Spring & Summer)

Interdisciplinary student teams create rapid production market analysis of promising medical technologies/services to determine potential for success in market. Exposure to University innovations, venture firms, inventors. prereq: instr consent

MILI 5999. Independent Study. (; 1-8 cr. [max 16 cr.] ; A-F only; Every Fall, Spring & Summer) Independent study.

Medical Laboratory Sciences Pr (MLSP)

MLSP 1010. Introduction to Medical Laboratory Science. (; 1 cr. ; S-N only; Every Fall, Spring & Summer)

Introduction to medical laboratory sciences. Primary disciplines in field/areas of specialty practice. Career pathways explored in hospital laboratories, public health, research.

MLSP 2015. Medical Laboratory Scientist's Vital Role in Patient Care. (; 2 cr. ; Student Option; Every Fall, Spring & Summer)

Introduction to medical laboratory sciences and its critical role in health care. Discussion of basic functions of organ systems and laboratory tests associated with health and disease. Exploration of the profession through case studies as well as career pathways and specialty areas of practice.

MLSP 3010. Topics in Medical Laboratory Science. (; 1-4 cr. [max 8 cr.] ; Student Option; Periodic Fall, Spring & Summer) Topics shell. See title descriptions.

MLSP 5011W. Professional Issues in the Health Care Community. (WI; 2 cr. ; A-F only; Every Spring & Summer)

Current literature and written discussion to explore the laboratory profession: healthcare systems, professional scope of practice, regulatory and licensure issues, medical ethics, Interprofessional practice models and current topics impacting health care delivery. Focus is on the medical laboratory's crucial role in patient care.

MLSP 5012. Educational Methods and Interprofessional Practice. (; 1 cr. ; A-F only; Every Fall)

Introduction to basic education theory, instructional design, development of lesson goals, objectives, content delivery methods, and assessments. Course also includes exploration of Interprofessional approach to health care. Professional identity and integrity, relationships between professions and those they serve, and teamwork.

MLSP 5013. Scholarly Inquiry and Analysis in Medical Laboratory Sciences. (; 1 cr. ; A-F only; Every Fall & Summer)

Review concepts of scientific inquiry. Major steps of research project. How to select topics, evaluate literature, and construct and test working hypothesis. Analyze and interpret data, report results. Quantitative, qualitative, and mixed methods research designs.

MLSP 5013H. Scholarly Inquiry and Analysis in Medical Laboratory Sciences - Honors. (; 2 cr. ; A-F only; Every Fall & Summer)

Introduction to scientific inquiry. Steps of research projects. Topic selection, literature evaluation, construct and test hypotheses. Analyze and interpret data, report results. Quantitative, qualitative, and mixed methods designs. Students select a clinical case study, research relevant literature, and write a publication quality article.

MLSP 5014W. Laboratory Operations and Management in Health Care Systems. (WI; 2 cr. ; A-F only; Every Fall & Summer)

Operational aspects of medical laboratory fiscal and personnel management laboratory information systems, total quality management, legal aspects of test reporting, government regulatory issues, certification, licensure, accreditation policies. This course meets the campus requirement for an upper division, writing intensive course, in the major.

MLSP 5111. Concepts of Diagnostic Microbiology. (; 3 cr. ; A-F only; Every Fall)
Investigation of pathophysiologic mechanisms of disease for medically significant human bacteria and yeast including epidemiology, pathogenesis, spectrum of disease, antimicrobial susceptibility testing and therapy. Current analytical methods and applications are discussed.

MLSP 5112. Application of Diagnostic Microbiology Principles. (2 cr. ; A-F only; Every Fall)
Application of laboratory methods to identify and treat commonly encountered and clinically significant bacterial and yeast pathogens including specimen processing, culture workup, conventional microscopy, susceptibility testing, and molecular and immunological techniques. Emphasis on aerobic and anaerobic bacteria, mycobacteria, and yeast from various body sites.

MLSP 5113. Advanced Concepts in Diagnostic Microbiology. (3 cr. ; A-F only; Every Spring)
Physiology and pathogenic interactions between man and clinically significant fungal, parasitic, viral, and miscellaneous bacterial agents including the epidemiology, prevention, detection, and treatment of these agents. Current analytical methods and applications are discussed.

MLSP 5211. Fundamentals in Hematology and Hemostasis. (3 cr. ; A-F only; Every Fall)
Anatomy and physiology of hematopoietic and coagulation systems including cell morphology, theory of routine and specialized hematology and hemostasis tests, non-malignant alterations and their etiologies, current therapeutic regimens, and clinical implications. Current analytical methods and applications are discussed.

MLSP 5212. Application of Hematology & Hemostasis Principles. (1 cr. ; A-F only; Every Fall)
Theory, performance, and application of routine and specialized diagnostic procedures. Practice in venipuncture, cell counting, white blood cell differential, red cell, white cell and platelet morphology and interpretation, and coagulation studies. Quality control in diagnostic procedures. Interpretation and correlation of laboratory findings.

MLSP 5213. Diagnostic Hematology. (3 cr. ; A-F only; Every Spring)
Blood and bone marrow in assessment of hematologic function and disease. Focus on normal development, differentiation, and abnormal changes in disease. Group integration of case data including bone marrow collection, interpretation of cytochemical stains, flow cytometry, cytogenetics, molecular diagnostics in hematologic neoplasms and disorders.

MLSP 5214. Advanced Hematology Morphology. (; 1 cr. ; A-F only; Every Spring)
Blood and bone marrow in assessment of hematologic function and presence of disease. Focus on normal development and differentiation, abnormal changes in pathologic

conditions. Practice in bone marrow differential. Mastery in peripheral blood differential and morphology. Integration and interpretation of case history and specialized test data.

MLSP 5311. Fundamental Biomedical Laboratory Techniques. (4 cr. ; A-F only; Every Spring & Summer)
Foundations of biomedical laboratory methods, development of technical skills: safety, lab math, total testing process, method validation, Quality Control and Assurance. Emphasis on documentation and analysis, analytical techniques, microscopy, spectrophotometry, chromatography, electrochemical, immunologic, nucleic acid (molecular) techniques.

MLSP 5312. Body Fluid Analysis. (2 cr. ; A-F only; Every Spring)
Formation and analysis of urine, cerebrospinal, pleural, peritoneal, amniotic, synovial, seminal, and other body fluids, and the correlation to pathological conditions are discussed. Laboratory skills for analysis of the physical, chemical, and microscopic characteristics of body fluids will be developed.

MLSP 5313. Chemical Analysis in Health and Disease. (; 3 cr. ; A-F only; Every Fall)
Correlation of medically significant organic and inorganic substances found in body fluids to pathophysiology of organ systems and metabolic disorders. Topics include electrolytes, blood gases, carbohydrates, lipoproteins, bone disorders, tumor markers, therapeutic drug monitoring, cardiac, hepatic, renal, endocrine, and gastrointestinal disorders. Current analytical methods and applications are discussed.

MLSP 5511. Principles of Immunobiology. (3 cr. ; A-F only; Every Fall & Summer)
Comprehensive exploration of the immune system and functions. Fundamental principles of humoral and cellular immunity. Adaptive immunity, clinical outcomes, hypersensitivity, autoimmunity, cancer, transplantation, immunotherapy, and immunity against infectious diseases. Immunologic testing methods and immune function assessment are discussed.

MLSP 5513. Transfusion Medicine Principles and Methods. (3 cr. ; A-F only; Every Spring)
Investigation of genetics, structure and detection of clinically significant blood group antigens/antibodies. Principles of donor requirements, component therapy, transfusion reactions, hemolytic disease of the fetus and newborn, immune hemolytic anemias, quality systems, and automation in the blood bank.

MLSP 5514. Application of Transfusion Medicine Principles. (2 cr. ; A-F only; Every Spring)
Application of standard serologic techniques to the detection/identification of blood group antigens/antibodies and hemolytic disease of the fetus and newborn. Evaluation of clinically significant serum titers. Performance of direct antiglobulin, compatibility, gel and molecular testing. Utilization protocols. Recognizing/resolving common problems.

MLSP 5701. Clinical Experience in Microbiology. (2 cr. ; S-N only; Every Fall, Spring & Summer)
Practical hands-on experience, application of theory, technical, and affective competencies learned on campus in a microbiology laboratory. Designed to assist students in making transition to clinical practitioner.

MLSP 5702. Clinical Experience in Hematology and Hemostasis. (2 cr. ; S-N only; Every Fall, Spring & Summer)
Practical hands-on experience, apply technical and affective competencies learned on campus in a hematology and coagulation laboratory. Designed to assist students in making transition to clinical practitioner.

MLSP 5703. Clinical Experience in Clinical Chemistry and Urinalysis. (2 cr. ; S-N only; Every Fall, Spring & Summer)
Practical hands-on experience, apply technical and affective competencies learned on campus to a chemistry, urinalysis, and body fluids laboratory. Designed to assist students in making transition to clinical practitioner.

MLSP 5704. Clinical Experience in Transfusion Medicine. (2 cr. ; S-N only; Every Fall, Spring & Summer)
Practical hands-on experience, apply technical and affective competencies learned on campus to a transfusion services laboratory. Designed to assist students in making transition to clinical practitioner.

MLSP 5801. Advanced Practicum Experience in Specialty Disciplines. (1 cr. [max 2 cr.] ; S-N only; Every Fall, Spring & Summer)
Students select an advanced specialty discipline of MLS: cytogenetics, flow cytometry, bone marrow, molecular diagnostics, toxicology, education, management, research, public health, etc.

Medical Physics (MPHY)

MPHY 5040. Introduction to Medical Physics. (3 cr. ; A-F only; Every Spring)
Interactions and energy deposition by ionizing radiation in matter; medical imaging; radiation therapy physics and related radiation safety topics.

MPHY 5138. Research Seminar. (; 1-5 cr. ; S-N or Audit; Every Fall)

MPHY 5139. Seminar and Journal Club. (; 1 cr. [max 2 cr.] ; S-N or Audit; Every Spring)
Current research/topics related to goals/methods of biophysical sciences and medical physics. Lectures/discussions.

MPHY 5160. Advanced Radiation Physics and Dosimetry. (3 cr. ; A-F only; Every Fall)
Interactions and energy deposition by ionizing radiation in matter; concepts, quantities and units in radiological physics; principles and methods of radiation dosimetry.

MPHY 5170. Radiation Therapy Physics I. (; 3 cr. ; Student Option; Every Fall)
Theoretical/experimental aspects of radiological physics. Physical properties of

various ionizing radiations, interactions of ionizing radiations with matter, methods of radiation dose measurement. prereq: instr consent

MPHY 5171. Medical and Health Physics of Imaging I. (3 cr. ; Student Option; Every Fall)

Physics of diagnostic imaging: specification/quantification of image quality, X-ray production, image receptors, magnetic resonance imaging, radiation exposure and protection. Special imaging techniques, including mammography, computed tomography, and direct digital image capture. prereq: 5170 or instr consent

MPHY 5172. Radiation Biology. (3 cr. ; Student Option; Every Fall & Spring)

Effects of ionizing radiation on cells, tissues, and organisms. Biochemical/physiological bases of radiation effects. Biological rationale for radiation therapy practices. prereq: 5170 or instr consent

MPHY 5173. Radiation Therapy Physics II. (3 cr. ; Student Option; Every Spring)

Measurements of radiation quality, output, and depth dose distributions for clinical use. Treatment parameter calculation. Beam modification and shaping. Treatment planning for fixed field and rotational therapy in external beam, intracavitary, and interstitial therapy. Computer applications in treatment planning. Principles/criteria for radiation protection. prereq: 5170 or instr consent

MPHY 5174. Medical and Health Physics of Imaging II. (3 cr. ; Student Option; Every Spring)

Physics of diagnostic imaging. Ultrasound, theoretical/experimental applications of radionuclides in medicine and biology. Counting statistics and imaging systems associated with radiopharmaceuticals, radiation dosimetry, and safety in nuclear medicine. prereq: 5170 or instr consent

MPHY 5177. Radiation Therapy Physics Lab: Radiation Physics Basics. (3 cr. ; A-F only; Every Spring)

This course provides students hands-on experience with Hardware/software used in radiation therapy clinic for physics measurements. prereq: 5170 or concurrent registration is required (or allowed) in 5173 or instr consent

MPHY 5178. Physical Principles of Magnetic Resonance Imaging. (3 cr. ; Student Option; Spring Even Year)

Magnetic resonance imaging physics, spatial selection and encoding, imaging hardware and system engineering. Imaging sequences, signal-to-noise, and contrast.

Medicinal Chemistry (MEDC)

MEDC 5185. Principles of Biomolecular Simulation. (3 cr. ; Student Option; Periodic Fall)

Molecular simulation for students in medicinal chemistry, pharmaceuticals, biochemistry, and chemical physics prereq: Chem 3502 or instr consent

MEDC 5245. Introduction to Drug Design. (3 cr. ; A-F or Audit; Every Fall)

Concepts that govern design/discovery of drugs. Physical, bioorganic, medicinal chemical principles applied to explain rational design, mechanism of action drugs. prereq: Chem

MEDC 5485. Drug Metabolism and Pharmacokinetics. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Drug Metabolism and Pharmacokinetics is a stand-alone elective that is intended for Medicinal Chemistry graduate students or other students interested in the drug development process. Absorption and pharmacokinetic principles will be supplemented with problem sets. The primary method of instruction is lecture-based with the use of textbook readings and review articles as support for class notes and discussions. A total of 2 non-cumulative exams will be given during the semester. Prerequisites: Organic Chemistry, Med Chem 8001 (may be waived for students from other programs). This course adheres to the items listed in the College of Pharmacy Central Syllabus: https://docs.google.com/a/umn.edu/document/d/1artQ5e1rbzxe8IEtWo7BE8k8snZAEgMMz_QcW8yE/edit?pli=1

MEDC 5494. Advanced Methods in Quantitative Drug Analysis. (2 cr. ; A-F or Audit; Periodic Fall & Spring)

Quantitative methods (HPLC, GC, TLC, immunoassays) for analysis of drugs/metabolites in biological fluids. Advanced techniques such as capillary electrophoresis, supercritical fluid chromatography, GC-MS, LC-MS, tandem mass spectrometry. Chromatographic theory/statistical approaches to method validation.

MEDC 5495. Vistas in Medicinal Chemistry Research. (1 cr. ; S-N or Audit; Every Fall)

Selected topics of contemporary interest in medicinal chemistry

Medieval Studies (MEST)

MEST 1002. Medieval Tales and their Modern Echoes. (GP,LITR; 3 cr. ; Student Option; Every Spring)

Knights of the Round Table, dragon-slayers, magic djinn, pilgrims in Hell. How these stories have been retold in modern fiction, film, and the arts. Texts from Europe and other regions of globe.

MEST 1081W. Martyrs, Monks, Crusaders: World Christianity, 100-1400. (GP,WI,HIS; 4 cr. ; Student Option; Fall Odd, Spring Even Year)

This course surveys the history of Christianity from its status as a persecuted minority religion of the Roman Empire to its dominant role in medieval Europe and Byzantium. We study Christian traditions in Asia and Africa as well as Europe with special attention to the relationship between Christianity and culture in the ancient and medieval world.

MEST 3001. Introduction to Medieval History. (GP,HIS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Europe from decline of Rome to early Renaissance. Politics, institutions, society, economy, and culture of Middle Ages.

MEST 3002. Medieval Tales and their Modern Echoes. (GP,LITR; 3 cr. ; Student Option; Every Spring)

Knights of the Round Table, dragon-slayers, magic djinn, pilgrims in Hell. How these stories have been retold in modern fiction, film, and the arts. Texts from Europe and other regions of globe.

MEST 3009. Medieval Art. (AH; 3 cr. ; Student Option; Every Fall & Spring)

Medieval art in Western Europe, from around 1000 to the mid-14th century. Works from France, Spain, Germany, Italy, and England examined in their historical context. Cross cultural relations, development of completely new forms of art and techniques, and the processes of realization.

MEST 3072. Witchcraft, Possession, Magic: Concepts in the Atlantic Supernatural, 1500-1800. (LITR; 3 cr. ; Student Option; Every Spring)

Salem is what typically comes to mind when we think of witchcraft, and our class will indeed focus on the 1692 trials and their aftermath. But we will also range more broadly, exploring witchcraft in the early Atlantic world by paying special attention to the roles played by magic and possession. A fundamental aspect of this course, moreover, is its distinction as a literary one. This is not a class about how witchcraft, possession, and magic "change over time" but a class about their representations. From the beginning, we will be deeply attentive to the fact that each and every "evidence" of witchcraft, possession, or magic is an act of representation in the first place. As literary historians, we will move from Europe to the Americas, looking at how invocations and accusations of witchcraft traveled between the 16th and late-18th centuries. More importantly, as literary critics we will trace and examine depictions of witchcraft and the idea of the witch across four interrelated socio-historical contexts: the Protestant Reformation in 16th-century Europe; slave medicine and obeah in the Caribbean; possession and the "invisible world" in Puritan Massachusetts; and revivalism in 18th-century New England. By the end of this course, you will be able to: interpret literary texts and understand the literary aspects of historical documents; place literature in relation to its historical and cultural contexts; locate and evaluate relevant scholarship and cultural commentary; and formulate and communicate a focused and stylistically appropriate that supports its claims with textual evidence, especially through close and critical reading.

MEST 3081W. Martyrs, Monks, Crusaders: World Christianity, 100-1400. (GP,WI,HIS; 4 cr. ; Student Option; Fall Odd, Spring Even Year)

This course surveys the history of Christianity from its status as a persecuted minority religion of the Roman Empire to its dominant role in medieval Europe and Byzantium. We study Christian traditions in Asia and Africa as well as

Europe with special attention to the relationship between Christianity and culture in the ancient and medieval world.

MEST 3101. Knights and Pilgrims in Medieval Literature. (LITR; 3 cr. ; A-F or Audit; Fall Odd Year)

Medieval writers and readers were fascinated by stories about knights and about pilgrims. In this course, we study some of the best-known and most compelling narratives and poems from the Middle Ages. Although written hundreds of years ago, these literary works speak to us of the human desire to strive for meaning and excellence, to work toward shared ideas of community, and to explore worlds beyond the sometimes narrow confines of home. Knights and pilgrims appear as central figures in a wide range of literary works. Some of the texts are humorous, like Chaucer's *Canterbury Tales* in which pilgrims, from social classes ranging from knights to tradespeople, travel together and tell stories. Some are exciting and emotional, like Malory's retelling of stories about King Arthur and his knights. Others provide us with explorations of longing for change: in these works people search for new kinds of social and spiritual life such as Margery Kempe's autobiographical account of her experiences as a pilgrim to Rome and the Holy Land. Still others, such as Langland's *Piers Plowman*, which incorporates pilgrimage and chivalric quest, critique and explode static ideas about social problems such as poverty and hunger. Some draw our attention to the dangers and turmoil involved in love and relationships, such as Marie de France's courtly, aristocratic lays: Marie's knights and ladies take up the search for love and meaning. Some, finally, invite us to imagine ourselves in mysterious otherworlds, such as Mandeville's *Travels* and Sir Orfeo, both of which focus on travel and self knowledge. These exciting and challenging works continue to speak to us about the quest to pursue ideals and to change the world and ourselves

MEST 3102. Chaucer. (3 cr. ; A-F or Audit; Every Fall & Spring)

Major/representative works written by Chaucer, including *The Canterbury Tales*, *Troilus and Criseyde*, and the dream visions. Historical, intellectual, and cultural background of the poems. Language, poetic theory, form.

MEST 3206. Sex, Murder, and Bodily Discharges: Purity and Pollution in the Ancient World. (3 cr. ; Student Option; Every Spring)

"Dirt is dangerous" wrote Mary Douglas more than 50 years ago in her groundbreaking study, *Purity and Danger: An Analysis of Concept of Pollution and Taboo*. Her work has been influential in ancient Near Eastern and Mediterranean studies when dealing with issues of sacred/profane, purity/pollution, and ritual sacrifice and purification. Douglas' work provides a framework within which to understand ancients' thinking about these concepts that range from the sacredness of space and of bodies to perceived pollutions caused by bodily leakage or liminal stages of life and death. In this course, we will examine

Douglas' theory in light of ancient evidence, with special attention to ancient Israelite literature (the Tanakh or Old Testament) and ancient Jewish literature (the Dead Sea Scrolls), but we will also analyze other ancient Near Eastern and Mediterranean examples of purity and pollution (from epigraphical and documentary evidence).

MEST 3271. The Viking World: Story, History, and Archaeology. (3 cr. ; Student Option; Periodic Fall)

Viking society and expansion of Viking influence abroad. Viking impact on Western Europe; interactions with Slavic lands; settlement of North Atlantic islands; and Western Europe's impact on Scandinavian lands. Analyzes archaeological, historical, linguistic, and numismatic evidence.

MEST 3426. Piracy in the Mediterranean: The World of Merchants and Pirates. (GP,HIS; 3 cr. ; Student Option No Audit; Spring Odd Year)

This course will use the vehicle of piracy and privateering in the Mediterranean world to explore issues of cross-cultural interaction, global connections, and identity from earliest times when people took to the sea to the Middle Ages through the early modern era, 500-1800. Wherever there was trade, wherever there was movement on the seas, there was piracy. Recent scholarship on the Mediterranean has focused on connectivities, micro-environments, the uniqueness of islands, and various climatic spheres in a geographic tradition that follows the path-breaking work of Fernand Braudel. This course will consider the urban and rural dimensions of the Mediterranean region as they relate to the history of merchants and pirates. Finally, the political and military aspects of Mediterranean history will be examined. There was a continuum from piracy to privateering to war. Students should gain a deeper understanding of a region that continues to fascinate us today.

MEST 3502. Scandinavian Myths. (GP,LITR; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

Literary and cultural investigation of the popular beliefs, myths, and religion of the medieval Scandinavians; the interaction of paganism and Christianity; the reflection of myths in Old Scandinavian literature and art. All readings in English.

MEST 3606. Christians, Muslims, and Jews in the Middle Ages. (GP,HIS; 3 cr. ; Student Option; Fall Even, Spring Odd Year)

A Pew Research survey of the global religious landscape in 2010 found 2.2 billion Christians (31.5% of the world's population), 1.6 billion Muslims (23.2%), and 14 million Jews (.2%). In this class, we explore how the histories of these religious communities became deeply entangled in an age of diplomacy, trade, jihad, and crusade.

MEST 3611. Medieval Cities of Europe: 500-1500. (GP,HIS; 3 cr. ; Student Option No Audit; Every Fall & Spring)

European cities changed from Roman times through the urban nadir of the Early Middle

Ages to the flowering of cities in the High and Late Middle Ages. We explore planned towns, ad hoc developments, revived Roman sites, and economic, political, cultural, and sensory elements of city life. Students design a medieval city using Arc.GIS and StoryMap. Contact the instructor for more information.

MEST 3613. History of the Crusades.

(GP,HIS; 3 cr. ; Student Option; Every Fall, Spring & Summer)
Crusading spirit in Europe. Results of classic medieval crusades ca 1095-1285. States established by crusaders in Near East. Internal European crusades. Chronological prolongation of crusading phenomenon.

MEST 3616. The Hundred Years War: France and England in the Middle Ages. (HIS; 3 cr. ; Student Option No Audit; Periodic Fall)

Politics, society, and culture in medieval France from the end of the Carolingians to the end of the Hundred Years War.

MEST 3617. Pagans, Christians, Barbarians: The World of Late Antiquity. (GP,HIS; 3 cr. ; A-F or Audit; Fall Odd Year)

Between classical and medieval, pagan and Christian, Roman and barbarian, the late antique world was a dynamic age. Course focuses on the Mediterranean region from the 2nd to the mid-7th century exploring such topics as the conversion of Constantine, the fall of Rome, barbarian invasions, the spread of Christianity, and the rise of Islam.

MEST 3993. Directed Studies in Medieval Studies. (; 1-3 cr. ; Student Option; Every Fall, Spring & Summer)

Directed study with one of core faculty members of Medieval Studies program. prereq: Previous work in a medieval studies discipline, instr consent

MEST 4043. Romans, Anglo-Saxons and Vikings: Archaeology of Northern Europe. (3 cr. ; Student Option; Periodic Spring)

Archaeology of the British Isles, Scandinavia, and northern continental Europe, from the Romans through the Viking period. Themes to be examined include social and political organization, cross-cultural interactions, art and symbolism, and religion and rituals.

MEST 4612. Old English I. (3 cr. ; Student Option; Periodic Fall)

"I am learning Anglo-Saxon and it is a vastly superior thing to what we have now" (Gerard Manley Hopkins, letter to fellow poet Robert Bridges, 1882). This course is an introduction to the rich language and literature of Anglo-Saxon England (ca. 500-1100). "Old English," or as it is sometimes known, "Anglo-Saxon," is the earliest form of the English language; therefore, the primary course goal will be to acquire the ability to read Old English texts in the original. No previous experience with Old English or any other language is necessary or expected; undergraduates and graduate students from all departments are welcome. For graduate students in English, Old English I may count for the rhetoric/language/literacy distribution area. This course also fulfills the literary theory/linguistic requirement for the

undergraduate English major. A knowledge of Old English will allow you to touch the most ancient literary sensibilities in the English tradition; these sensibilities are familiar and strange at the same time, as we sense our deep cultural connection to these texts across the centuries, yet also find that the past is a strange place indeed. The power of Old English literature has profoundly influenced authors such as Tennyson, Pound, Graves, Wilbur, Hopkins, Gunn, Auden, Seamus Heaney, C.S. Lewis, and of course, J.R.R. Tolkien.

MEST 4613. Old English II. (3 cr. ; Student Option; Periodic Spring)
The second semester of Old English is devoted to a full translation and study of the great Anglo-Saxon epic "Beowulf." J.R.R. Tolkien wrote of the poem that "its maker was telling of things already old and weighted with regret, and he expended his art in making keen that touch upon the heart which sorrows have that are both poignant and remote." "Beowulf" is an exciting tale of strife and heroism; but it is also a subtle meditation upon the character of humanity as it struggles to understand the hazards of a harsh world, the inscrutability of fate, and the nature of history itself. "Beowulf" is not only important for a detailed understanding of Anglo-Saxon culture, but it is also a significant and moving poetic achievement in the context of world literature. We will read and translate the poem in the original Old English; thus ENGL 4612 (or a similar course resulting in a basic reading knowledge of Old English) is a prerequisite. "Beowulf" has been the object of intensive scholarly study; we will delve into the debates over the poem's date, genesis, manuscript and historical context and critical interpretation. Spending an entire semester studying one complex work can be an invaluable experience. Please contact the instructor for any questions concerning the prerequisite.

MEST 5271. The Viking World: Story, History, and Archaeology. (3 cr. ; A-F or Audit; Periodic Fall & Spring)
Viking society and expansion of Viking influence abroad. Viking impact on Western Europe, interactions with Slavic lands, settlement of North Atlantic islands, Western Europe's impact on Scandinavian lands. Analyzes archaeological, historical, linguistic, and numismatic evidence.

MEST 5610. Advanced Topics in Medieval Studies. (; 3-4 cr. [max 15 cr.] ; Student Option; Every Fall & Spring)
From late antiquity through end of Middle Ages (circa 300-1500 A.D.). Topics specified in Class Schedule. prereq: One yr work in some area of Middle Ages, reading knowledge of appropriate language.

MEST 5701. Old Norse Language and Literature. (3 cr. ; Student Option; Every Fall)
Acquisition of a reading knowledge of Old Norse; linguistic, philological, and literary study of Old Norse language and literature.

MEST 5993. Directed Studies in Medieval Studies. (; 1-3 cr. [max 6 cr.] ; Student Option; Every Fall & Spring)

Directed study with one of the core faculty of medieval studies program. prereq: One yr work in some area of Middle Ages, reading knowledge of appropriate language, instr consent

Microbial Engineering (MICE)

MICE 5035. Personal Microbiome Analysis. (3 cr. ; Student Option; Every Spring)
Personal Microbiome Analysis, an introduction to the computational exploration and analysis of your inner microbial community, also known as your microbiome. In this course, you will have the opportunity to explore your own microbiome using visualization and analysis tools. Sequencing your own microbiome is encouraged but not required for the course. Introductory biology or genetics is recommended: BIOL 1009, GCD 3022 or BIOL 4003.

MICE 5355. Advanced Fermentation and Biocatalysis Laboratory. (1 cr. ; S-N only; Every Spring)
Methods in industrial microbiology, lab, and pilot scale fermentation/biocatalysis engineering. Lab experiments carried out in fermentation pilot plant. Operation of bench/pilot scale bioreactors. Designing bioreactors. Process optimization, monitoring, and control. Scale-up experiments, data analysis. prereq: [3301 or BIOL 3301], [grad student in microbial engineering or upper-div major in [microbiology or chem engineering or biochemistry]], instr consent

Microbiol/Immun/Cancer Biology (MICA)

MICA 5000. Practicum: Teaching. (; 0 cr. ; No Grade Associated; Every Fall & Spring)
Supervised experience in lab instruction. Use of instructional materials, tests/measurement.

Microbiology (MICB)

MICB 3301. Biology of Microorganisms. (5 cr. ; A-F only; Every Fall, Spring & Summer)
Taxonomy, anatomy, physiology, biochemistry, pathogenesis, immunology, ecology of microbes. Molecular structure in relation to bacterial function/disease. Includes lab. prereq: [Biol 1961 and Biol 2003] or Biol 1009 or instructor permission

MICB 3302. Biology of Microorganisms Laboratory. (2 cr. ; A-F only; Every Fall, Spring & Summer)
This is a hands-on laboratory that together with MICB 3303 will provide an extensive overview of the microbial world highlighting the structure, function, and diversity of microorganisms including bacteria, fungi, protists, and viruses. In laboratory, students will get hands-on experience with the techniques, methods, protocols, and instrumentation for the study of microorganisms that will coincide with what is taught in the lecture component. The combination of MicB 3303 (lecture only) and MicB 3302 (lab only) is equivalent to MicB 3301. No credit if credit already received

for MicB 3301. MicB 3303 (lecture) is a prerequisite for MicB 3302 (lab only). Students who desire both should register for MicB 3301.

MICB 3303. Biology of Microorganisms (without laboratory). (3 cr. ; A-F only; Every Fall, Spring & Summer)
Taxonomy, anatomy, physiology, biochemistry, pathogenesis, infectious disease, immunology, ecology of microbes. Molecular structure in relation to function of bacteria, fungi, protozoa, viruses. prereq: Biol 2003 or Biol 1009 or instructor permission

MICB 4131. Immunology. (3 cr. ; Student Option; Every Fall)
Molecular, genetic and cellular basis for innate and adaptive immune responses. The immune systems role in; transplantation, autoimmune disease, cancer immunotherapy, vaccinology, acquired and genetic immunodeficiencies. prereq: Biol 2003 or Biol 1009 and [Junior or senior]

MICB 4151. Molecular and Genetic Bases for Microbial Diseases. (3 cr. ; Student Option; Every Spring)
Genetic basis of microbial pathogenesis. Effect of gene transfer and regulation on evolution of microbial pathogens and capacity to colonize, induce disease. Biochemical and cellular interactions between bacteria and human hosts. prereq: MICB 3301 AND [BIOL4003 OR PMB4131 OR Molecular Biology (BIOL 3020 or BIOL 3025 or BIOL 3015)]

MICB 4161W. Eukaryotic Microbiology. (WI; 3 cr. ; A-F only; Every Fall)
Cell biology of higher eukaryotes, animal/plant pathogenesis, evolution, industrial microbiology. Tetrahymena/Chlamydomons/Paramecium/Toxoplasma/Aspergillus/Neurospora. prereq: Biol 4003

MICB 4171. Biology, Genetics, and Pathogenesis of Viruses. (3 cr. ; A-F only; Every Spring)
Structure, attachment, entry. Genome replication/mRNA production by RNA viruses. Reverse transcription. DNA virus templates. Replication of DNA virus genomes. Processing of viral pre-mRNA. Translational control. Assembly, host defense, tumor viruses, pathogenesis, HIV, antivirals. prereq: Biol 2003 and Biol 4003 and [MicB 4131 or instructor permission]

MICB 4215. Advanced Laboratory: Microbial Physiology and Diversity. (; 3 cr. ; A-F or Audit; Every Fall)
Isolation/cultivation of wide variety of bacteria. Physiological experiments illustrate characteristic features of microorganisms. prereq: MICB 3301 AND Microbiology major or minor; priority for seats from waitlist to graduating Microbiology majors

MICB 4225W. Advanced Laboratory: Microbial Genetics. (WI; 3 cr. ; A-F only; Every Fall)
Yeast is used as a model organism for microbial molecular genetic principles and methods such as ultraviolet mutagenesis, isolation and creation of mutant strains, plasmid design and construction, PCR,

Sanger sequencing, gene replacement, and bioinformatics. Students will design and execute their own independent research project using hands-on experimentation with advanced molecular methods prereq: MicB 3301 and [Biol 4003 or permission]; priority for seats from waitlist to graduating Microbiology majors

MICB 4235. Advanced Laboratory: Virology, Immunology, and Microbial Genetics. (3 cr. ; Student Option; Every Spring)

Techniques, experimental methods in microbial genetics, immunology. Virology used to study microbes/interactions with host. prereq: Micb 3301 and [BIOC 3022 or Bioc 4331] and [MicB 4171 prereq or concurrent registration or permission]

MICB 4793W. Directed Studies: Writing Intensive. (WI; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Writing Intensive Directed Studies is an individual-study, literature-based investigation in which the student is mentored directly by a faculty member. One main feature of this course is that the student will receive writing instruction and the written output of the course will be revised during the semester. The project needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, how writing instruction will take place, a timeline for when student writing will be handed in and how it will be assessed, methodology to be used by the student, and how assessment of learning will be conducted by the mentor. Additional oversight is established for this course near the end of the semester the written output is submitted to the DUGS for the major. The DUGS is responsible to determine that the writing meets standards set by the CBS Education Policy Committee for quality of writing, appropriate citation of literature, well-constructed figures, tables, and legends (if present), appropriate use and interpretation of statistics (if present), conclusions that are supported by evidence, and well-formatted references. This course is graded S/N and approval of the DUGS is required before a grade of S can be given by the faculty mentor. prereq: department consent, instructor consent, no more than 7 credits of 4793, 4794, 4993W, 4994W counts towards CBS major requirements.

MICB 4794W. Directed Research: Writing Intensive. (WI; 1-7 cr. [max 15 cr.] ; S-N only; Every Fall, Spring & Summer)

Writing Intensive Directed Research is an individual-study, laboratory or field research experience in which the student is mentored directly by a faculty member. This course is intended for students who already have initiated a research project in the lab of the mentor and already have results. In this course the student will receive writing instruction. The written output usually is in the form of a scientific paper describing the results of the student's project. Written output of the course

must be revised during the semester and a schedule for writing, assessment and revision needs to be in place at the beginning of the semester. The project needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the Director of Undergraduate Studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, how writing instruction will take place, a timeline for when student writing will be handed in and how it will be assessed, methodology to be used by the student, and how assessment of learning will be conducted by the mentor. Additional oversight is established for this course - near the end of the semester the written output is submitted to the DUGS for the major. The DUGS is responsible to determine that the writing meets standards set by the CBS Education Policy Committee for quality of writing, appropriate citation of literature, well-constructed figures, tables, and legends (if present), appropriate use and interpretation of statistics (if present), conclusions that are supported by evidence, and well-formatted references. The DUGS can call for a final revision before a grade is given. This course is graded S/N and approval of the DUGS is required before a grade of S can be given by the faculty mentor. prereq: department consent, instructor consent, no more than 7 credits of 4793, 4794, 4993W, 4994W counts towards CBS major requirements.

MICB 4993. Directed Studies. (; 1-7 cr. [max 36 cr.] ; S-N only; Every Fall, Spring & Summer)

Directed Studies is an individual-study, literature-based investigation in which the student is mentored directly by a faculty member. The topic for the course needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. prereq: department consent, instructor consent, no more than 7 credits of 4793, 4794, 4993W, 4994W counts towards CBS major requirements.

MICB 4994. Directed Research. (1-7 cr. [max 28 cr.] ; S-N only; Every Fall, Spring & Summer)

Directed Research is an individual-study, laboratory or field investigation course. The research topic needs to be agreed on by both the student and the faculty mentor and explained in a Research/Directed Studies contract. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. prereq: department consent, instructor consent, no more than 7

credits of 4793, 4794, 4993W, 4994W counts towards CBS major requirements.

Military Science (MIL)

MIL 1003. Military Science I Leadership Lab. (1 cr. ; A-F only; Every Fall)

Basic skills. Preview advanced course. Team-building leadership skills. prereq: concurrent registration is required (or allowed) in 1201

MIL 1101. Introduction to the Army and Critical Thinking. (; 1 cr. ; A-F only; Every Fall)

Introduces cadets to the personal challenges and competencies that are critical for effective leadership. Cadets learn how the personal development of life skills such as critical thinking, goal setting, time management, physical fitness, and stress management relate to leadership, officership, and the Army profession.

MIL 1102. Introduction to the Profession of Arms. (; 1 cr. ; A-F only; Every Spring)

Leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. Cadets explore dimensions of leadership attributes and core leader competencies in the context of practical, hands-on, and interactive exercises.

MIL 1104. MS I One Credit Lead Lab. (; 1 cr. ; A-F only; Every Spring)

Army ROTC leadership and personal development lab. prereq: concurrent registration is required (or allowed) in 1102

MIL 1201. Leadership and Decision Making. (; 2 cr. ; A-F only; Every Fall)

The outcomes of MIL 1201 are demonstrated through Critical and Creative Thinking and the ability to apply Troop Leading Procedures. Comprehension of the officer's role in leading change by applying innovative solutions to problems in concert with the principles of mission command. The Army profession is also stressed through leadership forum and a leadership self-assessment. prereq: concurrent registration is required (or allowed) in lab

MIL 1202. Army Doctrine and Team Development. (; 2 cr. ; A-F only; Every Spring)

MIL 1202 begins the journey to understand and demonstrate cross-cultural competencies as they relate to Army doctrine and how they apply in a combatant commander's engagement strategies. Army values, teamwork, and Warrior Ethos and their relationship to the Law of Land Warfare and philosophy of military service are also stressed. The ability to lead and follow is also covered through team building exercises in small units up to squad level. prereq: Must enroll in lab.

MIL 1203. MS II One Credit Lead Lab. (; 1 cr. ; A-F only; Every Fall)

Army ROTC leadership and personal development lab. prereq: concurrent registration is required (or allowed) in 1201

MIL 1204. MS II One Credit Lead Lab. (; 1 cr. ; A-F only; Every Spring)

Army ROTC leadership and personal development lab. prereq: concurrent registration is required (or allowed) in 1202

MIL 3301. Training Management and Warfighting Functions. (; 3 cr. ; A-F only; Every Fall)

MIL 3301 includes introduction to squad/platoon tactical operations using troop leading procedures and battle drills to achieve the assigned mission within the commander's intent. Through the introduction of the leadership lab practicum the cadets learn to plan, resource, and execute training of subordinates within the leadership labs. This experience gives the cadet the opportunity to work on their teamwork and leadership skills in a hands-on performance-oriented environment. prereq: Two yrs of ROTC or equiv established by U.S. Army, must see Army ROTC dept officials, concurrent registration is required (or allowed) in lab

MIL 3302. Applied Leadership in Small Unit Operations. (; 3 cr. ; A-F only; Every Spring)

MIL 3302 balances adaptability and professional competence building on the tactical lessons introduced in MIL 3301. Adaptability concepts introduced include analysis of complex problems, creating solutions that exhibit agile and adaptive thinking, analysis of the environment and formulation of solutions to tactical and organizational problems. prereq: Two yrs of ROTC or equiv established by U.S. Army, must see Army ROTC dept officials, concurrent registration is required (or allowed) in lab.

MIL 3303. MS III One Credit Lead Lab. (; 1 cr. ; A-F only; Every Fall)

Army ROTC leadership and personal development lab. prereq: Completion of basic courses, concurrent registration is required (or allowed) in 3301

MIL 3304. MS III One Credit Lead Lab. (; 1 cr. ; A-F only; Every Spring)

Army ROTC leadership and personal development lab. prereq: Completion of basic courses, concurrent registration is required (or allowed) in 3302

MIL 3401. The Army Officer. (; 3 cr. ; A-F only; Every Fall)

MIL 3401 places primary emphasis on officership with the MS IV cadets, who are the educational main effort within the Battalion. MIL 3401 and 3402 together refine and ultimately complete the cadet-to-commissioned officer transition. Mission command and ethics are stressed to assist the cadet in further embracing their role as a future army officer. prereq: Completed all other military courses or Army equiv, concurrent registration is required (or allowed) in lab

MIL 3402. Company Grade Leadership. (; 3 cr. ; A-F only; Every Spring)

MIL 3402 is the culmination of a four-year sequential, progressive, challenging developmental leadership experience. It is during this final semester that the cadet is undergoing final preparation for the duties and responsibilities of a commissioned officer along

with their integration into the army. Emphasis is placed on critical knowledge, skills, abilities and competency skills newly commissioned officers will need to succeed in their first unit of assignment, and the modern operating environment where they will be expected to plan, prepare, execute, and assess platoon-level training strategies and more to enable mission accomplishment. prereq: Completion of all other military courses or Army equiv, concurrent registration is required (or allowed) in lab

MIL 3403. MS IV One Credit Lead Lab. (; 1 cr. ; A-F only; Every Fall)

Army ROTC leadership and personal development lab. prereq: Completion of basic courses, concurrent registration is required (or allowed) in 3401

MIL 3404. MS IV One Credit Lead Lab. (; 1 cr. ; A-F only; Every Spring)

Army ROTC leadership and personal development lab. prereq: Completion of basic courses, concurrent registration is required (or allowed) in 3402

MIL 3501. Marksmanship Training Programs. (; 2 cr. ; A-F only; Every Fall & Spring)

Uses a laser-simulated Army rifle to train on how to fire weapons accurately. Students learn how to operate the computer-based simulation system as well as practical exercises of firing at targets on a video screen.

MIL 3502. Marksmanship Training Programs. (; 2 cr. ; A-F only; Every Fall & Spring)

Basic rifle marksmanship skills. Students instruct/train other students.

MIL 3555. Applied Military Learning. (; 0-3 cr. [max 6 cr.] ; A-F only; Periodic Fall)

This course is only offered to Military Science level 5 with special permission. This course allows you the opportunity to apply the tactical and technical skills you have learned throughout your Military Science classes and Military Experience to assist in the duties of the cadre. prereq: Must successfully complete or receive constructive credit for all Military Science classes: MIL 1101, MIL 1102, MIL 1201, MIL 1202, MIL 3301, MIL 3302, MIL 3401, MIL 3402

MIL 3970. Military History. (; 3 cr. ; A-F only; Every Fall & Spring)

General overview of all wars fought by United States from the 18th century Revolutionary War to today's War on Terror. Military tactics as well as war's impact on society. Two exams, two papers to write, readings.

Mortuary Science (MORT)

MORT 2171. Introductory Anatomy. (3 cr. ; A-F only; Every Fall, Spring & Summer)

Study of the human body systems and functions in a systemic approach with an emphasis placed on providing a foundation for funeral service preparation in the areas of embalming and restorative art. Systems covered include integumentary, skeletal,

muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive. Pre- / co-requisite: Medical Terminology

MORT 3009. Introductory Accounting. (3 cr. ; A-F only; Periodic Fall, Spring & Summer)

This course is an introduction to the basic principles of financial and cost accounting with an emphasis on small business and funeral home operations. Accounting provides financial information about a business to owners, creditors, managers, and other interested parties that need to make various business decisions. This course covers the preparation and analysis of financial statements, accounting for sales and accounts receivable, accounting for purchases and accounts payable, cash flow and working capital management, payroll computations, inventory management, investment in fixed assets, debt and equity capital management, and valuation of business and assets, as well as an introduction to cost accounting concepts including cost behavior, basic budgeting, and cost-revenue analysis.

MORT 3012W. Organization and Management of Funeral Business. (WI; 3 cr. ; A-F only; Every Fall)

How to create an entrepreneurial marketing strategy and business plan for a small funeral business. Various forms of ownership. Financial requirements, risk management, human resources management. Theory supplemented with practical information, real-life experiences. Prerequisites: Diversified Core Mathematical Thinking, ACCT 2050: Introduction to Financial Reporting

MORT 3014. Funeral Service Rules and Regulations. (2 cr. ; A-F only; Every Fall, Spring & Summer)

Licensing/government regulations, compliance with regulations of state/federal regulatory agencies, cemetery and crematory rules and regulations, and Federal Trade Commission Funeral Practice Rule for the funeral industry.

MORT 3016. Funeral Service Marketing and Merchandising. (; 3 cr. ; A-F or Audit; Every Spring)

Introduction to key elements of funeral service merchandising/marketing. How to manage delivery process. Theory supplemented with contemporary product offerings, merchandising techniques.

MORT 3018. Funeral Service Practice I. (3 cr. ; A-F only; Every Fall)

A study of the practice of funeral service, the conduct of funerals in the diverse American society; various survivor benefits including Social Security, Veterans benefits, active military benefits, and others; private and National cemetery familiarization, including eligibility; merchandise familiarization

MORT 3019. Funeral Service Practice II. (3 cr. ; A-F only; Every Spring)

The purpose of this course is to provide students with a multidisciplinary perspective on information, issues and problems associated with, and relating to, the contemporary practice of funeral service. Building upon the

foundational theories, definitions and activities presented in complementary mortuary science courses, this class is designed to deepen students' understanding of how funeral service is practiced in a variety of different contexts today from the perspectives of multiple stakeholders.

MORT 3021W. Funeral Service Psychology and Arrangements Theory. (WI; 3 cr. ; A-F only; Every Fall & Spring)

This course instructs students in grief psychology principles as they relate to funeral service, as well as principles underlying successful funeral arrangements. Coursework includes psychology, counseling, and communication principles, as well as an introduction to helping skills, communication techniques, and other tools to conduct funeral arrangements with diverse client families. Particular emphasis is placed on adapting these tools to a variety of arrangement factors, including disposition type, family dynamics, veteran status, and religious affiliation. Coursework is delivered and assessed via readings, lectures, in-class role-playing, writing-to-learn activities, quizzes, tests, discussions, qualitative research, and reflective writing assignments. Prerequisites: WRIT 1301, PSY 1001, COMM 3401 or COMM 3402

MORT 3022W. Funeral Service Arrangements Laboratory. (WI; 4 cr. ; A-F only; Every Fall & Spring)

This course provides students with practical tools to conduct funeral arrangements with diverse client families. Coursework includes application of MORT 3021W material, group discussion, and laboratory-based application of skills. Each student will conduct a simulated arrangement with a community volunteer based on real-world arrangement scenarios. Delivery and assessment of coursework will be via readings, lectures, in-class role-playing, quizzes, tests, writing-to-learn activities, and reflective writing assignments. Prerequisites: MORT 3021W, MORT 3014

MORT 3025. Business Law. (; 3 cr. ; A-F only; Every Fall)

Principles of business law relating to funeral service. U.S. judicial system. Contracts. Sales. Bailments (including carriers). Commercial paper. Agency. Employment. Business organization.

MORT 3031. Funeral Service Law. (; 2 cr. ; A-F only; Every Spring)

Duty of burial. Right to control funeral arrangements. Final disposition, liability for funeral expenses. Torts involving dead human body and the funeral director. Wills. Estates. Probate. Prerequisites: MORT 3025: Business Law

MORT 3048. Microbiology and Pathology for Funeral Service. (4 cr. ; A-F only; Every Fall, Spring & Summer)

Basic principles of microbiology/pathology for funeral service, including bacteriology, rickettsiology, virology, protozoology, mycology, methods of transmission of infectious disease. Control procedures for protection of public health as related to

funeral practice. Scientific focus on causes of disease, mechanisms of disease development, pathways by which morphologic changes occur.

MORT 3051. Restorative Art. (; 3 cr. ; A-F only; Every Fall & Spring)

In Restorative Art 3051, we will consider the importance of, and techniques for, creating an acceptable physical appearance upon deceased persons for the benefit of the survivors. Over the semester, we will study a variety of topics for the purpose of building skills in the area of restorative art, including anatomical terminology; skeletal structures of the face and cranium; musculature of the face and neck; photographic interpretations; classical proportions of the face and cranium; physiognomy of the face and cranium; essential components of the nose, mouth, eyes, and ears; various modeling techniques; proper placement guides for the restoration of damaged structures and/or missing features; treatments and techniques for both general and specific injuries; color theory, and cosmetology related to the funeral profession. Pre / Co-requisite: MORT 3061 Embalming Theory Prerequisites: MORT 2171 Introductory Human Anatomy; MORT 3171 Human Anatomy Laboratory

MORT 3061. Embalming Theory. (; 3 cr. ; A-F only; Every Fall & Spring)

This is an introductory course which covers the phenomenon of death of the human body, and the fundamental procedures associated with the practice of the art and science of embalming. Embalming is the process of chemically treating the dead human body in order to: (1) reduce the presence and growth of microorganisms; (2) retard organic decomposition; and (3) restore an acceptable physical appearance to the decedent. The semester begins with such topics as personal and public health considerations, and government regulations that are applicable to the embalming process and the fundamentals of embalming. Next are the topics of terminology and identification of embalming instruments, the importance of embalming analysis, and the completion of embalming reports. We advance to vessel location and selection, and procedures for preparing the body before the embalming process begins. We move on to the subject of embalming chemicals, with our lectures and discussions focusing on the reasons why we use various quantities and types of chemicals for each individual case. The course continues with presentations focusing on treatments for embalming difficult cases, including discussion of traumatic and pathological conditions, infections, communicable diseases, autopsied bodies, organ and tissue donors, and other various conditions. Prerequisites: MORT 2171 Introductory Human Anatomy; MORT 3171 Human Anatomy Laboratory

MORT 3065. Embalming Chemistry. (; 2 cr. ; A-F only; Every Fall, Spring & Summer)

Fundamentals of inorganic/organic chemistry and biochemistry. Chemical changes in human body during life, after death, and during

chemical preservation. Disinfection, toxicology, embalming fluids.

MORT 3090. Independent Study Project. (; 1-15 cr. [max 30 cr.] ; Student Option; Every Fall, Spring & Summer)

Independent study contracted between instructor, program director, and student. prereq: Mortuary science major

MORT 3091W. Independent Study in Funeral Service. (WI; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

Students complete a project supervised by a faculty member. Credit(s) is negotiated with the faculty member based on the size and scope of the project. Students must demonstrate that the project has value within the major. prereq: Mortuary science major

MORT 3151. Restorative Art Laboratory. (; 1 cr. [max 2 cr.] ; A-F only; Every Fall & Spring)

Principles/techniques for restorative art. Modeling facial features with clay or wax. Use of restorative techniques. Cosmetic application on human remains. Mortuary Science Major Pre / Co-requisites: MORT 3051 Restorative Art

MORT 3161. Embalming Laboratory. (; 1 cr. [max 2 cr.] ; A-F only; Every Fall & Spring)

Practices/procedures of chemically preserving/restoring human remains. Mortuary Science Major Pre / Co-requisites: MORT 3061 Embalming Lecture

MORT 3171. Human Anatomy Laboratory. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Study of gross human anatomy using cadavers. Anatomical structures, post-mortem examination, embalming, pathology, restorative art, forensic science. Prerequisites: MORT 2171; PHAR 1002: Medical Terminology

MORT 3371. Funeral Service Rites, Customs, and Ceremonies. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)

This course explores funeral and death-care customs of select faith, religious, and philosophical traditions, with emphasis on the role of the funeral director in caring for the deceased, in service to survivors. The course curriculum is based on the American Board of Funeral Service Education Student Learning Outcomes for mortuary science students. Mortuary customs to be studied will include Christian, Jewish, Islamic, Buddhist, and Hindu traditions, as well as secular rites and ceremonies.

MORT 3379. Clinical Funeral Service Rotation. (1-6 cr. [max 18 cr.] ; A-F only; Every Fall, Spring & Summer)

Practical experience working in clinical settings related to funeral service. What it means to be a funeral director in contemporary American society. Mortuary Science Major Pre / Co-requisite: 3021W Prerequisites: MORT 3051; 3061; 3151; 3161

MORT 3384. Mortuary Science Practice in the US: An Integrative Capstone Course For Professional Practice. (; 1 cr. [max 2 cr.] ; A-F only; Every Fall, Spring & Summer)

The purpose of this course is to synthesize concepts relating to professional practice,

culminating in the completion of the National Board Examination of the International Conference of Funeral Examining Boards (ICFSEB). The course will consider the application of mortuary science-related concepts to professional practice, and will include activities that integrate funeral service knowledge with problems as presented by the National Funeral Service Task Analysis of the ICFSEB. In the course we will explore issues related to licensure, continuing professional education and development, and the application of mortuary science principles to professional practice. The course will integrate key theories relating to the practice of mortuary science for the goal of ensuring competency in professional practice upon graduation. Note: This course will be taken during the student's last semester of enrollment in the program.

Moving Image Studies (MIMS)

MIMS 5910. Topics in Moving Image Studies. (2-4 cr. [max 8 cr.]; A-F only; Every Fall & Spring)
Special topics in moving image studies.

Multidisciplinary Studies (MDS)

MDS 3001W. Introduction to Multidisciplinary Studies. (WI; 3 cr.; A-F only; Every Fall, Spring & Summer)
University study at a major research institution, its history/theory and expectations/outcomes. Students design their degree and select areas/courses. Institutional/student perspectives. prereq: Admitted to multidisciplinary studies

MDS 3093. Directed Study. (1-15 cr.; A-F only; Every Fall, Spring & Summer)
Independent, directed study. prereq: instr consent

MDS 3101. Project Development. (1 cr. [max 5 cr.]; A-F only; Every Fall, Spring & Summer)
Development, completion, approval of MdS project proposal. Steps/skills of academic project design/development including academic research/writing. Library data base searching methods/citation styles. prereq: 3001W, MdS major, adviser referral, permission number, basic computer/internet skills

MDS 3201. Project Registration 1. (3 cr.; A-F only; Every Fall, Spring & Summer)
Complete project developed in MdS 3101 by conducting research, accomplishing project outcome(s), securing narrative evaluation from project adviser/evaluator. prereq: 3001W, MdS major, C- or above in 3101, approved project proposal, permission number, basic computer and internet skills

MDS 3202. Project Registration 2. (3 cr.; A-F only; Every Fall, Spring & Summer)
Complete project developed in MdS 3101 by conducting research, accomplishing project outcome(s), securing a narrative evaluation from project adviser/evaluator. prereq: 3001W, MdS major status, C- or above 3101, approved project proposal, permission number, basic computer/internet skills

MDS 3203. Project Registration 3. (3 cr.; A-F only; Every Fall, Spring & Summer)
Complete project developed in MdS 3101 by conducting research, accomplishing project outcome(s), securing narrative evaluation from project adviser/evaluator. prereq: 3001W, MdS major, C- or above 3101, approved project proposal, permission number, basic computer/internet skills

Museum Studies (MST)

MST 5011. Museum History and Philosophy. (3 cr.; A-F or Audit; Every Fall)
Historical and philosophical roots of museums and emerging philosophical issues faced by museums today - from art, history, science, and youth to living collections, living history sites, and historic houses. Field trips to area museums.

MST 5012. Museum Practices. (3 cr.; A-F or Audit; Every Spring)
Practical aspects of museum work. Standards, practices, responsibilities, issues, all set in greater museum context. Curatorial/educational duties, collections management, security, funding, boards, public relations, installation, budgeting. prereq: Grad student or instr consent

MST 5020. Internship. (1-6 cr. [max 32 cr.]; S-N or Audit; Every Fall, Spring & Summer)
Students arrange to perform a professional-level task in a museum of good standing under close supervision of a member of the museum's professional staff. Instructor must approve a work plan and report. prereq: 5011, 5012, dept consent

MST 5170. Topics in Museum Studies. (1-4 cr.; A-F only; Periodic Fall & Spring)
In-depth investigation of specific topic, announced in advance. prereq: grad student

Music (MUS)

MUS 1013. Rock I: The Historical Origins and Development of Rock Music to 1970. (AH,DSJ; 3 cr.; A-F or Audit; Every Fall & Summer)
Musical, cultural, historical, social, and political evolution of rock music, from its traceable antecedents in mid-19th century America through the early 1970s. Emphasizes manner in which African, European, and other ethnic traditions combined in a uniquely American manner.

MUS 1014. Rock II: Rock Music from 1970 to the Present. (AH,DSJ; 3 cr.; Student Option; Every Spring)
Musical, cultural, and historical evolution of rock music and related pop forms. Progressive rock, punk, disco, new wave, MTV, heavy metal, hip-hop, grunge, turntable-based styles, women in rock.

MUS 1015W. Music and Movies: The Use and Representation of Music and Musicians in Film in a Global Context. (WI; 4 cr.; A-F or Audit; Periodic Spring & Summer)
Film from perspectives of its use/representation of music/musicians. How does music

underscore nuances of action, characterization, and feeling in film? Roles of music in film musicals, rock, and other vernacular films. Films about musical life. Films whose structure is musically based.

MUS 1021. Introduction to Music. (AH; 3 cr.; Student Option; Every Fall, Spring & Summer)
Survey of European/American "art," "popular" music in context of those cultures. Aural analyses of musical styles/forms.

MUS 1051. Class Piano for Nonmusic Majors I. (2 cr.; Student Option No Audit; Every Fall, Spring & Summer)
A beginning course for non-music majors with little or no keyboard background. Emphasis on basic functional skills, such as reading, harmonizing, playing by ear, and improvising, along with basic technique, elementary repertoire, and music theory (written). Taught by graduate assistants in an electronic multi-piano lab. Includes lecture, group and individual performance, and some individual instruction. Outside practice is required.

MUS 1052. Class Piano for Non Music Majors II. (2 cr.; Student Option No Audit; Every Fall & Spring)
Continuation of MUS 1051. Emphasis on basic functional skills, such as reading, harmonizing, playing by ear, and improvising, along with basic technique, elementary repertoire, and music theory (written). Taught by graduate assistants in an electronic multi-piano lab. Includes lecture, group and individual performance, and some individual instruction. Outside practice is required.

MUS 1151. Piano: Class Lessons I. (2 cr.; A-F or Audit; Every Fall)
A beginning course for freshman music majors or minors with limited keyboard backgrounds. Taught by graduate assistants in an electronic piano lab. Emphasis is on functional skills, such as reading, transposing, harmonizing, improvising, and playing by ear, along with keyboard theory, technique, and repertoire. Includes lecture, group and individual performance, and some individual instruction. Students with previous piano backgrounds should contact the School of Music for information regarding placement. prereq: undergraduate music major or music minor status.

MUS 1152. Piano: Class Lessons II. (2 cr.; A-F or Audit; Every Spring)
Continuation of MUS 1151, a beginning course for music majors or minors with limited keyboard backgrounds. Taught by graduate assistants in an electronic piano lab. Emphasis is on functional skills, such as reading, transposing, harmonizing, improvising, and playing by ear, along with keyboard theory, technique, and repertoire. Includes lecture, group and individual performance, and some individual instruction. Students with previous piano backgrounds should contact the School of Music for information regarding placement. prereq: MUS 1151 or instr consent

MUS 1155. Keyboard Skills I. (2 cr.; A-F or Audit; Every Fall)

Reading, transposing, harmonizing, improvising, playing by ear. Keyboard theory, technique, music learning skills. prereq: Keyboard major or music major with extensive keyboard background or instr consent

MUS 1260. Voice Class. (; 2 cr. [max 4 cr.] ; Student Option; Every Fall & Spring)

The fundamentals of speech and singing including information about the vocal instrument, the vocal process, vocal technique, and how to learn and perform three simple songs. prereq: Basic musicianship for learning and performing simple songs. In this context, basic musicianship means: 1. Ability to match pitch 2. Ability to repeat and read simple a simple rhythm. 3. Ability to learn a song independently from sheet music.

MUS 1471. Guitar: Class Lessons I. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Fundamentals for the beginning guitarist; progressive development of skills. Basic strumming techniques, harmonizations in basic keys. Students must furnish acoustic guitar.

MUS 1472. Guitar: Class Lessons II. (; 2 cr. ; A-F or Audit; Every Spring)

Fundamentals for the beginning guitarist; progressive development of skills. Advanced strumming techniques, bass runs, finger-picking strums. Students must furnish acoustic guitar. prereq: 1471 or instr consent

MUS 1475. Beginning Ukulele. (2 cr. [max 4 cr.] ; A-F only; Every Fall & Spring)

This course is intended as an introduction to beginning ukulele techniques employed in contemporary songs. This will involve learning basic open and bar chords, learning how to read music and play it on the instrument, as well as learning basic ukulele finger style technique. The course will also cover basic music theory necessary for a) playing songs and b) getting basic fret board knowledge.

MUS 1476. Guitar World - guitar and its music, overview of world music styles through guitar related music. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

This course will introduce students to variety of styles of World music, and Guitar Cultures: variety of music styles/genres, in which guitar plays very important role (e.g. Bossa Nova, African palm vine guitar, Flamenco, crossover styles, Mississippi blues, City blues, Jazz, Rock, etc.). We will focus mainly on music of all continents with a bit of focus on European and American continents. We will be examining styles connected variety of types of guitar: Classical (Spanish) guitar, Acoustic (steel string) guitar, Electric guitar, seven string guitar, Indian slide guitar, Hawaiian slack key guitar, etc. Guitar heroes will be presented in connection with the specific style and culture. Guitar Heroes are performers who represent the essence of the style, are in some way interesting for studying (e.g., by their social/political role in the given time), or represent unusual fusion of music styles and genres (e.g., flamenco in synthesis with Balkan music). By learning about Guitar Cultures, students will overview historical/social circumstances around variety of music genres or styles, and

become familiar with many music genres of the world, that they were not aware of. The goal of this course is to introduce the guitar and its music, in variety of historical, political, cultural, and social circumstances, and help students in understanding what the World music is, and the role of music in cultures around the world.

MUS 1501. Theory and Analysis of Tonal Music I. (2 cr. ; A-F or Audit; Every Fall)

This course begins the core sequence of theory and musicianship courses required of the undergraduate music majors and music minors. In this course you will develop basic skills in music fundamentals and then apply these to species counterpoint, harmony and analysis exercises. These studies will then also be applied as concrete skills in your musicianship class (MUS 1511 Ear-Training/Sight-Singing I) through identification of musical materials, melodic, harmonic, and rhythmic dictation; sight-singing and clef reading. Listening exercises will train you not only in familiarity with the core repertoire of Western European concert music, but also in what to listen for and how. prereq: Co-Requisite: course must be taken concurrently w/ MUS 1511.

MUS 1502. Theory and Analysis of Tonal Music II. (2 cr. ; A-F or Audit; Every Spring)

These courses continue the core sequence of undergraduate theory and musicianship courses that are required for the undergraduate music majors and minors. Building upon the skills developed in the earlier courses [MUS 1501, 1511], we will now develop a more complete and sophisticated phrase model for harmony. These concepts will then also be applied as concrete skills in your musicianship classes (MUS 1512 Ear-Training and Sight Singing II) through melodic, harmonic, and rhythmic dictation; sight-singing and clef reading. Each component emphasizes diatonic harmony. Course intended to be taken concurrently w/MUS 1512. prereq: [1501, 1511 with grade of at least C-]

MUS 1511. Ear-Training and Sight-Singing I. (1 cr. ; A-F or Audit; Every Fall)

Introduction to foundations of musicianship. Co-Requisite: students must concurrently enroll in MUS 1501 Theory and Analysis of Tonal Music I.

MUS 1512. Ear-Training and Sight-Singing II. (1 cr. ; A-F or Audit; Every Spring)

Develop basic musicianship skills in sight-singing, ear-training and musical vocabulary. Chromatic harmonic, contrapuntal/voice leading principles in common-practice music (Corelli to Brahms). Analyze chromatic progressions, rhythms, melodies, contrapuntal functions. Proficiency in keyboard skills. Course intended for concurrent registration in MUS 1502 Tonal Theory II. prereq: [MUS 1501 and MUS 1511] with grades of at least C-.

MUS 1593. Making Music With Computers. (3 cr. ; A-F only; Every Fall & Spring)

This course will provide students with the understanding and skills to create music using computers.

MUS 1801W. Music, Society, and Cultures. (AH,WI,GP; 3 cr. ; A-F or Audit; Every Fall)

Drawing on examples from many different places and times, we will develop an analytic language to address the power of musical performance. We will study various methods of musical enculturation; the connections between politics and musical aesthetics; the ways in which music reinforces and challenges scaffoldings of race, nation, and ethnicity; and the power of music to form ethical subjects. Prereq: Registration for this course is open until the first day of class, at which point instructor consent will be required.

MUS 1804. World Music. (AH,GP; 3 cr. ; Student Option; Every Fall & Spring)

Musical practice/meaning around the world and in our backyard. World music styles/perspectives in cultural context. Lectures, in-class music making, guest artists, videos, listening. prereq: Registration for this course is open until the first day of class, at which point instructor consent will be required.

MUS 1914W. Music in Nazi Germany & the Holocaust. (CIV,WI; 3 cr. ; Student Option No Audit; Periodic Fall & Spring)

Apart from an explicit message in the lyrics, title, or dedication, can music itself be political? Often, the political message comes from the interpreter, not just the composer or performer. Are composers responsible for the effect of the music, regardless of their intentions? How have those in power sought to legitimize their rule through the arts? Can the arts maintain their independence? What is the responsibility of the listener in a highly political environment? This seminar will examine the role of art and art censorship by focusing on one of history's most brutal regimes, which was also among the greatest patrons of music. What compromises and benefits followed when a musician, conductor, or composer collaborated? Did exploiting music actually help the Nazis to build support? How should citizens of democratic societies commemorate and/or judge the choices that artists made in harsher times?

MUS 1915. The Color of Music. (; 3 cr. ; A-F only; Periodic Fall & Spring)

How are sounds depicted? How are colors sounded? How do the worlds of music and fine arts intersect and construct meaning that is both specific to each and shared by both? How does each help us experience the world around us in different yet complementary ways? In this seminar you are invited to join a semester-long journey which seeks some answers to these questions through immersion in the sounds, shapes, and colors of Western European art across many centuries. We will be looking at art and listening to music, while learning how to express what we perceive to be interesting, beautiful, and meaningful about their relationship and our reaction to them.

MUS 1916. All About Music: Its Meaning, Reality, Communication, and Embodiment. (TS; 3 cr. ; A-F only; Periodic Fall & Spring)

The great philosopher of life Friedrich Nietzsche rightly claims that "without music, life would be a mistake." This does not mean that life is automatically perfect with music. This seminar deals with exactly this problem: What is music doing to us? Why do we listen to it?

And how? What is its meaning in our lives, why does it matter, which realities does it touch, how can it be communicated? In what way is it distributed between intellect and emotions? And why do we go to concerts, since electronic media and the internet provide such easy access? The answers will be approached via intensive listening to all kinds of music from different cultures and epochs as well as through critical, very open discussions with the students. The instructor is highly sensitive to non-authoritarian music cultures, so he may provide a thoroughly dynamic and flexible access to music.

MUS 3021. Introduction to Music. (AH; 3 cr. ; Student Option; Every Fall, Spring & Summer) Survey of European and American .art and .popular. music in the context of those cultures; aural analyses of musical styles and forms.

MUS 3200. Campus Singers. (; 2 cr. [max 16 cr.] ; Student Option; Every Fall & Spring) Campus Singers is a non-auditioned ensemble and open to all members of the University community, including students, faculty, staff, and alumni. The Campus Singers sing diverse repertoire from various periods/cultures.

MUS 3230. Chorus. (; 1-2 cr. [max 16 cr.] ; Student Option; Every Fall & Spring) Includes the University Women's Chorus, Men's Chorus, Concert Choir, and Choral Union. Choirs participate in a variety of programs exploring both Western and non-Western repertoire from the Middle Ages through the 20th century. Concerts include touring, and collaborative campus and community performances. prereq: Choral and/or instrumental music background, audition, instr consent

MUS 3241. Vocal Literature (German Lieder) and Pedagogy. (1 cr. ; A-F or Audit; Periodic Fall)

This is an undergraduate survey course of the history of German Lieder with pedagogical considerations for performance practices of the major repertoire. We will explore the beginnings of the movement from the Enlightenment of the 1700's with Mozart and Beethoven to the end of the movement culminating in the early 20th century with the Second Viennese School, as well as topics associated with voice in speech/singing and vocal anatomy/physiology, process/methods/techniques, care. The class will consist of lectures, listening lists, reading assignments, tests and performance presentations from the students. prereq: MUS 1502, MUS 1512, MUS 3602W and [Vocal performance or accompanying major]

MUS 3242. Vocal Literature (French Melodie) and Pedagogy. (; 1 cr. ; A-F or Audit; Periodic Spring) French M?lodie: its origins, composers, and development. Musical/textual analysis of representative works. Poetry that serves as song text. French symbolist poets. Listening assignments. prereq: [Vocal music or accompanying major], 2 yrs of music theory/history

MUS 3261. Italian Diction for Singers. (; 1 cr. ; A-F or Audit; Every Fall)

The sounds and symbols of the International Phonetic Alphabet, rules for correct Italian lyric diction, rudimentary Italian grammar, the meanings of Italian musical expressive markings, and Italian words most commonly found in song texts. prereq: Voice or choral music major, concurrent registration is required (or allowed) in applied voice

MUS 3262. English Diction for Singers. (; 1 cr. ; A-F or Audit; Every Spring)

English lyric diction for performance of classical vocal music. Use International Phonetic Alphabet for standard transcriptions of song texts, compile a discography of British/American art songs, perform songs in class, and prepare poetry for oral presentation and improvisation. prereq: Voice or choral music major, concurrent registration is required (or allowed) in applied voice

MUS 3263. German Diction for Singers. (; 1 cr. ; A-F or Audit; Every Fall)

Principles and practice of German lyric diction for classical vocal music. Transcriptions of German Lieder into International Phonetic Alphabet, elementary German grammar and common song vocabulary, 4 to 5 German songs performed in class for critique, and rules for pronunciation. prereq: Voice or choral music major, concurrent registration is required (or allowed) in applied voice

MUS 3264. French Diction for Singers. (; 1 cr. ; A-F or Audit; Every Spring)

Principles and practice of French lyric diction for classical vocal music. Transcriptions of French m?lodie into International Phonetic Alphabet, elementary French grammar and common song vocabulary, 4 to 5 French songs performed in class for critique, and rules for pronunciation. prereq: Voice or choral music major, concurrent enroll in applied voice

MUS 3271. Benvenuto a Milano: The City of Music, Art and Fashion. (AH,GP; 3 cr. ; Student Option No Audit; Periodic Summer)

This global seminar will feature a three-week stay experiencing some of the world's greatest visual art, architecture, music and fashion in the magnificent cosmopolitan city of Milan, Italy. While in Milan, you will explore the origins of the Renaissance Movement through the Contemporary Period and trace the social and political events that influenced Italian artists and composers through these eras. Known as the "Risorgimento" (resurgence) movement, students will discover how 18th century opera, with an emphasis on Giuseppe Verdi, helped influence and unify the individual peninsula states into a grand Italian kingdom and help shape modern day Italy.

MUS 3301. The Music of Black Americans. (AH,DSJ; 3 cr. ; A-F only; Every Fall, Spring & Summer)

This course examines the variety of ways African and African Americans express social history through music. It will consider the union of African elements and European elements that combined to present a new syncretized African-American product. To

do this it is imperative that we explore the diversity of musical "voices" found within the African American culture. This diversity can be seen in the struggles to retain African cultural effects and the desire to be eclectic, creative, and contemporary. Such an approach to the study of the place of Black music in American music corresponds with the criteria of Diversity and Social Justice in the United States Liberal Education. The "multi-layered operation of power, prestige, and privilege" can be understood through an examination of the music of African Americans, which represents both a Free African voice and an enslaved African voice; the western-trained Black performer/composer and the self-taught performer/composer. It also represents the habits of well-to-do African Americans and the poor African Americans. Students will examine the complexities of the history of African Americans and how this is played out in the development of musical styles and genres. From this, students will then begin to understand how this unique diversity within a community affects those outside of those communities. Such an approach to the study of the place of Black music in American music corresponds with the criteria of Diversity and Social Justice in the United States Liberal Education. We will follow elements found in West African culture and music such as "call and response" and the "2nd Line" as they travel to the "New World" and expressed through Spirituals, Symphonies, Gospel Music, Jazz, Rock and Roll, Step Bands and more. Through lectures, readings, discussion, audiovisual examples, and homework assignments student can expect to gain a deeper understanding of the ways music both reflects and influences the social history of all Americans.

MUS 3331. Jazz Improvisation I. (; 2 cr. ; A-F or Audit; Periodic Fall)

Rudiments; analysis; improvisation on blues in three major keys and standard American popular jazz compositions from swing era to early bebop; applications of major and minor scales; ear training. prereq: Music major or instr consent

MUS 3340. Jazz Ensemble. (; 1 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)

A 20-member performing organization covering significant jazz compositions and arrangements written specifically for this medium. prereq: Audition, instr consent

MUS 3350. Jazz Combo. (; 1 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)

A performance laboratory class with emphasis on improvisation and learning the jazz vocabulary. A minimum of two public performances is required each semester. prereq: Audition, instr consent

MUS 3380. Gospel Choir. (2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Gospel Choir is a non-auditioned choral ensemble open to all members of the University community, including students, faculty, staff, and alumni. Throughout the semester, students will perform in choral department concerts, observe and critique musical performances, and demonstrate

improved musicianship. The music performed will cover a wide range of musical styles and will help students develop improved vocal skills. Students explore history of gospel music through experiential/participatory songs, field songs, songs of struggle, Southern, traditional, and contemporary songs. prereq: Although no audition is required, all students will be heard privately by the instructor during the first week of class for voice placement in the choir. Additionally, a survey will be taken at the beginning of the semester to assess students' prior musical experiences.

MUS 3400. University and Campus Bands. (; 2 cr. [max 20 cr.] ; Student Option; Every Fall & Spring)

University Band- The University Band is comprised of woodwind, brass, and percussion musicians in disciplines across the university. This ensemble studies and prepares standard and contemporary wind band repertoire and performs four concerts each year. Please consult with the Ensemble Library in Ferguson Hall for more details on the rehearsal and performance schedule. Placement in the ensemble is determined through an audition; all university students are eligible to audition. The Gold/Maroon/North Star Campus Bands- The Gold/Maroon/North Star Campus Bands comprise woodwind, brass, and percussion musicians from all disciplines across the university. Consisting primarily of non-music majors, this ensemble is intended as a way for students outside the School of Music to continue performing in college. Music majors are also encouraged to perform in this ensemble on a secondary instrument. This ensemble studies and prepares standard and contemporary wind band repertoire and performs two concerts per semester. No audition is required to join the Gold Campus Band, though basic proficiency on a traditional band instrument and fluency in reading notated music is a requirement

MUS 3401. Basic Conducting. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

The Basic Conducting course explores the many facets of the role of a conductor (within orchestral, wind band, choral areas), conducting philosophies, and conducting and rehearsal techniques for choral and instrumental ensembles. Students explore score study, analysis, gesture, body awareness, and expression. Basic Conducting is offered annually in the spring semester. prereq: MUS 1502 (Theory and Analysis of Tonal Music II), music major, music minor, or instructor approval

MUS 3410. University Wind Bands. (; 1 cr. [max 14 cr.] ; A-F or Audit; Every Fall & Spring) The University Wind Ensemble is comprised of the university's finest graduate and undergraduate woodwind, brass, and percussion musicians. This ensemble prepares a wide variety of repertoire composed from the early Renaissance through today and performs concerts on and off campus throughout the year. The ensemble participates in special activities, events, projects, and collaborations with featured guest artists. The University

Wind Ensemble and University Symphony Orchestra share musicians and rehearse on alternating block schedules during the semester (a project-focused schedule). Please consult with the Ensemble Library in Ferguson Hall for more details on the rehearsal and performance schedule. Placement in the ensemble is determined through an audition; all university students are eligible to audition. The Symphonic Band is comprised of woodwind, brass, and percussion musicians in music disciplines as well as other disciplines across the university. This ensemble studies and prepares standard and contemporary wind band repertoire and performs concerts on and off campus throughout the year. Many performances are shared with guest ensembles and/or featured guest artists. Please consult with the Ensemble Library in Ferguson Hall for more details on the rehearsal and performance schedule. Placement in the ensemble is determined through an audition; all university students are eligible to audition. prereq: Audition, instr consent

MUS 3420. Orchestra. (; 1 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)

Symphony orchestra performs standard repertoire and major works with chorus; concerts and tour appearances. Players from all colleges may participate. prereq: Audition, instr consent

MUS 3430. Campus Orchestra. (; 2 cr. [max 16 cr.] ; Student Option; Every Fall & Spring)

Three campus orchestras perform standard and contemporary orchestral literature. Non-Music-Major Wind, Brass, Percussion, and String Players from all colleges may participate. prereq: Non-music major or unable to register for University Orchestra

MUS 3440. Chamber Ensemble. (; 1 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)

Performance of chamber music; duos, trios, quartets, quintets, and other ensemble combinations for instruments and voices. prereq: instr consent

MUS 3480. Marching Band. (2 cr. [max 12 cr.] ; A-F or Audit; Every Fall)

One of the premiere marching bands in the country, the University of Minnesota Marching Band?The Pride of Minnesota? is comprised of 320 students from colleges and departments across the university. The UMMB performs at all home Gopher Football games as well as at other events throughout the semester. Please consult the Band Department for more details on the rehearsal and performance schedule. Placement in the ensemble is determined through an audition; all university students are eligible to audition. prereq: instr consent

MUS 3490. Athletics Bands. (; 1 cr. [max 16 cr.] ; A-F or Audit; Every Fall & Spring)

Each of the three pep bands perform at approximately 25 regular season events between late September and early March (roughly 12-13 each semester). In addition, bands perform at several post-season events as the teams progress through conference and NCAA tournaments. Attendance at all pep bands rehearsals is required. Please

consult the Band Department for more details on the rehearsal and performance schedule. Placement in the ensemble is determined through an audition; all university students are eligible to audition.

MUS 3501. Theory and Analysis of Tonal Music III. (; 2 cr. ; A-F or Audit; Every Fall) Harmony and voice-leading. Diatonic and basic chromatic chords. Form. Analysis of music from 18th/19th centuries. Co-requisite: intended for concurrent registration with MUS 3511 Ear Training & Sight Singing III. prereq: [MUS 1511, MUS 1512] with grade of at least C- or higher.

MUS 3501H. Theory and Analysis of Tonal Music III - Honors. (; 2 cr. ; A-F only; Every Fall)

Harmony and voice-leading. Diatonic and basic chromatic chords. Form. Analysis of music from 18th/19th centuries. Co-requisite: intended for concurrent registration with MUS 3511 Ear Training & Sight Singing III. prereq: [MUS 1511, MUS 1512] with grade of at least C- or higher.

MUS 3506. Theory and Analysis of American Popular Music. (; 3 cr. ; A-F or Audit; Fall Odd Year)

This course provides a basic introduction to analyzing popular songs, primarily those within the Anglo-American tradition. Although the course focuses directly on the musical details, techniques, and forms pertaining to popular songs, larger questions of meaning and interpretation, production, sound and instrumentation, history of musical style and genre and historical periodization, important individual performers/songwriters and artistic formations, marketing and sociology, and globalization will not be ignored?but they will be most often pursued in the context of analyzing specific songs and recordings. Like any viable form of music, popular music is also a living practice, and hence our engagement with popular music will also require us to be in contact with practitioners of popular music here in the Twin Cities. Finally, the course will require students to engage with popular music in a number of ways?transcription, analysis, aural skills, ethnography (of a modest sort), composition, performance, and expository writing. The class begins with basic parameters as explored in rock music (which, for the purposes of this class, overlaps with classic R&B/soul), then moves backwards to various origination points for rock in American popular music, and then pursues various different topics for the remainder of the course. prereq: [MUS 3501, MUS 3511] with a grade of C- or better

MUS 3508. Review of Tonal Theory. (; 2 cr. ; Student Option; Every Fall)

Fast-paced review of 1501, 1502, and 3501. Focuses on diatonic and basic chromatic procedures, part-writing, and analysis. prereq: Theory placement exam

MUS 3509. Review of Tonal Theory IV. (; 2 cr. ; Student Option; Every Fall)

Remedial course. Harmony, voice-leading. Chromatic tonal practices. Form, including

sonata, rondo, variations, and other standard categories of tonal composition. Analysis of music from 18th/19th centuries. prereq: Grad music student or instr consent

MUS 3511. Ear-Training and Sight-Singing III. (; 1 cr. ; A-F or Audit; Every Fall)

Melodic, harmonic, and rhythmic dictation. Sight-singing. Clef reading. Emphasizes chromatic harmony. Co-requisite: course intended for concurrent enrollment in MUS 3501 Tonal Theory III. prereq: [MUS 1502, MUS 1512] with grade of at least C- or higher, or diagnostic test administered by School of Music

MUS 3518. Review of Ear-Training and Sight-Singing. (; 1 cr. ; Student Option; Every Fall)

Fast-paced review of 1502 and 3501 focusing on diatonic and basic chromatic procedures. Emphasis on melodic and harmonic dictation. Individual sight-singing auditions. prereq: Theory Placement Exam

MUS 3519. Review of Ear-Training and Sight-Singing. (; 1 cr. ; Student Option; Every Fall & Spring)

Remedial course. Fast-paced review of 3502. Focuses on diatonic/basic chromatic procedures. Emphasizes melodic/harmonic dictation. Individual sight-singing auditions. prereq: Grad student in music or instr consent

MUS 3601W. History of Western Music I.

(WI; 3 cr. ; A-F or Audit; Every Spring)
This is the first course in the undergraduate music history sequence. We will study music composed over a very broad time span, ca. 800 to 1700, looking at the works' musical structures within the larger contexts of musical style, social/political significance, and broad aesthetic and philosophical movements. In addition, as a writing intensive course, students will hone their writing skills, focusing in particular on listening to and analyzing early music. prereq: MUS 1501 and MUS 1511

MUS 3602W. History of Western Music II.

(WI; 3 cr. ; A-F or Audit; Every Fall)
This is the second course in the undergraduate music history sequence. We will study music composed ca. 1700?1880, looking at the works' musical structures within the larger contexts of musical style, social/political significance, and broad aesthetic and philosophical movements. In addition, as a writing intensive course, students will hone their writing skills, focusing in particular on analyzing and writing about music. prereq: MUS 1502, MUS 1512, and MUS 3601 OR instr consent

MUS 3603W. History of Western Music III.

(WI; 3 cr. ; A-F or Audit; Every Spring)
History of European/American art, popular music traditions, from 1850 to present. Composers, styles, structures, social institutions. prereq: [MUS 3602W, MUS 3501, MUS 3511] with grades of at least C- or instr consent

MUS 3950. Topics in Music. (; 1-3 cr. [max 15 cr.] ; Student Option; Periodic Fall & Spring)
Each offering focuses on a single topic. Topics specified in Class Schedule.

MUS 3993. Directed Studies. (1-4 cr. [max 10 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Guided individual reading or study. prereq: instr consent, dept consent, college consent.

MUS 3995. Major Project. (; 1 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Required of music majors in senior year of the B.A. program. Research paper on topic of student's choice in consultation with faculty mentor. Sign up in Undergraduate Studies office one term in advance. prereq: Undergrad music major in B.A. program, instr consent, dept consent

MUS 4502. 18th-Century Counterpoint. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

The content of this course is stylistic, focusing on the contrapuntal technique of the late Baroque period (approximately 1700?1750) with some allusions to immediately preceding and following styles. Emphasis will focus on writing skills with some analysis of complete (or substantial sections of) pieces. A working knowledge of tonal harmony and figured bass is prerequisite. Topics to be covered will include: melody, two- and three-part counterpoint; diminutions; cadences, motivic development, and form; techniques for cantus firmus, imitative, and free counterpoint; canon and fugue; and chromaticism. prereq: [3501, 3508] or pass basic skills exam

MUS 4504. Intensive Theory and Analysis of 20th-Century Music. (; 2 cr. ; A-F or Audit; Every Spring)

Theory and analysis of art music in various styles developed in 20th century. Co-requisite: course intended for concurrent registration in MUS 4514 Ear-Training and Sight-Singing for 20th-Century Music. prereq: [MUS 3501 and MUS 3511 with grades of at least "C -"] or instr consent

MUS 4505. Jazz Theory. (; 3 cr. ; A-F or Audit; Every Fall)

Beginning through advanced techniques for jazz chord construction including extended chords and advanced nomenclature in jazz idiom. prereq: [MUS 3501 and MUS 3511] with grades of at least C- or instructor permission

MUS 4514. Ear-Training and Sight-Singing for 20th-Century Music. (; 1 cr. ; A-F or Audit; Every Spring)

Developing aural skills relevant to 20th-century Western art musics. Focuses on pitch relations, rhythmic techniques, form, and to a lesser degree, timbre and texture. Co-requisite: concurrent registration required with MUS 4504 Intensive Theory and Analysis of 20th-Century Music. prereq: [MUS 3501 and MUS 3511 with grade of at least C-] or instr consent

MUS 4715. Marching Band Techniques. (2 cr. ; A-F only; Every Spring)

This course covers the administration and management of the high school marching band as part of a total instrumental music program in the public schools. Students are exposed to the various techniques used in producing a superior performing ensemble that also adheres to the basic musical objectives of a

quality band program. The course emphasizes rehearsal technique and the application of pedagogical skills to the marching ensemble. Show design, charting, marching and maneuvering, rehearsal planning, equipment selection, personnel management, auxiliary units, percussion, discipline, and performance preparation are major topics for discussion.

MUS 5101. Piano Pedagogy I. (; 2 cr. ; Student Option; Periodic Fall)

Demonstration and discussion of teaching techniques, methods, and materials for group and individual instruction at the elementary, early intermediate, and late intermediate levels. prereq: 8 cr in MusA 1301 or MusA 1401 or instr consent

MUS 5150. Body Awareness in Activity: The Alexander Technique for Musicians. (2 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

The Alexander Technique is a century-old technique used by musicians and others as a means of solving performance problems. Its principles address how the daily habits in the use of the self (such as sitting, standing, folding/bending, and walking) affect seemingly disparate problems such as stage fright, musculoskeletal pain, playing induced injuries, and computer use injuries. For musicians, the interplay of unconscious habits and the body mechanics of daily use of the self strongly affect tone production and technique. The Alexander Technique provides tools to enhance fundamental coordination leading to greater performance ease and a reduction of chronic aches and pains. More information can be found at: <https://www.amsatonline.org>

MUS 5151. Organ Literature I. (; 3 cr. ; A-F or Audit; Periodic Fall)

Organ literature from the 14th century to the mid-18th century. Influence of organ design of various periods and national schools on the literature and its performance. prereq: 3502, 3603, sr or grad or instr consent

MUS 5152. Organ Literature II. (; 3 cr. ; A-F or Audit; Periodic Fall)

Organ literature of J. S. Bach and of other 19th- and 20th-century composers. Influence of organ design of various periods and national schools on the literature and its performance. prereq: 3502, 3603, sr or grad or instr consent

MUS 5153. Organ Pedagogy. (2 cr. ; A-F or Audit; Spring Odd Year)

Familiarization with materials and techniques for teaching playing the pipe organ. Through their study, students are to gain knowledge of organ methods and various aspects of teaching and learning to play the King of Instruments.

MUS 5181. Advanced Piano Literature I. (; 2 cr. ; A-F or Audit; Fall Even, Spring Odd Year)

Literature for piano from late Baroque period to mid-20th century. prereq: grad piano major or instr consent

MUS 5182. Advanced Piano Literature II. (; 2 cr. ; A-F or Audit; Periodic Spring)

Literature for piano from late Baroque period to mid-20th century. prereq: grad piano major or instr consent

MUS 5230. Chorus. (; 1-2 cr. [max 16 cr.] ; Student Option; Every Fall & Spring)
University Women's Chorus, Men's Chorus, Concert Choir and Choral Union. Choirs participate in a variety of programs exploring both Western and non-Western repertoire from the Middle Ages through the 20th century. Concerts include touring, and collaborative campus and community performances. prereq: Choral and/or instrumental music background; audition, instr consent

MUS 5240. University Singers. (; 1 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)
Mixed chorus with members of former chamber singers and concert choir. Programs exploring Western/non-Western repertoire from Middle Ages through 20th century. Concerts include touring and collaborative campus/community performances. prereq: Audition, instr consent

MUS 5241. Vocal Literature I. (; 3 cr. ; A-F or Audit; Periodic Fall)
Vocal literature of major/minor composers from 17th century to present. Structure, style, performance practice. prereq: [12 cr in MusA 1304, grad music student] or instr consent

MUS 5242. Vocal Literature II. (; 3 cr. ; A-F or Audit; Periodic Spring)
Vocal literature of major and minor composers from 17th century to present; structure, style, and performance practice. prereq: 12 cr in MusA 1104 or MusA 1304, grad music major or instr consent

MUS 5250. Opera Workshop and Ensemble. (; 2 cr. [max 16 cr.] ; A-F or Audit; Every Fall & Spring)
Preparation and performance of operatic arias, choruses, and scenes. Participation in fully staged or workshop productions of music theatre repertoire. prereq: audition, instr consent

MUS 5271. Diction for Singers I. (; 2 cr. ; A-F or Audit; Every Fall)
Principles and techniques of singing in English, Italian, Spanish, German, and French. International Phonetic Association alphabet used. prereq: 12 cr MusA 1304 or grad music major or instr consent

MUS 5272. Diction for Singers II. (; 2 cr. ; A-F or Audit; Periodic Spring)
Principles and techniques of singing in English, Italian, Spanish, German, and French. International Phonetic Association alphabet used. prereq: 12 cr MusA 1304 or grad music major or instr consent

MUS 5275. Vocal Pedagogy I. (; 3 cr. ; Student Option; Every Spring)
Advanced study of mind/body preparations for singing, anatomy, and physiology of the vocal mechanism. Voice use and care, historical and comparative pedagogy, learning theories, models and guidelines for teaching, instructional techniques, and diagnosing and solving vocal problems. prereq: Sr vocal major or instr consent

MUS 5276. Vocal Pedagogy II. (; 3 cr. ; A-F or Audit; Periodic Spring)
History of solo vocal performance; selection and preparation of beginning level solo vocal

repertoire; development of vocal performance skills (interpretation, expression, artistry), recital programming, and vocal career counseling. prereq: Sr vocal major or instr consent

MUS 5280. Opera Theatre. (; 2 cr. [max 16 cr.] ; A-F or Audit; Every Fall & Spring)
Preparation and performance of fully-staged operatic production. Major involvement in singing, acting, and technical aspects of opera. prereq: audition, instr consent

MUS 5331. Jazz Improvisation I. (; 2 cr. ; A-F or Audit; Periodic Summer)
Rudiments, analysis. Improvisation on blues in three major keys and on standard American popular jazz compositions from swing era to early bebop. Applications of major/minor scales. Ear training. prereq: Music major or instr consent

MUS 5333. Music After 1945. (3 cr. ; A-F only; Fall Even Year)
This course will explore theoretical and analytical techniques in mid-twentieth and twenty-first-century music. After an initial unit of review of early twentieth-century techniques, the semester will be divided into units that encapsulate a musical domain (e.g. "rhythm"), rather than exploring chronologically. Students will be responsible for completing readings as well as analytical assignments for each class, as outlined on the course schedule. prereq: MUS 4504 or Graduate music major

MUS 5336. Jazz Arranging. (; 3 cr. ; A-F or Audit; Every Fall & Spring)
Beginning techniques of arranging for jazz combo and jazz ensemble; vocal and instrumental. prereq: 3502 or instr consent

MUS 5340. Jazz Ensemble. (; 1 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)
A 20-member performing organization covering significant jazz compositions and arrangements written specifically for this medium. prereq: audition, instr consent

MUS 5400. University and Campus Bands. (; 1 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
Lab course.

MUS 5410. University Wind Bands. (; 1 cr. [max 14 cr.] ; A-F or Audit; Every Fall & Spring)
The University Wind Ensemble is comprised of the university's finest graduate and undergraduate woodwind, brass, and percussion musicians. This ensemble prepares a wide variety of repertoire composed from the early Renaissance through today and performs concerts on and off campus throughout the year. The ensemble participates in special activities, events, projects, and collaborations with featured guest artists. The University Wind Ensemble and University Symphony Orchestra share musicians and rehearse on alternating block schedules during the semester (a project-focused schedule). Please consult with the Ensemble Library in Ferguson Hall for more details on the rehearsal and performance schedule. Placement in the ensemble is determined through an audition; all university students are eligible to audition.

The University Symphonic Band is comprised of woodwind, brass, and percussion musicians in music disciplines as well as other disciplines across the university. This ensemble studies and prepares standard and contemporary wind band repertoire and performs concerts on and off campus throughout the year. Many performances are shared with guest ensembles and/or featured guest artists. Please consult with the Ensemble Library in Ferguson Hall for more details on the rehearsal and performance schedule. Placement in the ensemble is determined through an audition; all university students are eligible to audition. prereq: audition, instr consent

MUS 5420. Orchestra. (; 1 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)
Symphony orchestra performs standard repertory and major works with chorus; concerts and tour appearances. Players from all colleges may participate. prereq: audition, instr consent

MUS 5427. Violin Pedagogy I. (; 2 cr. ; A-F or Audit; Periodic Fall)
Private teaching of violin students at beginning, intermediate, and advanced levels. Discussion and demonstrations of pedagogical techniques. prereq: Violin or viola major or instr consent

MUS 5440. Chamber Ensemble. (; 1 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)
Performance of chamber music; duos, trios, quartets, quintets, and other ensemble combinations for instruments and/or voices. prereq: audition, instr consent

MUS 5450. Orchestral Repertoire. (; 1-3 cr. [max 9 cr.] ; A-F or Audit; Every Fall & Spring)
Investigation of practical and performance problems in standard orchestral repertoire with regard to style and interpretation. prereq: instr consent

MUS 5451. Applied Studio Resources and Administration. (; 2 cr. ; A-F only; Every Spring)
The courses focuses on preparing graduate students for successful entry into the college-level applied teaching profession, and developing strategies for a tenurable record of teaching, performance, research, and service.

MUS 5460. World Music Ensemble. (1-2 cr. [max 16 cr.] ; Student Option; Every Fall & Spring)
Afro-Brazilian/Afro-Caribbean popular repertoires. Samba, bossa nova, salsa, merengue, mambo. Planned master classes/clinics with local artists to complement regularly scheduled rehearsals/performances. No audition required.

MUS 5461. Guitar Literature. (2 cr. ; Student Option; Fall Odd Year)
This course is principally intended for guitar majors (graduate and undergraduate students). The main focus of this course is to introduce students to guitar literature, through the historical overview of the repertoire, classical guitar composers, and performers. It will also introduce students to method books, in chronological order (through an examination of specific styles and "performance practices")

and teaching methods through the history of guitar and guitar literature intended for technique development (studies, exercises, etc.).

MUS 5464. Cello Pedagogy. (; 2 cr. ; A-F or Audit;)

Concentrated study of cello teaching methods. Provides students with the strategies for teaching cello privately, develops analytical skills, and increases knowledge of cello repertoire. Designed for practical application in conjunction with the string technique class.

MUS 5466. Guitar Pedagogy. (; 2 cr. ; A-F or Audit; Fall Even Year)

Intended for guitar performance majors. This course will introduce basic teaching concepts/methods/philosophies and examine method books, studies, and methodology through the history of classical guitar. Other topics (e.g., starting a studio, developing promotional material/website, contemporary teaching methods) will be addressed. prereq: Guitar performance major or instr consent

MUS 5481. Trumpet Pedagogy. (; 2 cr. ; Student Option; Fall Odd, Spring Even Year)

Principles of trumpet pedagogy. Discussion of literature, history, and current teaching aids. prereq: Sr or grad in music or instr consent

MUS 5490. Percussion Ensemble. (; 1 cr. [max 10 cr.] ; A-F or Audit; Every Fall & Spring)

Practice and performance of standard and contemporary compositions for percussion instruments in various combinations. prereq: instr consent

MUS 5491. Percussion Literature I. (; 2 cr. ; A-F or Audit; Periodic Fall)

Repertoire derived from orchestral and band literature for snare drum, timpani, mallet instruments, and various percussion accessories. Major works of the 20th century written for solo percussion, percussion ensemble, and chamber groups of percussion and non-percussion instruments. prereq: Jr or sr or grad or instr consent

MUS 5492. Percussion Literature II. (; 2 cr. ; A-F or Audit; Periodic Fall & Spring)

Repertoire derived from orchestral and band literature for snare drum, timpani, mallet instruments, and various percussion accessories. Major works of the 20th century written for solo percussion, percussion ensemble, and chamber groups of percussion and non-percussion instruments. prereq: Jr or sr or grad or instr consent

MUS 5493. Javanese Gamelan Music Ensemble. (1 cr. [max 8 cr.] ; Student Option; Periodic Fall & Spring)

Hands-on experience in learning to play Javanese gamelan music, one of the great non-western musical traditions that is readily accessible to beginners. Related insights into the role of this tradition in Javanese culture. Open to all students - no musical background needed!

MUS 5494. West African Music Ensemble. (1 cr. [max 8 cr.] ; Student Option; Periodic Fall & Spring)

Hands-on experience in learning to play West African music, one of the great non-western musical traditions that is readily accessible to beginners. Also, insights into function, context, structure, gender roles, politics, instruments, life-cycle rites, genres, musical organizations, traditional musicians, and contemporary popular music. Open to all students - no musical background needed!

MUS 5534. Musical Minimalisms. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course provides an introduction to the various musics associated with the label "minimalism," including musical trajectories emerging from them. Numerous artists and compositions will be covered, spanning from 1958 to the present, though the focus is on music composed during the 1960s and 1970s, including that by Young, Riley, Reich, Glass, Monk, the Velvet Underground, Andriessen, P?rt, Eno, Feldman, and others. The class blends analysis, historical and analytical secondary readings, and in-class performance. Students must contribute informed comments to discussion, which in turn requires the completion of reading and listening assignments. prereq: Undergraduates-Mus 4504/4514 or equivalent; Graduates-Music 3508/3518 or passing of the Theory Entrance Exam

MUS 5541. 16th-Century Counterpoint. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Polyphonic counterpoint in modal style of Renaissance. Writing exercises in species counterpoint and in two, three, and four parts. Cantus firmus techniques, mixed values, invertible counterpoint, canon. Representative works by Josquin, Lassus, Palestrina, Victoria, and others. Renaissance treatises by Artusi, Banchieri, Diruta, Morley, Zarlino, and others. prereq: [3501, 3508] or pass basic skills exam

MUS 5550. Class Composition for Performers. (; 3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)

Original works in various forms. Development of individual compositional style in a post-tonal idiom. Various forms, performing forces, techniques. prereq: [4504, 4514 [with C- or better]] or instr consent

MUS 5561. Orchestration I. (; 3 cr. ; A-F or Audit; Every Fall)

Scoring techniques for ensembles in combination and full orchestra; year-long sequence. Score study of representative works from 18th through 20th centuries. prereq: 3502

MUS 5571. Schenkerian Analysis for Performers. (; 3 cr. ; A-F or Audit; Periodic Fall & Summer)

Theory/analysis of tonal music using principles developed by Henrich Schenker. Basic concepts/notation, their application to excerpts/short pieces from 18th/19th centuries. prereq: 3502

MUS 5572. Chromatic Harmony. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Exploration of chromatic tonal practices through analysis of selected repertoire, completion of written exercises (figured bass, harmonization of melodies, model

composition), ear-training, and keyboard exercises.

MUS 5573. Analysis of Late-Romantic Orchestral Literature. (; 3 cr. ; A-F or Audit; Periodic Spring)

Advanced tonal analysis. Dramatic orchestral music by Wagner, Strauss, Tchaikovsky, Rimsky-Korsakov, Moussorgsky, and Rachmaninoff as focus for projects/discussions related to chromatic harmony, form, and orchestration. prereq: 3502 or Theory IV Exam or instr consent; [4504 or equiv] recommended

MUS 5591. Introduction to Music Information Technology. (3 cr. ; A-F or Audit; Every Fall)

Principles of acoustics, electronic sound generation/manipulation, digital signal processing techniques. Programming languages for digital sound synthesis. Editing software, MIDI applications. prereq: Music grad student or instr consent

MUS 5592. Music Informatics Seminar. (3 cr. ; A-F or Audit; Every Spring)

Filtering, formant synthesis, reverberation techniques, additive synthesis. Interactive MIDI applications. prereq: 5591 or instr consent

MUS 5611. Resources for Music Research. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Development of skills in identifying, locating, and evaluating resources for research in music. Computer-searching techniques, acquaintance with basic reference sources in the field, preparation of the music research paper. prereq: 3603

MUS 5620. Topics in Opera History. (; 3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall & Spring)

Study of specific operas. Development of opera in context of other artistic, social, cultural, political events, movements, changes. Periods/countries vary each semester.

MUS 5624. Music of J. S. Bach. (; 3 cr. ; A-F or Audit; Spring Even Year)

Issues of musical style, historical context. Moves chronologically through Bach's career. Relationships between his duties and works he composed. Genesis, function, relationship of a work to genre and performing forces. Lectures, presentations, research/analysis assignments. prereq: Grad student in music or instr consent

MUS 5630. Performance Practice: 1700 to the Present. (3 cr. ; A-F only; Fall Even Year)

This course will explore issues relevant to the historically informed performance of music written between 1700 and the present, including primary sources, original instruments and iconography, editions, treatises, phrasing and articulation, tempo and rubato, rhythmic alteration, ornamentation and cadenzas, and basso continuo. Class activities and assignments will include readings, discussion, and practicum. Pre-requisite: Graduate student in Music or instructor consent

MUS 5631. Beethoven Sonatas for Solo Piano, Violin, & Cello. (3 cr. ; A-F only; Fall Odd Year)

Beethoven's sonatas are central to the violin, cello, and piano repertoires, and they will be examined in relation to the composer's life, times, and developing style. Scholarly books and articles, mostly musicological but also analytical, will provide the stimulus for understanding these works. The implications of such scholarly investigations for performance will also be a running theme of the course. Attention will therefore be given to performance practice issues as well as some difficult editorial and notational problems associated with the scores. Pre-requisite: Graduate student in Music or instructor consent

MUS 5647. 20th-Century European/American Music. (; 3 cr. ; Student Option; Every Spring)

Concert music and opera in European and American culture 1890s to present, political and social roles of music. prereq: MUS 1501 or equiv

MUS 5731. Jazz and Modernism. (3 cr. ; A-F or Audit; Spring Even Year)

Critical consideration of the mutual impact and cross-influences of jazz practices and modernist aesthetics. Contextualizes the emergence of styles including ragtime, swing, bebop, cool, third-stream, modal, and avant-garde jazz within the broader aesthetic currents of 20th-century art and popular music cultures. prereq: Graduate student in music or instr consent

MUS 5732. Free Jazz: From Structure to Gesture. (3 cr. ; A-F only; Spring Odd Year)

Discuss musical form of free jazz comprising flow expressivity, collaborative interaction, gestural communication from theoretical/practical point of view. Major representatives such as Ornette Coleman, Cecil Taylor, Archie Shepp, The Art Ensemble of Chicago, John Coltrane. Sound material include classical recordings but also recent free jazz CDs/DVDs. prereq: Grad student in music or instr consent

MUS 5805. Worlds of Improvisation. (3 cr. ; A-F or Audit; Spring Odd Year)

This course will explore traditions of improvisation from a variety of world cultures -- such as African, African-American, European, Middle Eastern, South Asian -- to gain insight into processes of composition in performance, from ethnomusicological, music-theoretical, and applied vocal/instrumental perspectives.

MUS 5807. Raga Music. (3 cr. ; A-F only; Periodic Fall & Spring)

This seminar is an introduction to the theory and practice of Hindustani raga. Raga is melodic structure and melodic flavor: a secret suffused with affect, image, color, and memory, disclosed through a particular way of listening. Raga has sustained centuries of composition and improvisational practice and inspired a vast literature of poetry, metaphysics, painting, and music theory. We will learn to intuitively discern the identity of common ragas, to rigorously describe their differences in the language of Indian music theory, and to perform their characteristic movements.

MUS 5809. What Do Voices Do?. (3 cr. ; A-F only; Periodic Fall & Spring)

The voice is mysterious. Voice teachers disagree wildly about the best method of voice production; linguists are fascinated by the acoustic complexity of speech; and ethnomusicologists have no comprehensive theory of vocal action that accounts for the hundreds of distinct vocal traditions in the world, or for the great ethical and political power wielded by elevated speech and song. Indeed, political "voice" is often exercised silently (voting, letter writing, silent protest), and submission to political authority is often affirmed vocally (through pledges, songs, and oaths.) This course proceeds optimistically, in the hope that we can find our way through this vocal thicket through historical and ethnographic study, close listening, acoustical analysis, and experimental performance. Students from all disciplines--the natural and human sciences, the humanities, the arts, etc.--are welcome.

MUS 5950. Topics in Music. (; 1-4 cr. [max 60 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Each offering focuses on a single topic. Topics specified in Class Schedule.

MUS 5993. Directed Studies. (1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. prereq: instr consent, dept consent, college consent.

Music Applied (MUSA)

MUSA 1101. Piano: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1103. Organ: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1104. Voice: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1105. Violin: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1106. Viola: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1107. Cello: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1108. Double Bass: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1109. Flute: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1111. Oboe: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1112. Clarinet: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1113. Saxophone: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1114. Bassoon: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1115. French Horn: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1116. Trumpet: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1117. Trombone: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1118. Euphonium: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Periodic Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1119. Tuba: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1121. Percussion: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1123. Guitar: Elective (non-major in music). (; 2-4 cr. [max 32 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 1201. Piano: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1203. Organ: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: [Music education or BA applied] major, dept consent This course is offered for 2 credits and meets for two hours a week; one hour being a one-on-one lesson between the instructor and student, and another hour in the instructor-led studio class.

MUSA 1204. Voice: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1205. Violin: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1206. Viola: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1207. Cello: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1208. Double Bass: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Periodic Fall & Spring)
Private instruction.

MUSA 1209. Flute: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1211. Oboe: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1212. Clarinet: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1213. Saxophone: Music Ed and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1214. Bassoon: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1215. French Horn: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1216. Trumpet: Music Education and BA. (2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1217. Trombone: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1218. Euphonium: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1219. Tuba: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1221. Percussion: Music Ed and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1222. Harp: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1223. Guitar: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 1301. Piano: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1302. Harpsichord: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1303. Organ: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1304. Voice: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1305. Violin: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1306. Viola: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1307. Cello: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1308. Double Bass: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1309. Flute: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1311. Oboe: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1312. Clarinet: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1313. Saxophone: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1314. Bassoon: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1315. French Horn: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1316. Trumpet: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1317. Trombone: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1318. Euphonium: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1319. Tuba: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1321. Percussion: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1322. Harp: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1323. Guitar: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1401. Piano: Music Major Secondary (undergraduate). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: Music major, dept consent

MUSA 1402. Harpsichord: Music Major Secondary (undergraduate). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1403. Organ: Music Major Secondary (undergraduate). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1404. Voice: Music Major Secondary (undergraduate). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: Audition, dept consent

MUSA 1405. Violin: Music Major Secondary (undergraduate). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: Audition, dept consent

MUSA 1406. Viola: Music Major Secondary (undergraduate). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1407. Cello: Music Major Secondary (undergraduate). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1408. Double Bass: Music Major Secondary (undergraduate). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)
Individual instruction on the double bass as a secondary instrument. prereq: Audition, dept consent

MUSA 1409. Flute: Music Major Secondary (undergraduate). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1411. Oboe: Music Major Secondary (undergraduate). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1414. Bassoon: Music Major Secondary (undergraduate). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1418. Euphonium: Music Major Secondary (undergraduate). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1421. Percussion: Music Major Secondary (undergraduate). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1423. Guitar: Music Major Secondary (undergraduate). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 1901. Piano: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1903. Organ: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1904. Voice: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1905. Violin: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1906. Viola: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1907. Cello: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1908. Double Bass: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1909. Flute: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1911. Oboe: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1912. Clarinet: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1913. Saxophone: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1915. French Horn: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1916. Trumpet: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1917. Trombone: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1918. Euphonium: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1921. Percussion: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1922. Harp: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 1923. Guitar: Music Major Transfer. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Private instruction for transfer students. One semester only. prereq: Audition, dept consent

MUSA 2201. Piano: Music Ed and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: [Music education or BA applied] major, dept consent

MUSA 2203. Organ: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: dept consent

MUSA 2204. Voice: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: dept consent

MUSA 2205. Violin: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: dept consent

MUSA 2206. Viola: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: dept consent

MUSA 2207. Cello: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: dept consent

MUSA 2208. Bass: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: dept consent

MUSA 2209. Flute: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)
Private instruction. prereq: dept consent

MUSA 2211. Oboe: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 2212. Clarinet: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 2213. Saxophone: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 2214. Bassoon: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 2215. French Horn: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 2216. Trumpet: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 2217. Trombone: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 2218. Euphonium: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 2219. Tuba: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 2221. Percussion: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 2222. Harp: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 2223. Guitar: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 2301. Piano: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2302. Harpsichord: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, instr consent

MUSA 2303. Organ: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2304. Voice: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2305. Violin: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2306. Viola: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2307. Cello: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2308. Double Bass: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2309. Flute: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2311. Oboe: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2312. Clarinet: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2313. Saxophone: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2314. Bassoon: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2315. French Horn: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2316. Trumpet: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2317. Trombone: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2318. Euphonium: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2319. Tuba: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2321. Percussion: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2322. Harp: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 2323. Guitar: Music Major. (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3101. Piano: Elective (non-major in music). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 3103. Organ: Elective (non-major in music). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 3104. Voice: Elective (non-major in music). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 3105. Violin: Elective (non-major in music). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 3117. Trombone: Elective (non-major in music). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Periodic Fall & Spring)

Private instruction. prereq: dept consent

MUSA 3121. Percussion: Elective (non-major in music). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 3123. Guitar: Elective (non-major in music). (; 2-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 3201. Piano: Music Ed and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3204. Voice: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3205. Violin: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3206. Viola: Music Education and BA. (; 2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3207. Cello: Music Education and BA. (; 2 cr. [max 16 cr.]; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3209. Flute: Music Education and BA. (; 2 cr. [max 16 cr.]; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3211. Oboe: Music Education and BA. (; 2 cr. [max 16 cr.]; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3212. Clarinet: Music Education and BA. (; 2 cr. [max 16 cr.]; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3213. Saxophone: Music Education and BA. (; 2 cr. [max 16 cr.]; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3214. Bassoon: Music Education and BA. (; 2 cr. [max 16 cr.]; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3215. French Horn: Music Education and BA. (; 2 cr. [max 16 cr.]; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3216. Trumpet: Music Education and BA. (; 2 cr. [max 16 cr.]; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3217. Trombone: Music Education and BA. (; 2 cr. [max 16 cr.]; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3219. Tuba: Music Education and BA. (; 2 cr. [max 16 cr.]; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3221. Percussion: Music Education and BA. (; 2 cr. [max 16 cr.]; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3222. Harp: Music Education and BA. (; 2 cr. [max 16 cr.]; A-F only; Every Fall & Spring)

Private instruction.

MUSA 3223. Guitar: Music Education and BA. (2 cr. [max 6 cr.]; A-F only; Every Fall & Spring)

Private instruction. prereq: Audition, dept consent

MUSA 3301. Piano: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3302. Harpsichord: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3303. Organ: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3304. Voice: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3305. Violin: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3306. Viola: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3307. Cello: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3308. Double Bass: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3309. Flute: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3311. Oboe: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3312. Clarinet: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3313. Saxophone: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3314. Bassoon: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3315. French Horn: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3316. Trumpet: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3317. Trombone: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3318. Euphonium: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3319. Tuba: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3321. Percussion: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3322. Harp: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 3323. Guitar: Music Major. (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: Audition, dept consent

MUSA 5101. Piano: Elective (graduate non-major in music). (; 2 cr. [max 8 cr.]; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 5103. Organ: Elective (graduate non-major in music). (; 2 cr. [max 8 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Private instruction. prereq: dept consent

MUSA 5104. Voice: Elective (graduate non-major in music). (; 2 cr. [max 8 cr.]; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 5105. Violin: Elective (graduate non-major in music). (; 2 cr. [max 8 cr.]; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 5106. Viola: Elective (graduate non-major in music). (; 2 cr. [max 8 cr.]; A-F or Audit; Periodic Fall & Spring)

Private instruction. prereq: dept consent

MUSA 5112. Clarinet: Elective (graduate non-major in music). (; 2 cr. [max 8 cr.]; A-F or Audit; Periodic Fall & Spring)

Private instruction. prereq: dept consent

MUSA 5113. Saxophone: Elective (graduate non-major in music). (; 2 cr. [max 8 cr.]; A-F or Audit; Periodic Fall & Spring)

Private instruction. prereq: dept consent

MUSA 5114. Bassoon: Elective (graduate non-major in music). (; 2 cr. [max 8 cr.]; A-F or Audit; Every Fall & Spring)

Private instruction. prereq: dept consent

MUSA 5116. Trumpet: Elective Individual Lessons (graduate non-major in music). (; 2 cr. [max 8 cr.]; A-F or Audit; Periodic Fall, Spring & Summer)

Individualized trumpet instruction. prereq: dept consent

MUSA 5121. Percussion: Elective (graduate non-major in music). (; 2 cr. [max 8 cr.]; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: dept consent

MUSA 5123. Guitar: Elective (graduate non-major in music). (; 2 cr. [max 8 cr.]; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: dept consent

MUSA 5401. Piano: Music Major Secondary (graduate). (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: Audition, dept consent

MUSA 5402. Harpsichord: Music Major Secondary (graduate). (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 5403. Organ: Music Major Secondary (graduate). (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 5404. Voice: Music Major Secondary (graduate). (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: Audition, dept consent

MUSA 5405. Violin: Music Major Secondary (graduate). (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: Audition, dept consent

MUSA 5408. Double Bass: Music Major Secondary (graduate). (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: Audition, dept consent

MUSA 5409. Flute: Music Major Secondary (graduate). (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: Audition, dept consent

MUSA 5414. Bassoon: Music Major Secondary (graduate). (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: Audition, dept consent

MUSA 5415. French Horn: Music Major Secondary (graduate). (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: Audition, dept consent

MUSA 5416. Trumpet: Music Major Secondary (graduate). (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: Audition, dept consent

MUSA 5417. Trombone: Music Major Secondary (graduate). (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 5418. Baritone: Music Major Secondary (graduate). (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall, Spring & Summer)
Private instruction. prereq: Audition, dept consent

MUSA 5421. Percussion: Music Major Secondary (graduate). (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: Audition, dept consent

MUSA 5423. Guitar: Music Major Secondary (graduate). (; 2-4 cr. [max 24 cr.]; A-F or Audit; Every Fall & Spring)
Private instruction. prereq: Audition, dept consent

Music Education (MUED)

MUED 1201. Introduction to Music Education. (; 2 cr. ; A-F only; Every Spring)
This course is designed as an introduction to the field of music education. It will provide students with an overview of the multifaceted nature of music teaching and learning, and serve as a foundation for the construction of your own beliefs and practices as a teacher and give you a framework to work effectively in diverse settings. This course will include: field experiences, readings, presentations, instructional technologies as well as historical, psychological, and philosophical foundations. Though this class is the first required MUED course of the music education major, major-level status in the School of Music is not required to enroll.

MUED 1801. Introduction to Music Therapy. (; 2 cr. ; A-F or Audit; Every Fall & Spring)
Methods, materials, and applications of music therapy in various clinical settings with emphasis on field observation.

MUED 3011. Music in Childhood. (; 3 cr. ; Student Option; Every Fall & Spring)
Learning each child's interests, needs, and abilities. Integrate music with other classroom subjects. Written/oral discussions, music making, micro-teaching, lesson presentations. Taught from arts perspective.

MUED 3802. Guitar I for Music Education and Music Therapy Majors: Developing Group Songleading Skills. (; 2 cr. ; A-F only; Every Fall)

How to play standing up, accompany oneself, cue/prompt, move around room while playing, sight-read chords, read tablature. Open chords, tuning, keys that facilitate group singing. Eye contact. Simple 2-5 chords songs. Teaching guitar to novice players. prereq: [Music therapy or music education major], dept consent

MUED 3803. Guitar II for Music Education and Music Therapy Majors: Developing Group Songleading Skills. (; 2 cr. ; A-F only; Every Spring)

Students play guitar, accompany themselves as they sing songs, and role play live music therapy and music education settings. How to play in various styles using open chords and different rhythmic accompaniment. prereq: 3802 with grade of at least C-, [music therapy or music education major], dept consent

MUED 3807. Percussion Techniques for Music Therapists. (; 2 cr. ; A-F or Audit; Every Spring)
Design, implement, and facilitate percussion into music therapy session. Variety of music therapy percussion instruments/how to successfully implement them into clinical practice with children, adolescents, and adults who are differently-abled.

MUED 4417. Style, Pedagogy, and Diction in the Choral Music Classroom I. (; 2 cr. ; A-F only; Every Fall)
Vocal styles. Lyric diction, vocal pedagogy. Performance in vocal jazz, musical theater, and classical styles. How to apply style concepts in school setting. SMARTMUSIC software. prereq: two semesters of applied voice at college level

MUED 4418. Style, Pedagogy, and Diction in the Choral Music Classroom II. (; 2 cr. ; A-F only; Spring Even Year)
Vocal styles. Lyric diction, vocal pedagogy. Performance in vocal jazz, musical theater, and classical styles. How to apply style concepts in school setting. SMARTMUSIC software. prereq: two semesters of applied lessons at college level

MUED 4502. String Techniques and Teaching. (; 2 cr. ; A-F or Audit; Every Spring)
Playing experience on orchestral string instruments. Historical/acoustical background. Scoring for strings. Principles of improvisation. Basic concepts of teaching. Methods/materials. Techniques of individual/class instruction.

MUED 4503. Woodwind Techniques and Teaching. (; 2 cr. ; A-F or Audit; Every Spring)
Playing experience on instruments of the woodwind family. Historical/acoustical background. Scoring for brasses. Principles of improvisation. Basic concepts of teaching. Methods/materials. Techniques of individual/class instruction.

MUED 4504. Brass Techniques and Teaching. (; 2 cr. ; A-F or Audit; Every Fall)
Playing experience on instruments of the brass family. Historical/acoustical background. Scoring for brasses. Principles of improvisation. Basic concepts of teaching. Methods/materials. Techniques of individual/class instruction.

MUED 4505. Percussion Techniques and Teaching. (; 2 cr. ; A-F or Audit; Every Fall)
Playing experience on percussion instruments. Historical/acoustical background. Scoring for percussion. Principles of improvisation. Basic concepts of teaching. Methods/materials. Techniques of individual/class instruction.

MUED 5101. Improvisation and Creativity in the Music Classroom. (; 2 cr. ; A-F only; Every Fall)

This course will address issues of improvisation, composition, and creativity of critical importance to musicians and music educators, with a strong emphasis on music-theoretical and socio-cultural modes of understanding the meanings and functions of music. Students will gain experience with the creative practices characteristic of a variety of Western and non-Western forms, including those of jazz and Minnesota American Indian

music. The workshop format of the class will challenge students to improvise and compose works, present and perform them to their peers, provide and receive constructive feedback, engage and respond to this feedback with reference to clearly articulated statements of artistic intent, and revise the works accordingly. Students will apply insights derived in this manner in final research projects focused on the development of lesson and unit plans. prereq: At least C- in MUS 4504 or instructor permission

MUED 5301. General Music I. (; 3 cr. ; A-F or Audit; Every Spring)

Materials, strategies and the field experience for planning and implement instruction for global arts understanding among early childhood and lower elementary school children. Experiential learning, for integrating international music and culture perspectives while planning and implementing sequential elementary music instruction. prereq: MUED 1201, MUS 4504, MUS 4514, [music education major or instr consent], successful completion of soph proficiency exam

MUED 5302. General Music II. (; 3 cr. ; A-F only; Every Fall)

Materials, strategies and an extensive field experience with expert general music teachers for planning and implementing sequential upper elementary, middle and high school music instruction for global arts understanding. Includes interdisciplinary connections, performance, and applications of academic technologies. prereq: MUED 5301, MUED 1201, MUS 4504, and MUS 4514 with a grade of at least C-

MUED 5350. Student Teaching in Classroom Music. (; 4-8 cr. ; A-F or Audit; Every Fall & Spring)

Supervised teaching and observing of classroom and general music in elementary, junior high, and senior high schools. Weekly seminar emphasizing classroom management, curriculum development, and administration of music programs.

MUED 5415. Choral/Vocal Methods and Materials I. (; 3 cr. ; A-F only; Every Spring)

Choral/vocal methods and materials as part of licensure to work in K-12 settings per legislated standards. Sight-singing, classroom management, warm-ups, adolescent voice, choral conducting skills, repertoire, and rehearsal techniques. 25 hours of practicum at the middle school level. Applications of technology. First of two required semesters. prereq: MUED 1201, MUS 4504, MUS 4514, [music education major or instr consent], successful completion of soph proficiency exam

MUED 5416. Choral/Vocal Methods and Materials II. (; 3 cr. ; A-F only; Every Fall)

Choral/vocal methods and materials as part of licensure to work in K-12 settings per legislated standards. Choral conducting skills, rehearsal techniques, and interpretation of choral compositions. Methods, materials, and curriculum for high school choral ensembles. 20 hours of practicum at the high school level.

Second of two required semesters. prereq: MUED 5415, MUED 1201, MUS 4504, and MUS 4514 with grade of at least C-, [music education major or instr consent], completion of the Music Education sophomore proficiency exam

MUED 5419. Advanced Conducting and Repertoire (Choral). (; 2 cr. ; A-F only; Every Fall)

Conducting/baton technique, nonverbal communication skills, rehearsal techniques, score study habits. Aural/diagnostic skills to rehearse a choral ensemble. Selection of age-appropriate repertoire. prereq: 3416, MUS 3401, MUS 3502, MUS 3512, music education major [choral]

MUED 5450. Student Teaching in Vocal Music. (; 4-8 cr. ; A-F or Audit; Every Fall & Spring)

Supervised teaching and observing of vocal music in elementary, junior high, and senior high schools. Weekly seminar emphasizing classroom management, curriculum development, and administration of music programs.

MUED 5516. Instrumental Methods and Materials I. (; 3 cr. ; A-F only; Every Spring)

Instrumental methods and materials as part of licensure to work in K-12 settings per legislated standards. Sight-singing, classroom management, adolescent development, instrumental conducting skills, repertoire, and rehearsal techniques. 25 hours of practicum at the middle school level. Applications of technology. First of two required semesters. prereq: MUED 1201, MUS 4504, and MUS 4514 with a grade of C- or better, music education major, successful completion of Music Education sophomore proficiency exam

MUED 5517. Instrumental Methods and Materials II. (; 3 cr. ; A-F only; Every Fall)

Instrumental methods and materials as part of licensure to work in K-12 settings per legislated standards. Sight-singing, classroom management, adolescent development, instrumental conducting skills, repertoire, and rehearsal techniques. 25 hours of practicum at the middle school level. Applications of technology. Second of two required semesters. prereq: MUED 5517, MUED 1201, MUS 4504, and MUS 4514 with a grade of C- or better, music educ major, completion of the Music Education sophomore proficiency exam

MUED 5519. Advanced Conducting and Repertoire (Instrumental). (; 2 cr. ; A-F only; Every Fall)

The Advanced Conducting (Instrumental) course continues exploration of the many facets of the role of a conductor (within orchestral and wind band areas), conducting philosophies, and conducting and rehearsal techniques for instrumental ensembles. Students advance in knowledge of score study, analysis, non-verbal communication skills, body awareness, repertoire selection, and rehearsal techniques. Advanced Conducting is offered in annually in the fall semester. Pre-req: MUED 5416 (Choral/Vocal Methods and Materials II) MUS 3401 (Basic Conducting) MUS 4504

(Intensive Theory and Analysis of 20th-Century Music) MUS 4514 (Ear-Training and Sight-Singing for 20th-Century Music) music major or instructor approval

MUED 5550. Student Teaching in Instrumental Music. (; 4-8 cr. ; A-F or Audit; Every Fall & Spring)

Supervised teaching and observing of instrumental music in elementary, junior high, and senior high schools. Weekly seminar emphasizing classroom management, curriculum development, and administration of music programs.

MUED 5650. Student Teaching Seminar. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Reflective practice during student teaching. Developing materials for professional employment (e.g., resume, portfolio). prereq: At least C- in all required [music, music education, professional education] courses

MUED 5669. Psychology of Music. (; 3 cr. ; A-F or Audit; Every Fall)

Basic study of the psychology and psychoacoustics of music including hearing, music perception and cognition, values and preferences, musical abilities, musical systems, media music effects, the influence of music on human behavior, and psycho-socio-physiological processes involved in musical behavior. prereq: Psy 1001 or Psy 3604 or instr consent

MUED 5750. Topics in Music Education. (; 1-4 cr. [max 16 cr.] ; A-F or Audit; Periodic Fall & Spring)

Focuses on single topic, specified in Class Schedule.

MUED 5800. Group Music Leadership Skills. (; 3 cr. ; A-F or Audit; Every Spring)

Role of group music experiences in human development. Relations specific to music therapy. Students develop repertoire of music applications/techniques for various age groups/populations. Standards for group leadership. Precision teaching skills. prereq: [[Completion of [MUS 1151, MUS 1152] or MUS 1155], music therapy major] or instr consent

MUED 5803. Therapeutic Management in Music Settings. (; 4 cr. ; A-F only; Every Fall)

Cognitive behavioral methodology related to music therapy and music education settings. Prepares students to complete case studies mandated for internship completion set forth by American Music Therapy Association. prereq: [5804, 5805] or instr consent

MUED 5804. Music Therapy Methods and Procedures I. (; 4 cr. ; A-F or Audit; Every Fall)

Methods/procedures for developing basic music therapy competencies/professionalism. Music therapy populations, their clinical needs. How to use music therapy in an evidence-based approach to meet client objectives. prereq: 5800 or instr consent

MUED 5805. Music Therapy Methods and Procedures II. (; 4 cr. ; A-F only; Every Spring)

Second course in professional sequence for music therapy. Topics include psychotherapy

techniques and other music therapy approaches. Practicum in the community, in-class lab. prereq: 5804 or instr consent

MUED 5806. Career Preparation. (; 4 cr. ; A-F or Audit; Every Spring)

Ethics, grant writing, resume/CV preparation, supervision, board certification, professional responsibilities. Students design evidence-/research-based music therapy program, present their proposals to class/community. prereq: 5805 or instr consent

MUED 5807. Psychiatric Music Therapy. (; 3-4 cr. ; A-F only; Every Fall)

Psychiatric populations. How music therapy can be implemented as evidence-based practice. Students design original research and role-play music therapy interventions for psychiatric populations. Practicum component on designing music therapy interventions. Graduate students registering for this course should enroll for 4 credits. Undergraduate students registering for this course should enroll for 3 credits. prereq: Grad music therapy student or instr consent

MUED 5808. Medical Music Therapy. (; 3-4 cr. ; A-F only; Every Spring)

Role/scope of music therapy in medical treatment. Medical diagnoses. How to program appropriate music therapy interventions to address patient needs. prereq: Grad music therapy major or instr consent

MUED 5855. Music Therapy Internship. (; 1-13 cr. ; S-N or Audit; Every Fall & Spring)

Six-month resident internship in music therapy at an affiliated, approved hospital or clinic. prereq: Music therapy major, instr consent

MUED 5991. Independent Study. (; 1-4 cr. [max 8 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Independent study project organized by the student in consultation with the appropriate instructor. prereq: Music ed or music therapy major or grad, instr consent, dept consent

Natural Resources Sci and Mgmt (NR)

NR 5021. Statistics for Agricultural and Natural Resource Professionals. (; 3 cr. ; Student Option; Every Spring)

This course is designed for graduate students in the agricultural, environmental, natural resources, and other related programs that require an understanding of statistics and applied quantitative research. Course content focuses on data analysis approaches using common statistical methods, e.g., probability and distributions, simple linear, multiple, and logistic regression, linear models, and analysis of variance. This course is completely online and asynchronous. prereq: College algebra or instructor consent

Naval Science (NAV)

NAV 1000. Professional Training in Naval Science. (; 1 cr. ; S-N or Audit; Every Fall & Spring)

Instruction and training in basic military subjects and professional development, including military leadership, close order drill, marksmanship, honors and ceremonies, personnel inspections, and computer-based war game simulations. Classes and small group seminars on leadership and ethical issues with case studies. prereq: enrolled in NROTC

NAV 1101. Introduction to Naval Science. (; 3 cr. ; A-F or Audit; Every Fall)

Navy organization, customs and traditions, officer and enlisted rank and rating structures, uniforms and insignia, shipboard duties, seamanship, damage control, and safety. Core values of the naval services, Navy regulations, and the Uniform Code of Military Justice.

NAV 1102. Seapower and Maritime Affairs. (; 3 cr. ; A-F or Audit; Every Spring)

Historical influences on development of U.S. Navy, from American Revolution to present. Critical, contemporary issues.

NAV 2000. Professional Training in Naval Science. (; 1 cr. ; S-N or Audit; Every Fall & Spring)

Instruction and training in basic military subjects and professional development, including military leadership, close order drill, marksmanship, honors and ceremonies, personnel inspections, and computer-based war game simulations. Classes and small group seminars on leadership and ethical issues with case studies. prereq: Soph enrolled in NROTC

NAV 2201. Ship Systems I: Naval Engineering. (; 3 cr. ; A-F or Audit; Every Fall)

Detailed study of ship characteristics/types. Design, hydrodynamic forces, stability, compartmentation, propulsion, electrical/auxiliary systems, damage control, administration. Basic concepts of theory/design for steam, gas turbine, diesel, nuclear propulsion.

NAV 2202. Ship Systems II: Science and Technology in Naval Weapons Systems. (; 3 cr. ; A-F or Audit; Every Spring)

Detection, evaluation, threat analysis, weapon selection, delivery, guidance, explosives. Physical aspects of radar, underwater sound. Facets of command, control, communications as means of weapons system integration.

NAV 3000. Professional Training in Naval Science. (; 1 cr. ; S-N or Audit; Every Fall & Spring)

Instruction and training in basic military subjects and professional development, including military leadership, close order drill, marksmanship, honors and ceremonies, personnel inspections, and computer-based war game simulations. Classes and small group seminars on leadership and ethical issues with case studies. prereq: Jr enrolled in NROTC

NAV 3301. Navigation I: Piloting and Celestial Navigation. (; 3 cr. ; A-F or Audit; Every Fall)

Great military leaders of history. Development of warfare, from dawn of recorded history to present. Focuses on effect of major military

theorists, strategists, tacticians, technological developments.

NAV 3302. Navigation II: Seamanship and Ship Operations. (; 3 cr. ; A-F or Audit; Every Fall)

National/international nautical rules of the road, seamanship, tactical maneuvering/signaling, relative motion, vector-analysis, formation tactics, ship employment, ship behavior/characteristics. Application of maneuvering board in solving motion problems. prereq: 3301

NAV 3309. Fundamentals of Maneuver Warfare. (3 cr. ; A-F or Audit; Fall Even Year)

Fundamentals of Maneuver Warfare (FMW) is a detailed look at broad aspects of warfare and their interactions with maneuver warfare doctrine, with a focus on the United States Marine Corps. Throughout the course there is a strong focus on Leadership, as the fundamental purpose of this course is to develop the skills, knowledge, leadership background and mentality necessary for a successful Marine Corps Officer.

NAV 3310. Evolution of Warfare. (; 3 cr. ; A-F or Audit; Periodic Fall)

Great military leaders of history. Development of warfare, from dawn of recorded history to present. Focuses on effect of major military theorists, strategists, tacticians, technological developments.

NAV 4000. Professional Training in Naval Science. (1 cr. [max 4 cr.]; S-N or Audit; Every Fall & Spring)

Instruction and training in basic military subjects and professional development, including military leadership, close order drill, marksmanship, honors and ceremonies, personnel inspections, and computer-based war game simulations. Classes and small group seminars on leadership and ethical issues with case studies. prereq: Sr enrolled in NROTC

NAV 4401W. Leadership and Management I. (WI; 3 cr. ; A-F or Audit; Every Fall)

Advanced study of organizational behavior/management. Major behavioral theories examined in detail. Practical applications. Exercises, case studies, seminar discussions.

NAV 4402W. Leadership and Ethics.

(CIV,WI; 3 cr. ; A-F or Audit; Every Spring) Junior officer role. Responsibilities faced as leader, manager, professional officer of Naval Services. Develops specific competencies in areas of leadership, management, professional administration, development. Emphasizes Naval Service ethics, core values. prereq: NAV 4401W

Neurology (NEUR)

NEUR 5121. Descriptive Neurology. (; 2 cr. ; O-N or Audit; Every Spring)

Central and peripheral nervous system. Correlation of neuroanatomy, neurophysiology, clinical neurology, and pathology of the nervous system. prereq: enrolled OT or PT

NEUR 5230. Cerebrovascular Hemodynamics and Diseases I. (; 4 cr. ; A-F only; Every Fall)

Principles of cerebrovascular disease/pathophysiology, hemodynamics, diagnostic imaging, and endovascular devices. Bench-to-bedside experiments. Clinical trials, including design constraints and biostatistics. prereq: [[PHSL 3051 or PHSL 3063], [MATH 1271 or MATH 1371], [MATH 1272 or MATH 1372], [PHYS 1201W or PHYS 1301W], instr consent] or [grad student, [PHSL 5061 or instr consent]]

Neuroscience (NSC)

NSC 5031W. Perception. (WI; 3 cr. ; Student Option; Periodic Fall)

Cognitive, computational, and neuroscience perspectives on visual perception. Color vision, pattern vision, image formation in eye, object recognition, reading, impaired vision. Course is biennial: offered fall of odd years. prereq: Psy 3031 or Psy 3051 or instr consent

NSC 5040. Brain Networks: From Connectivity to Dynamics. (; 4 cr. ; A-F or Audit; Fall Odd Year)

Brain networks. Application of emerging science of complex networks to studies of the brain. Network approaches that provide fundamental insights into the integrative nature of brain function and its relation to the brain structure. Organization of brain networks and dynamics at multiple spatial scales, ranging from the microscale of single neurons and synapses, to mesoscale of anatomical cell groupings and their projections, and to the macroscale of brain regions and pathways. Experimental studies, including electrophysiology, voltage-sensitive dye imaging, electroencephalography, magnetoencephalography, and functional magnetic resonance imaging, that allow mapping network elements and structural/functional connectivity between them at different temporal and spatial scales will be considered. Experimental/theoretical perspectives.

NSC 5202. Theoretical Neuroscience: Systems and Information Processing. (; 3 cr. ; Student Option; Every Spring)

Concepts of computational/theoretical neuroscience. Distributed representations and information theory. Methods for single-cell modeling, including compartmental/integrate-and-fire models. Learning rules, including supervised, unsupervised, and reinforcement learning models. Specific systems models from current theoretical neuroscience literature. Lecture/discussion. Readings from current scientific literature. prereq: [3101, 3102W] recommended

NSC 5203. Basic and Clinical Vision Science. (; 3 cr. ; Student Option; Spring Even Year)

Basic and clinical vision science. prereq: instr consent

NSC 5461. Cellular and Molecular Neuroscience. (; 3 cr. [max 4 cr.]; A-F or Audit; Every Fall)

Lectures by team of faculty, problem sets in important physiological concepts, discussion of original research papers. prereq: NSc grad student or instr consent

NSC 5462. Neuroscience Principles of Drug Abuse. (; 2 cr. ; Student Option; Periodic Spring)

Current research on drugs of abuse, their mechanisms of action, characteristics shared by various agents, and neural systems affected by them. Offered biennially, spring semester of even-numbered years. prereq: instr consent

NSC 5540. Survey of Biomedical Neuroscience. (2 cr. ; A-F or Audit; Every Summer)

Current topics in biomedical neuroscience, accompanied by supporting, fundamental concepts. Intensive, one week course. prereq: instr consent, intended for members of biomedical community or students with advanced scientific backgrounds

NSC 5551. Itasca Cell and Molecular Neurobiology Laboratory. (; 4 cr. ; S-N or Audit; Every Summer)

Intensive lab introduction to cellular and molecular aspects of research techniques in contemporary neurobiology; held at Itasca Biological Station. Electrophysiological investigations of neuronal properties, neuropharmacological assays of transmitter action, and immunohistochemical studies in experimental preparations. prereq: Neuroscience grad or instr consent

NSC 5561. Systems Neuroscience. (; 4 cr. ; A-F or Audit; Every Fall)

Principles of organization of neural systems forming the basis for sensation/movement. Sensory-motor/neural-endocrine integration. Relationships between structure and function in nervous system. Team taught. Lecture, laboratory. prereq: NSc grad student or instr consent

NSC 5661. Behavioral Neuroscience. (; 3 cr. [max 4 cr.]; A-F or Audit; Every Spring)

Neural coding/representation of movement parameters. Neural mechanisms underlying higher order processes such as memorization, memory scanning, and mental rotation. Emphasizes experimental psychological studies in human subjects, single cell recording experiments in subhuman primates, and artificial neural network modeling. prereq: Grad NSc major or grad NSc minor or instr consent

Neuroscience Department (NSCI)

NSCI 1001. Fundamental Neuroscience: Understanding Ourselves. (TS; 3 cr. ; A-F only; Every Fall & Spring)

Assessing objectively the neuroscience information presented to public at-large across various media outlets. Explaining the potential importance of these discoveries.

NSCI 1002. Social Neuroscience: Understanding Others. (3 cr. ; A-F only; Every Spring)

The field of neuroscience makes a special contribution to our understanding of the human condition, as it can both help us understand ourselves and also how we interact in a world of other individuals. Historically, there has been a dichotomy between disciplines that identify

the abstract principles of the social world we live in and the biology of the organ (i.e., the central nervous system) we use to identify and coordinate those abstract principles as we function in our daily lives. By merging these disciplines and studying our interactions with the world on many layers of analysis, from genes to social dynamics, we can develop a richer understanding of who we are as people. prereq: None

NSCI 2001. Human Neuroanatomy (without a lab). (; 3 cr. ; Student Option; Every Spring)

This course will provide a broad introduction to the nervous system with an emphasis on the human nervous system. The course will introduce the structure and function of neurons, the major anatomical parts of the nervous system and the main functional systems. Functional systems will be approached through an understanding of the anatomical circuitry. The fundamental concepts of neurochemical communication studied in general terms in the first part of the course will be re-examined relative to specific functional systems later in the course. Although the major focus of the course will be on the normal nervous system, common diseases will be introduced for each main topic. Students will gain an understanding of the nature of many neurological diseases, which will provide further insight into how the normal nervous system functions. The neuronal substrates of learning/memory, addiction and drug actions will be examined. Through the lectures, discussions and other resources, students will be expected to gain an understanding of the neural circuitry and information processing responsible for the diverse range of human behaviors. The material covered in Nsci 2001 and 2100 is very similar. N2100 is taught only fall semester. It is a traditional lecture course that includes a weekly laboratory. The faculty believe that the laboratory is a valuable part of the course. N2001 is taught only spring semester for those who cannot take the fall course. It does not have a lab, but has the advantage of a flipped format. In N2001, students will be expected to watch the assigned lectures prior to coming to class. Class time will be spent on exercises and discussions that use the material presented in the online lectures. Students who take one of these two courses will not be allowed to take the other course. For more information, see <http://mclonlab.neuroscience.umn.edu/2001/index.htm>

NSCI 2101. Human Neuroanatomy. (BIOL; 4 cr. ; A-F only; Every Fall)

This course will provide a broad introduction to the nervous system with an emphasis on the human nervous system. The course will introduce the structure and function of neurons, the major anatomical parts of the nervous system and the main functional systems. Functional systems will be approached through an understanding of the anatomical circuitry. The fundamental concepts of neurochemical communication studied in general terms in the first part of the course will be re-examined relative to specific functional systems later in the course. Although the major focus of the

course will be on the normal nervous system, common diseases will be introduced for each main topic. Students will gain an understanding of the nature of many neurological diseases, which will provide further insight into how the normal nervous system functions. The neuronal substrates of learning/memory, addiction and drug actions will be examined. Through the lectures, laboratory exercises and other resources, students will be expected to gain an understanding of the neural circuitry and information processing responsible for the diverse range of human behaviors. The material covered in Nsci 2001 and 2100 is very similar. N2100 is taught only fall semester. It is a traditional lecture course that includes a weekly laboratory. The faculty believe that the laboratory is a valuable part of the course. N2001 is taught only spring semester for those who cannot take the fall course. It does not have a lab, but has the advantage of a flipped format. In N2001, students will be expected to watch the assigned lectures prior to coming to class. Class time will be spent on exercises and discussions that use the material presented in the online lectures. Students who take one of these two courses will not be allowed to take the other course. For more information, see <http://mcloonlab.neuroscience.umn.edu/2100/index.htm>

NSCI 3001W. Neuroscience and Society. (CIV,WI; 4 cr. ; A-F only; Every Spring) Ethical implications. Readings, personal reflections, class discussions, debates, and formal writing. Development of logical arguments, writing skills, oral presentation skills, and teamwork. Students present/argue both their own personal views and those of others. What it is like to have altered mentation, i.e. a brain disease or disability. Readings/multimedia reports from primary neuroscience literature as well as philosophy, policy, and law literature and popular media.

NSCI 3101. Neurobiology I: Molecules, Cells, and Systems. (3 cr. ; A-F or Audit; Every Fall & Spring) This course discusses the basic principles of cellular and molecular neurobiology and nervous systems. The main topics include: Organization of simple networks, neural systems and behavior; how the brain develops and the physiology and communication of neurons and glia; the molecular and genetic basis of cell organization; ion channel structure and function; the molecular basis of synaptic receptors; transduction mechanisms and second messengers; intracellular regulation of calcium; neurotransmitter systems, including excitation and inhibition, neuromodulation, system regulation, and the cellular basis of learning, memory, and cognition. The course is intended for students majoring in neuroscience, but is open to all students with the required prerequisites.

NSCI 3102W. Neurobiology II: Perception and Behavior. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring) This is the second of the introductory neurobiology courses. It introduces

fundamental concepts in systems and behavioral neuroscience with emphasis on the neural circuits underlying perception and sensorimotor integration. Lectures will examine the neural basis of specific behaviors arising from the oculomotor, visual and auditory systems and notes are available on Canvas. Topics include: retinal processing, functional organization in the cerebral cortex, neural circuit development, language, reward, and addiction. Students must learn to read scientific papers, and to understand the main ideas well enough to synthesize them and communicate them both orally and in writing. The course is writing intensive: exams are in essay and short answer format, and a 10-15 page term paper is required. The course is required for students majoring in neuroscience. The course consists of two hours of lecture and one hour of discussion per week.

NSCI 3505W. Mind and Brain. (WI; 4 cr. ; A-F only; Every Spring)

This course is intended as an introduction to the new views on the relationship between mind and brain. Over the last several decades, a new view of cognition and neural processing has been developed based on the concepts of algorithm, representation, computation, and information processing. Within this theoretical framework, psychological constructs are computational processes occurring across physical neural systems. We will take a neuroscience and psychological perspective in which the physical neuroscience instantiates but does not diminish the psychological constructs. Although our conceptual framework will be computational, this course will not require or expect any mathematical or computer background. At the completion of this class, you will understand the implications of the physical nature of the brain? how mentation is explicable from physical processes, and how decision-making arises from those same physical processes. Importantly, you will also understand the limitations of current knowledge and the methodologies being used to push those limitations. This class is not intended as a final step in this understanding, but as a first step into these issues. At the conclusion of the class, you should have sufficient understanding to continue more in-depth reading and study in these issues. There are no official prerequisites. However, I have found that students who have EITHER a strong computational background (computer science, mathematics, economics, physics) OR have taken an introductory neuroscience course (e.g. Nsci 2100) have done better in the class than students with no background. However, I have seen students come in with very little background and do well in the class if they engage with the class and work hard.

NSCI 3700. Neuroscience Journal Club. (; 1 cr. [max 3 cr.] ; S-N only; Every Fall & Spring) In this journal club, students will read and discuss original scientific research articles. Each section will focus on a topic chosen by the instructor and each class meeting will focus on a different research article on the chosen topic. Topics may take a historical

perspective (e.g. Ground breaking articles in addiction research) or focus on timely issues (e.g. Neuroethics: How do recent advances in neuroscience influence of legal system?). Students will take turns being the presenter, which includes presenting background material relevant to the article and as well as leading a critical discussion of the research findings and interpretation of the data.

NSCI 4101. Development of the Nervous System: Cellular and Molecular Mechanisms. (; 3 cr. ; A-F only; Every Spring) This course will extend students'

understanding of fundamental concepts of biology and neuroscience through study of the cellular and molecular mechanisms that underlie development of the nervous system. Neurodevelopment provides a context in which to study processes active in many biological functions and diseases. Students will learn about each of the major cellular processes involved in development of the nervous system such as cell division and cell migration, and will learn about the function of molecules and signaling pathways active in each process. Human developmental pathologies will be studied as a means to better understand normal developmental processes. Some lectures will focus on current research, and students will be expected to read some scientific literature.

NSCI 4105. Neurobiology Laboratory I. (; 3 cr. ; A-F or Audit; Every Fall)

Principles, methods, and laboratory exercises for investigating neural mechanisms and examining experimental evidence.

NSCI 4150. Advanced Topics in Neuroscience. (; 3 cr. [max 9 cr.] ; A-F or Audit; Periodic Spring)

In-depth study of aspects of neurodevelopment, neurochemistry/molecular neuroscience, sensory systems, motor control, and behavioral neuroscience. Primarily for undergraduates majoring in neuroscience or related areas.

NSCI 4201. Neuroscience of Drug Abuse. (3 cr. ; A-F only; Every Spring)

The use and abuse of illicit drugs is an ongoing and insidious world problem. Neuroscience research has contributed importantly to understanding drug abuse as a disease of the nervous system. The goal of this course will be to provide a clinical characterization of drug abuse from a human perspective. From there animal models of drug use and addiction will be discussed as a basis for research examining cellular and molecular mechanisms of the effects of drugs on the nervous system. As all drugs of abuse have a common neurobiology, that neurobiology will be examined from a circuit perspective that will include the underlying molecular control. Collectively students should develop a comprehensive view of the problem of drug addiction including prospects for the development of neurobiologically-based therapeutics.

NSCI 4444. Neuroscience and Education. (3 cr. ; A-F only; Every Fall)

Neuroscience and Education will explore how our contemporary understanding of neuroscience could, should or does influence educational practice and policy. Students in this class will engage in evaluating which cellular and systems level neuroscience concepts apply to education, from pre-school to university levels.

NSCI 4501. Neurodegenerative Diseases, Mechanisms to Therapies. (3 cr. ; A-F only; Every Fall)

With a rapid increase in population aging in western educated industrialized rich democratic (WEIRD) societies, neurodegenerative disorders such as Alzheimer's disease have become an alarming health priority due to the current absence of disease-modifying therapies. The objective of this course is to acquire a fundamental appreciation for the most common degenerative disorders of the nervous system as well as to integrate central notions shared across these diseases and emerging concepts in the field

NSCI 4793W. Directed Studies: Writing Intensive. (WI; 1-6 cr. [max 42 cr.] ; S-N or Audit; Every Fall, Spring & Summer)

Individual study of selected topics. Emphasis on readings, use of scientific literature. Writing intensive. prereq: instr consent, dept consent; no more than 7 cr of [4793, 4794, 4993, 4994] may count toward major requirements

NSCI 4794W. Directed Research: Writing Intensive. (WI; 1-6 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Lab or field investigation of selected areas of research. Writing intensive. prereq: instr consent, dept consent; no more than 7 cr of [4793, 4794, 4993, 4994] may count toward major requirements

NSCI 4993. Directed Studies. (; 1-7 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Individual study of selected topics with emphasis on selected readings and use of scientific literature. prereq: instr consent, dept consent; max of 7 cr of 4993 and/or 4994 may count toward major requirements

NSCI 4994. Directed Research. (; 1-6 cr. [max 42 cr.] ; S-N or Audit; Every Fall, Spring & Summer)

Lab or field investigation of selected areas of research. prereq: instr consent, dept consent; max of 7 cr of 4993 and/or 4994 may count toward major requirements

NSCI 5101. Neurobiology I: Molecules, Cells, and Systems. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

This course discusses the basic principles of cellular and molecular neurobiology and nervous systems. The main topics include: Organization of simple networks, neural systems and behavior; how the brain develops and the physiology and communication of neurons and glia; the molecular and genetic basis of cell organization; ion channel structure and function; the molecular basis of synaptic receptors; transduction mechanisms and second messengers; intracellular regulation of calcium; neurotransmitter systems, including excitation and inhibition, neuromodulation,

system regulation and the cellular basis of learning, memory and cognition. The course is intended for students majoring in neuroscience, but is open to all students with the required prerequisites.

NSCI 5110. Dental Neuroscience for Graduate Students. (; 2 cr. ; A-F or Audit; Every Spring)

Structure/function of human nervous system. Lectures and reading assignments emphasize topics pertinent to dentistry. prereq: Credit will not be granted if credit has been received for: : 6110; BioC 3021, Biol 4004, instr consent; intended for grad students who require a comprehensive grad-level neuroscience course

NSCI 5111. Medical Neuroscience for Graduate Students. (; 5 cr. ; A-F or Audit; Every Spring)

Survey of molecular, cellular, and systems neuroscience as related to medicine. Lecture/lab. prereq: Credit will not be granted if credit has been received for: : 6111; BioC 3021, Biol 4004, instr consent; intended for grad students who require a comprehensive medically-oriented neuroscience course

NSCI 5501. Neurodegenerative Diseases, Mechanisms to Therapies. (3 cr. ; A-F only; Every Fall)

With a rapid increase in population aging in western educated industrialized rich democratic (WEIRD) societies, neurodegenerative disorders such as Alzheimer's disease have become an alarming health priority due to the current absence of disease-modifying therapies. The objective of this course is to acquire a fundamental appreciation for the most common degenerative disorders of the nervous system as well as to integrate central notions shared across these diseases and emerging concepts in the field.

NSCI 5551. Statistical Foundations of Systems Neuroscience. (3 cr. ; A-F only; Spring Even Year)

The purpose of this course is to provide the student with a familiarity with the mathematical and statistical techniques to practice contemporary systems neuroscience. Topics are chosen with a focus on current areas of active research, as well as problems that have driven the field over the past twenty years. The class will combine lectures with discussions of important systems neuroscience papers, and will move at a fast pace. It is intended for graduate students and ambitious undergraduates. One major difference between this course and other math and statistics courses is the focus on systems neuroscience. Our examples will come from the Systems Neuroscience field. Our research priorities will come from Systems Neuroscience and our Friday paper discussions will draw exclusively from scholarly papers in Systems Neuroscience.

NSCI 5916. BrainU 101: Neuroscience in the Classroom. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Four-weekend workshop. Concepts in neuroscience. Neurobiology of learning. Effects of drugs. Lectures, activities, discussion,

designing investigations. In 2009-10, held in Winona. In 2010-11, held in Duluth. prereq: instr consent; intended for high school teachers

Neurosurgery (NSU)

NSU 5667. Neurobiology of Disease. (; 2-3 cr. ; Student Option; Every Fall)

Basic clinical/pathological features, pathogenic mechanisms. Weekly seminar.

Norwegian (NOR)

NOR 1001. Beginning Norwegian. (; 5 cr. ; Student Option; Every Fall)

Emphasis on working toward novice-intermediate low proficiency in all four language modalities (listening, reading, speaking, writing). Topics include everyday subjects (shopping, directions, family, food, housing, etc.).

NOR 1002. Beginning Norwegian. (; 5 cr. ; Student Option; Every Spring)

Continues the presentation of all four language modalities (listening, reading, speaking, writing) with a proficiency emphasis. Topics include free-time activities, careers, and Norwegian culture. prereq: 1001

NOR 1003. Intermediate Norwegian. (; 5 cr. ; Student Option; Every Fall)

Emphasis on intermediate proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is combined with authentic readings and essay assignments. prereq: 1002

NOR 1004. Intermediate Norwegian. (; 5 cr. ; Student Option; Every Spring)

Emphasis on developing intermediate mid-high proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is supported by work with authentic readings and essay assignments. prereq: 1103

NOR 4001. Beginning Norwegian for Graduate Research. (; 5 cr. ; Student Option; Every Fall)

Emphasis on working toward novice-intermediate low proficiency in all four language modalities (listening, reading, speaking, writing). Topics include everyday subjects (shopping, directions, family, food, housing, etc.). Meets concurrently with 1001.

NOR 4002. Beginning Norwegian for Graduate Research. (; 5 cr. ; Student Option; Every Spring)

Continues the presentation of all four language modalities (listening, reading, speaking, writing) with a proficiency emphasis. Topics include free-time activities, careers, and Norwegian culture. Meets concurrently with 1002.

NOR 4003. Intermediate Norwegian for Graduate Research. (; 5 cr. ; Student Option; Every Fall)

Emphasis on intermediate proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is combined with authentic readings and essay assignments. Meets concurrently with 1003.

NOR 4004. Intermediate Norwegian for Graduate Research. (; 5 cr. ; Student Option; Every Spring)

Emphasis on developing intermediate mid-high proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is supported by work with authentic readings and essay assignments. Meets concurrently with 1004. prereq: 1004 in another language or passing score on LPE or grad student

Nursing (NURS)

NURS 1030. Nursing First Year Seminar I. (1 cr. ; Student Option; Every Fall)

This course is designed to help each student achieve their individual goals by promoting proactive educational and career planning, introducing students to resources available at the University and in the School of Nursing, and connecting students with academic advisors, faculty, and student groups in the School of Nursing and throughout the University. prereq: Freshman guarantee student, instr consent

NURS 1031. Nursing First Year Seminar II. (1 cr. ; A-F only; Every Spring)

This course will provide the student with opportunities to explore the wide range of opportunities in the nursing profession. Throughout this course students will be asked to reflect on the alignment of their academic decisions; personal strengths, values, and interests; related to their future career in nursing and life goals. This course will allow the student to deepen their understanding of campus engagement, consider supporting coursework to compliment the nursing major, and advance progress toward the BSN degree and future graduate education.

NURS 2001. Human Growth and Development: A Life Span Approach. (3 cr. ; Student Option; Every Fall & Spring)

Theoretical, personal, and culturally determined theories on life span development, from prenatal period through death/dying. Psychoanalytical, behaviorism, cognitive, sociocultural, and epigenetic categories of biosocial, cognitive, and psychosocial domains.

NURS 2996. Health Science Practical Experience for Nursing. (; 1 cr. [max 2 cr.] ; Student Option No Audit; Periodic Fall & Spring)

This course will supplement and enrich co-curricular health sciences practical experiences like work, volunteer positions, or non-Nursing internships. Students will set and work toward goals, receive and respond to feedback, reflect on their progress, and connect their experience to Nursing careers. Course notes: NURS 2996 is designed for Nursing students who have secured a health sciences practical experience (such as a volunteer position, job, or internship) that requires them to be enrolled in a course for academic credit including CPT for International Students. This course is not for students completing their Junior year Nursing internship. There are specific requirements for Nursing internship courses set by the Minnesota Board

of Nursing which are only met through NURS 3996.

NURS 3115. Health Informatics and Information Technology. (TS; 3 cr. ; A-F only; Every Fall & Spring)

Examine health informatics and information technology from consumer, clinical, and public health perspectives. Develop skills in using information technology to communicate, manage knowledge, mitigate error, and support decision-making.

NURS 3703. Assessment and Beginning Interventions: Nursing Lab 1. (2 cr. ; A-F only; Every Fall)

Psychomotor skills/interventions with focus on therapeutic interventions. Experiential learning activities used to build skill in assessment, planning/implementation of select nursing interventions. Theoretical foundations of nursing interventions. prereq: Admitted to Nurs BSN program

NURS 3705. Nursing Interventions. (2 cr. ; A-F or Audit; Every Spring)

Psychomotor skills/interventions with focus on therapeutic interventions. Experiential learning activities used to build skill in assessment, planning, implementation of select nursing interventions. prereq: 3703, enrolled in School of Nursing

NURS 3710. Statistics for Clinical Practice and Research. (MATH; 3 cr. ; Student Option; Every Fall)

Numerical reasoning, measurement principles. Vital statistics, rates, data description. Probability. Hypothesis testing/confidence intervals for tests on means. Proportions, correlations, linear regression. prereq: [High school algebra or instr consent], students enrolled in School of Nursing must take A/F option

NURS 3801. Patient Centered Care of Adults and Older Adults I. (3 cr. ; A-F only; Every Fall & Spring)

Person-centered evidence based nursing care for adults, including physical/mental health promotion, acute/chronic illness management. Critical analysis of patient needs/planning nursing care. prereq: Admitted to Nurs BSN program

NURS 3802. Patient Centered Care: Nursing Care of Families I. (; 3 cr. ; A-F only; Every Fall & Spring)

Introduction to nursing care of childbearing/childrearing families. Family theory, family-centered care, and family culture in the context of home and community settings. prereq: Enrolled in School of Nursing

NURS 3802H. Nursing Care of Families I Honors. (; 4 cr. ; A-F only; Every Fall & Spring)

Nursing care of childbearing/childrearing families. Family theory, family-centered care, family culture in the context of home and community settings and therapeutic communication between nurse and patients/families. prereq: Enrolled nursing student

NURS 3803. Application of Genetics in Nursing. (; 2 cr. ; A-F or Audit; Every Spring)

Application of genetics to the practice of professional nursing. prereq: Enrolled in nursing major

NURS 3806. Nurse as Professional. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Basic nursing concepts, role development, competencies, therapeutic use of self, and communication skills for person-centered care and professional teamwork; beginning development of own nursing philosophy; career exploration. prereq: Admitted to nursing BSN program

NURS 3996. Clinical Internship. (; 1 cr. [max 3 cr.] ; S-N or Audit; Every Summer)

Application of nursing theory/research based knowledge in clinical practice. prereq: Completed jr yr of baccalaureate nursing program, accepted into approved clinical internship program

NURS 4104. Ethical Sensitivity and Reasoning in Health Care. (CIV; 2 cr. ; A-F only; Every Fall)

Developing sensitivity to range/complexity of ethical issues/dilemmas in health care. Ethical principles/theories. Key ethical concepts in addressing morally troubling issues in health care settings.

NURS 4106. Nurse as Collaborator. (; 1 cr. ; A-F only; Every Fall)

Examination of evidence-based teamwork systems and processes to improve communication and collaboration among health care professionals. prereq: Enrolled in nursing program

NURS 4205V. Honors: Nursing Theory and Research. (WI; 3 cr. ; Student Option; Every Spring)

Knowledge basic to discipline/practice of nursing. Relationships among research, theory, practice. Introduction to research process, with attention to use of research in practice. Students develop honors research proposal. prereq: Nurs honors

NURS 4205W. Nursing Theory and Research. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

Examination of the knowledge basic to the discipline and practice of nursing. The relationships among research, theory, and practice are discussed. The research process is introduced to assist with understanding the utilization of research in practice. prereq: Undergrad in nursing

NURS 4301. Person Centered Care of Adults and Older Adults II. (4 cr. ; A-F only; Every Fall & Spring)

Person-centered evidence based nursing care for adults with complex physical and mental health illnesses. Critical analysis of multiple complex patient needs. Planning nursing care. prereq: 3801, 3802, 3703, 3705, enrolled in School of Nursing

NURS 4303. Practicum: Person Centered Care of Adults in Acute Care. (; 3 cr. ; A-F only; Every Fall & Spring)

Clinical reasoning is applied to the nursing care of young through older adults in acute

care. Evidenced based practice and clinical reasoning to provide person centered care within the health system environment. prereq: 3703, 3705, 3801, [3802 or 3802H], enrolled in nursing

NURS 4305. Practicum: Community-based Care of Families Across Life Span. (; 3 cr. ; A-F only; Every Fall & Spring)

Examine an evidence-based teamwork system to improve communication and teamwork skills among health care professionals. prereq: 3703, 3705, 3801, [3802 or 3802H], enrolled Nurs student

NURS 4312. Patient Centered Care: Nursing Care of Families II. (; 4 cr. ; A-F only; Every Fall & Spring)

Family centered care theory applied to care of childbearing, childrearing families in acute care setting. High risk pregnancy. Child response to illness/hospitalization. prereq: 3802, enrolled nursing student

NURS 4321. Public Health Nursing. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Concepts of epidemiology, systems theory, and social justice applied to population-based nursing care. Public health nursing competencies and principles of community assessment. Public health nursing practice models and evidenced-based nursing interventions. prereq: jr nursing student

NURS 4402. Taking Ethical Action in Health Care. (CIV; 1 cr. ; A-F only; Every Fall)

Ethical dimensions/role obligations of health care professionals related to selected social issues with health consequences. prereq: Senior undergrad nursing student, [4104 or instr consent]

NURS 4404V. Honors: Applied Research and Research Utilization. (WI; 3 cr. ; A-F only; Every Fall)

Systematic inquiry in interpreting/evaluating research. Implement study proposed in Nurs4205V. Write scholarly research report, which will serve as honors research thesis. prereq: Honors student in School of Nursing, Nurs 4205V, upper division statistics course

NURS 4435. Immunization Tour. (1 cr. ; S-N or Audit; Every Fall)

The focus of this course is interprofessional collaboration, teams and teamwork, roles and responsibilities, and ethical issues as nursing and pharmacy public health professionals. Students operate mobile influenza immunization clinics for faculty, staff and students across the UMN Twin Cities campus. prereq: [Senior Bachelor of Science nursing student or professional master's nursing student], completion of CPR

NURS 4701. Nursing Care Across the Lifespan I. (3 cr. [max 4 cr.] ; A-F only; Every Fall)

Examines person-centered evidence based nursing care for persons across the lifespan considering the underlying pathophysiology and pharmacological interventions in complex physical and mental health illnesses. Emphasis is on critical analysis of complex patient needs and planning and prioritizing nursing care.

NURS 4703. Nursing Care Across the Lifespan Practicum I. (2 cr. [max 4 cr.] ; A-F only; Every Fall)

Person-centered nursing care that is safe, effective, holistic, culturally sensitive. prereq: Nursing student in School of Nursing

NURS 4704. Continuum of Care Practicum. (; 2 cr. ; A-F only; Every Fall)

Care coordination/relationship of acute, home, community services. Populations may include chronically ill, all ages (aging adults, pediatric), culturally diverse/healthy communities. prereq: Nursing Student in School of Nursing

NURS 4705. Nursing Care Across the Lifespan II. (; 2 cr. ; A-F or Audit; Every Spring)

Synthesize person-centered evidence-based nursing care for persons across the lifespan with complex health conditions in the context of families and communities. Didactic Course. prereq: 4703, sr in good standing in BSN

NURS 4706. Transition to Practice. (; 1 cr. ; A-F or Audit; Every Fall & Spring)

Professional and legal issues necessary to the transition into nursing practice; strategies for lifelong learning and nursing career trajectories in preparation for entry into practice in a complex health care system. prereq: Sr in BSN program

NURS 4707. Nursing Leadership: Professional Practice in Complex Systems. (; 2 cr. ; A-F only; Every Spring)

Leadership skills for safe effective practice as a new graduate nurse; issues affecting nursing practice; leadership attributes, e.g., creating effective teams, confident interaction with others, resolving conflict, managing resources, leadership for assuring patient safety and quality care. prereq: Sr enrolled in BSN program

NURS 4708. Nursing Care Across the Lifespan Practicum II. (4 cr. ; A-F only; Every Spring)

Synthesis of the nursing process to provide nursing care in a clinical setting that demonstrates the School of Nursing Pre-licensure Competencies. Preceptor led. Prereq: BSN Student

NURS 4777W. Senior Project in the Nursing Major. (WI; 3 cr. [max 9 cr.] ; A-F only; Every Fall & Spring)

Application of evidence-based practice and the relationship to research, quality improvement, and safety leading to improved patient, population, or system outcomes. Scholarly exploration of a clinical problem or system issue from a nursing perspective that culminates in a professional presentation. prereq: 4205W or 4205V

NURS 5011. Interprofessional Diabetes Experience. (; 2 cr. ; A-F only; Every Spring)

Explore diabetes mellitus through active, hands-on learning in an interprofessional environment. Week-long simulated experience of living with diabetes. Online learning activities focused on interprofessional teamwork for optimal care to patients with diabetes. prereq: 2nd or 3rd year in nursing curriculum prereq: 2nd or 3rd year in nursing curriculum

NURS 5016. Critical Reading of Scientific Literature in Adolescent Health. (1 cr. ; Student Option; Every Fall)

Develop skills for critically reading empirical literature within field of adolescent health. Written/oral critiques of core elements of research articles, including literature review, conceptual framework, research questions/hypotheses, methods, results, discussion, conclusions. prereq: [Grad-level research methods course, inferential statistics course] or instr consent

NURS 5029. Introduction to Nursing Interventions. (; 3 cr. ; A-F only; Every Fall)

Introduction to evidence-based interventions for safe, inclusive, and ethical nursing practice. Active learning activities in laboratory, simulation, are used to build skills to support nursing process.

NURS 5030. Foundational Concepts of Professional Nursing. (; 3 cr. ; A-F or Audit; Every Fall)

Foundation of knowledge for culturally appropriate, ethical, evidence-based nursing practice across the life span. Research/theory that underlie the art/science of professional nursing. Concepts of person, environment, health, and nursing. prereq: Admission to master's in nursing program

NURS 5031. Human Response to Health and Illness: Adults and Elders. (; 4 cr. ; A-F or Audit; Every Spring)

Focus on individual responses to health and illness in the context of families and environments. The clinical component will emphasize the application of the nursing process in adult and older adult populations.

NURS 5032. Human Response to Health and Illness: Children and Childbearing Families. (; 5 cr. ; A-F or Audit; Every Spring)

Focus is on family responses to health and illness. Application of the nursing process in children and childbearing families is emphasized. The family as the unit of care is the focus of a seminar.

NURS 5033. Population-Focused Health in Public Health and Mental Health Nursing. (; 5 cr. ; A-F or Audit; Every Summer)

Focus on population-based public health and mental health nursing practice across the lifespan, with local to global perspectives. Emphasis on health equity, health promotion and levels of disease prevention. Apply theory and research to examine interventions and outcomes.

NURS 5034. Transition to Professional Nursing Practice. (3 cr. ; A-F or Audit; Every Fall)

Critical analysis of issues affecting the transition to professional nursing practice including those related to the quality of healthcare, quality improvement, and the ability of nurses to improve patient outcomes across settings. prereq: Nurs 5033, Nurs 6200

NURS 5035. Practicum Nursing Care for Complex Health Conditions. (4 cr. ; A-F or Audit; Every Fall)

Clinical decision-making, comprehensive nursing care of clients with complex health

problems. In collaboration with a clinical preceptor and a faculty advisor, students develop an individualized learning contract. prereq: Nursing postbaccalaureate certificate program or master of nursing program

NURS 5115. Interprofessional Health Care Informatics. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Implications of informatics for practice, including nursing, public health, and health care in general. Electronic health record issues. Ethical, legislative, political, and global/future informatics issues.

NURS 5116. Consumer Health Informatics. (; 2 cr. ; Student Option No Audit; Every Fall)

This course examines issues from the consumer's perspective in the acquisition, understanding, or use of health information. Mobile health, telehealth, sensor technology, and internet sources for improving health are examined. The impact on consumer-provider communication and relationships as well as ethical and legal issues are explored. prereq: Grad student or instr consent

NURS 5117. Consumer Health Informatics Practicum. (; 2 cr. ; S-N only; Every Fall)

Students apply consumer health informatics principles, theories, and research to consumer health informatics topics and how technology is used to engage patients, clinicians, and family members in their health care. Specific topics include electronic health literacy, digital/mobile health technologies (health apps), and sensor/remote monitoring. prereq: Graduate student, [Nurs 5116 or &Nurs 5116] or instructor consent

NURS 5190. Essentials of Holistic Health Assessment and Foundational Clinical. (; 3 cr. ; A-F only; Every Fall & Spring)

Introduction to health and physical assessment for safe, culturally sensitive, inclusive, and ethical nursing practice across the life span. Active learning, simulation, and clinical settings are used to develop a holistic approach to nursing process: assessment, diagnosis, outcome, planning, implementation, and evaluation. prereq: Admission to MN Program

NURS 5200. Advanced Holistic Health Assessment for the Advanced Practice Nurse. (; 3 cr. ; A-F only; Every Fall & Summer)

Provides students with advanced holistic health assessment knowledge and skills needed for ANP across the life span. Prepares students to utilize advanced health assessment skills to differentiate between normal, variations of normal and abnormal findings. Integrates Integrates EB data into a comprehensive health assessment. prereq: Admission to advanced practice nursing area of study (DNP or Post-Graduate certificate program), instr consent

NURS 5220. Pharmacotherapeutics for Nurse Anesthesia I. (2 cr. ; A-F only; Every Fall)

Basic overview of the pharmacologic principles for commonly used medication classes specific to acute care and perioperative populations. Includes an overview of each drug class, a review of related physiology, and the

pharmacodynamics and pharmacokinetics of drug classes and specific medications.

NURS 5222. Advanced Human Physiology. (; 2 cr. ; A-F or Audit; Every Fall)

This course will use a systems approach to human physiology and physiologic changes across life span. Emphasizes clinical application using population-specific content related to various specialty areas in advanced practice nursing.

NURS 5225. Psychopharmacology Advanced Practice Psychiatric/Mental Health Nursing. (; 3 cr. ; A-F only; Every Fall & Spring)

Advanced concepts in neuroscience, psychopharmacology, and clinical management related to psychopharmacologic treatment of psychiatric disorders/symptoms. Application to problems in various clinical settings. prereq: 5228 or instr consent

NURS 5226. Advanced Human Pathophysiology. (; 2 cr. ; A-F or Audit; Every Spring)

This course will use a systems approach to human pathophysiology across the life span. Emphasizes clinical application using population-specific content related to various specialty areas in advanced practice nursing.

NURS 5227. Pharmacology for Pediatric Nurse Practitioner - Acute Care. (; 2 cr. ; A-F or Audit; Every Summer)

This course is designed to provide students with the knowledge of pharmacodynamics and pharmacokinetics of medications used in the pediatric acute care setting. Content provided in this course will enable the students to select pharmacologic agents safely and appropriately for the management of acute and chronic health care problems of pediatric patients.

The course addresses representative drugs of pharmacologic groups, indications for use, drug selection, titration of dose, key adverse effects, drug to drug interactions, and monitoring of therapy.

NURS 5228. Pharmacology for Advanced Practice Nursing. (; 2 cr. ; A-F or Audit; Every Fall)

Overview of pharmacological principles for commonly used medication classes. Each drug class, related physiology. Pharmacodynamics and pharmacokinetics of drug classes and specific medications. prereq: Grad nursing student or instr consent

NURS 5229. Clinical Pharmacotherapeutics. (; 3-4 cr. ; A-F only; Every Spring)

Pharmacokinetics, pharmacodynamics, therapeutic dosages for various age groups. Client patterns of drug use. Prescriptive privileges. Prescription writing for advanced practice nurses. prereq: 5222, [5228 or PHAR 5800], DNP student, instr consent

NURS 5230. Pharmacotherapeutics for Nurse Anesthesia II. (4 cr. ; A-F only; Every Spring)

Reviews basic physics, organic and biochemistry of metabolic processes, pharmacodynamics & pharmacokinetics. Detailed description of anesthetic drugs,

physiologic mechanisms, side effects, toxicities, metabolism & elimination as outlined on National Certification Examination. Synthesis of pharmacotherapeutics into nurse anesthesia plan of care.

NURS 5241. Nursing Leadership for Effective Practice. (; 2 cr. [max 3 cr.] ; A-F or Audit; Every Fall)

Analysis of leadership theory and application of leadership skills needed for safe and effective practice as a new graduate nurse. Exploration of system issues affecting nursing practice and patient outcomes. prereq: Final sem of MN Program

NURS 5284. Supporting Physiologic Labor and Childbirth for Nurses. (2 cr. ; S-N only; Every Fall & Spring)

Techniques to provide labor support, discussion about doula role and overlap with nursing support. Emphasizing continuous physical and emotional labor support plus information to enhance physiologic birth. Experience providing labor support to women at a clinical facility included.

NURS 5448. Interprofessional Collaborative Practice in HIV Care. (1 cr. ; A-F only; Every Spring)

This program is designed to provide learners with foundational knowledge of HIV prevention and care and to develop the ability to work as a member of an interprofessional collaborative health care team. Learners will explore options for involvement in HIV care as part of their health care career and will be inspired to lifelong learning related to HIV care and interprofessional collaborative practice.

NURS 5505. Assessment and Support of Individuals in Labor. (2 cr. ; S-N only; Every Spring)

Self-directed study with goal of working with experienced labor nurses/learning knowledge/skills required to perform labor. Clinical experience. Completion of selected online modules related to nursing care of women in labor. prereq: Admission to DNP Program

NURS 5604. Advanced Health Assessment and Interventions with Adolescents. (; 2 cr. ; Student Option; Every Summer)

Integrates knowledge from nursing, public health, health behavior, and adolescent development as framework for developing health assessment/intervention strategies for clinical practice with adolescents. prereq: CPsy 5303 or equiv or instr consent

NURS 5611. Database Principles for Healthcare. (; 2 cr. ; A-F only; Every Fall)

Principles of database theory, modeling, design, and manipulation of databases will be introduced, taught with a healthcare applications emphasis. Students will be able to critically evaluate database query methods and results, and understand their implications for healthcare. Course Prerequisites: Graduate student or instructor consent

NURS 5726. Sexual Assault Nurse Examiner (SANE) Trauma-Informed Care Clinical Experience. (; 1-2 cr. ; Student Option; Every Fall, Spring & Summer)

Practicum course in which there is supervised application of clinical skills in SANE assessment using a trauma-informed approach. During this course, students will explore the tenets of trauma-informed care and integrate them into their forensic nursing practice and patient encounters during SANE exams.

NURS 5800. Nursing Topics. (; 1-4 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Course allows students to study a topic not included in regular courses, or for faculty to offer a course to determine interest in a topic. prereq: instr consent

NURS 5812. Global Health Through Study Abroad. (; 1-2 cr. ; S-N only; Periodic Spring & Summer)

Nursing as a global profession and the issues that impact health of populations worldwide. prereq: instr consent

NURS 5830. Advanced Clinical Nursing. (; 1-6 cr. ; Student Option; Every Fall, Spring & Summer)

Independent study or faculty seminar on special clinical topic. prereq: Grad nursing major, instr consent

Nutrition (NUTR)

NUTR 5622. Vitamin and Mineral Biochemistry. (; 3 cr. ; Student Option; Every Spring)

Nutritional, biochemical, and physiological aspects of vitamins and essential minerals in human and experimental-animal models. prereq: BioC 3021, Phsl 3051, FSCN 4612

NUTR 5624. Nutrition and Genetics. (; 2 cr. ; Student Option; Every Fall)

Overview of gene-diet interactions and relevant technologies used to study such interactions. Nutrigenomics, epigenetics, transcriptomics, proteomics, metabolomics. Examples of gene-diet interactions, implications. Current issues. Prerequisites: Courses in Nutritional Biochemistry (e.g., NUTR 5625), and Vitamin and Mineral Biochemistry (e.g., NUTR 5622), or consent of instructor

NUTR 5625. Nutritional Biochemistry. (; 3 cr. ; Student Option; Every Fall)

Overview of biochemical molecules and pathways important in nutritional events. prereq: BIOC 3021 or instr consent

NUTR 5626. Nutritional Physiology. (; 3 cr. ; A-F or Audit; Every Spring)

Whole body macronutrient metabolism as it relates to etiology of metabolic diseases. Signaling between tissues to control homeostasis. How dysregulation of crosstalk can lead to metabolic diseases. How diet, exercise, or starvation impact metabolism. Regulation of food intake and energy expenditure. Designing/analyzing/interpreting research data. prereq: NUTR 5625

NUTR 5627. Nutritional and Food Toxicology. (; 3 cr. ; A-F only; Every Spring)

Toxic agents, organisms, and toxic effects that are important in the toxic events, with a

focus on food toxicants and nutrient-toxicant interaction. prereq: BIOC 3021; designed for students majoring in [nutrition or food science or toxicology]

NUTR 5993. Directed Research. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

NUTR 5994. Directed Research. (1-4 cr. ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

Occupational Therapy (OT)

OT 1003. Introduction to Occupational Therapy. (; 1 cr. ; Student Option; Every Fall, Spring & Summer)

Introduction to career of occupational therapy. Overview of profession's domain/process. Work settings, populations served, approaches used by occupational therapist.

Off-Campus Study (OCS)

OCS 3000. Non-affiliated Domestic Program. (; 0-30 cr. ; S-N only; Every Fall, Spring & Summer)

Not printed in catalog. A registration mechanism for students pursuing a unique off-campus study experience through either other educational institutions or through private non-credit granting agencies. Limited to students whose study is approved by University of Minnesota faculty who certify likely departmental credit for successfully completed study as specified by agreement forms signed by both student and faculty. prereq: instr consent

OCS 3550. NSE: National Student Exchange Plan B. (0-20 cr. [max 40 cr.] ; S-N only; Every Fall, Spring & Summer)

National Student Exchange: off-campus study. (Do not publish.) prereq: dept consent

Office of Undergrad Education (OUE)

OUE 1001. Mastering Skills for College Success. (; 2 cr. ; Student Option; Every Fall & Spring)

Practical assistance to students in developing efficient and effective learning and academic performance skills, improving reading speed and comprehension, increasing memorization and test-taking skills, managing test anxiety, identifying academic and career goals, and using advanced technology in university learning. Students identify individual academic strengths and weaknesses and formulate a plan for skill development through individualized learning projects. Addresses student learning styles, attitudes, and motivations and their relation to successful academic performance. Class focuses on transition to college, a good option for first year, transfer, international, and returning students.

OUE 1086. The First Year Experience: Fall. (2 cr. ; A-F only; Every Fall)

Awareness of roles, identity, needs, and interactions with diverse groups. Expectations, resources, and challenges associated with transition into college. Speakers, journals/portfolios, technology, reading/writing assignments, classroom exercises/experiences.. prereq: 1st-yr student athletes

OUE 1087. The First Year Experience:

Summer. (3 cr. ; A-F only; Every Summer)

Awareness of roles, identity, needs, and interactions with diverse groups. Expectations, resources, and challenges associated with transition into college. Speakers, journals/portfolios, technology, reading/writing assignments, classroom exercises/experiences. Prereq: 1st-yr student athletes

OUE 1101. Academic Refresher. (; 1 cr. ; S-N or Audit; Every Fall & Spring)

Identifying factors interfering with academic performance, selecting strategies, and establishing a plan to promote academic success. Learning-style, educational goals, life management skills, motivation, attitude. Class intended to support students who are experiencing academic barriers during the first half of the semester. prereq: instr consent

OUE 1102. Academic Success. (; 2 cr. [max 4 cr.] ; S-N only; Every Fall & Spring)

Assistance in identifying barriers in academic performance and developing plans for effective scholarship. Skill development, performance enhancement. Objectives achieved through didactic instruction, assignments, behavioral monitoring. Course designed for students who are on academic probation, returning from suspension, or have experienced significant academic barriers.

OUE 1830. Office of Undergraduate Education Topics Course. (; 1-4 cr. ; Student Option No Audit; Periodic Fall, Spring & Summer)

Topics courses offered by the Office of Undergraduate Education.

OUE 2001. Academic Planning and Exploration. (; 1 cr. ; A-F only; Every Fall & Spring)

Undecided and competitive-major students engage in academic and career decision-

making process. Students develop an exploratory action plan to help them discover/declare a best-fit major matching their interests, values, and academic skills. Customized course assignments include self-assessment, reflective essays, and an action plan project.

OUE 3000. Special Topics Course. (; 1-3 cr. ; Student Option No Audit; Periodic Fall, Spring & Summer)
See topics course for course-specific description.

OUE 3050. Introduction to Peer Education. (1 cr. ; Student Option; Every Fall)
Peer cooperative learning. Factors that enhance effectiveness of group learning, including facilitating learning process, integrating learning skill development/content knowledge acquisition, application of appropriate theories of learning.

OUE 3205. Law School Exploration. (; 2 cr. ; Student Option; Periodic Fall & Spring)
This is a course for those interested in law school. It offers an overview of applying to and attending law school, as well as exploration of careers and specialties within the field of law. Discover how your strengths, values, and interests prepare you for and make you competitive in the field of law. Assignments include informational interviews and research into law school and the legal field that allow you to examine the reality of attending law school and becoming a lawyer.

OUE 3311. Leadership Development for University Student Leaders. (1 cr. ; S-N only; Every Spring)
This course will provide an opportunity for student orientation leaders to translate theory to practice, using the University of Minnesota Orientation and Welcome Week experience as a learning laboratory. Students will build upon existing self-awareness to further examine their identity, biases, and strengths through the use of critical reflective models and leadership theory concepts. Guest lecturers will share expertise on the topics of leadership, communication, and diversity. Course participants will gain an advanced level of leadership self-awareness and responsibility vital to creating an inclusive and welcoming environment for incoming students and their families.

Ojibwe (OJIB)

OJIB 1101. Beginning Ojibwe I. (; 5 cr. ; Student Option; Every Fall)
Speaking. Grammar. Writing systems.

OJIB 1102. Beginning Ojibwe II. (; 5 cr. ; Student Option; Every Spring)
Speaking. Grammar. Writing systems. prereq: 1101

OJIB 3103. Intermediate Ojibwe I. (; 5 cr. ; Student Option; Every Fall)
Speaking. Grammar. Storytelling. Oral history. Translation projects. prereq: 1101, 1102

OJIB 3104. Intermediate Ojibwe II. (; 5 cr. ; Student Option; Every Spring)

Speaking. Grammar. Storytelling. Oral history. Translation projects. prereq: 1102, 1102.3103

OJIB 4101. Beginning Ojibwe I. (; 3 cr. ; Student Option; Every Fall)
Speaking, grammar, writing systems. prereq: community member, see department for permission to enroll.

OJIB 4102. Beginning Ojibwe II. (; 3 cr. ; Student Option; Every Spring)
Speaking. Grammar. Writing systems. prereq: community member, see department for permission to enroll.

OJIB 4103. Intermediate Ojibwe I. (; 3 cr. ; Student Option; Every Fall)
Speaking. Grammar. Storytelling. Oral history. Translation projects. prereq: 1101, 3103, community member, see department for permission to enroll.

OJIB 4104. Intermediate Ojibwe II. (; 3 cr. ; Student Option; Every Spring)
Speaking. Grammar. Storytelling. Oral history. Translation projects. prereq: 1102, 3102, community member, see department for permission to enroll.

OJIB 5106. Advanced Ojibwe Language I. (; 3 cr. [max 12 cr.] ; A-F or Audit; Every Fall)
Focuses on immersion method.

OJIB 5109. Advanced Ojibwe Language II. (; 3 cr. [max 12 cr.] ; A-F or Audit; Every Spring)
Focuses on immersion method.

OJIB 5202. Ojibwe Mastery I. (3 cr. ; A-F or Audit; Every Fall)
The purpose of the first three years of the Ojibwe language courses at the University is to introduce students to the most common Ojibwe grammatical and conjugational systems, and to help develop their fluency through immersion. In this course and in the subsequent course in the winter semester, students will work towards Ojibwe language mastery by learning less frequent, but crucial aspects of the Ojibwe language and further working towards a more sophisticated level of talking.

OJIB 5204W. Ojibwe Mastery II. (WI; 3 cr. ; A-F or Audit; Every Spring)
The purpose of the first three years of the Ojibwe language courses at the University is to introduce students to the most common Ojibwe grammatical and conjugational systems, and to help develop their fluency through immersion. In this semester, students will continue refining their Ojibwe language ability by studying verb conjugational systems, more complex mii-phrases, reduplication, more grammar pattern study, and more opportunities to use and apply their language skills.

OJIB 5250. Ojibwe Conversations 1. (3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall & Spring)
The course provide students opportunities to increase their Ojibwe speaking ability through consistent practice and performance of dialogues and stories while receiving native-speaker/instructor feedback. This is a performance based class, which will allow students to apply and practice what they have learned from other Ojibwe courses.

OJIB 5252. Ojibwe Conversations II. (3 cr. ; A-F or Audit; Every Spring)
The course provide students opportunities to increase their Ojibwe speaking ability through consistent practice and performance of dialogues and stories while receiving native-speaker/instructor feedback. This is a performance based class, which will allow students to apply and practice what they have learned from other Ojibwe courses.

Ophthalmology (OPH)

OPH 5201. Orthoptics I. (4 cr. ; S-N or Audit; Every Summer)
Human anatomy, Ocular anatomy, history taking skills, basic optics, Diagnostic Testing I, Intro to Clinical Skills, Vision Screening and Assessment

OPH 5301. Orthoptics II. (5 cr. ; S-N or Audit; Every Fall)
Basic Ophthalmic skills, Strabismus, Retinoscopy, Surgical technique I, Pharmacology I, Clinical Skills II, Embryology

OPH 5401. Orthoptics III. (; 5 cr. ; S-N or Audit; Every Spring)
Pharmacology II, Vision Development, Amblyopia I, Visual Field, Orthoptic treatment I, Clinical Skills III, Visual Fields, Imaging

OPH 5501. Orthoptics IV. (4 cr. ; S-N only; Every Summer)
First semester Advanced Placement of Orthoptics Certificate program. prereq: Admission to Orthoptics Certificate program and completion of

OPH 5601. Orthoptics V. (5 cr. ; S-N only; Every Fall)
Second semester of Advanced Placement Year - Orthoptics training program. prereq: Enrollment in Orthoptics Certificate program

OPH 5701. Orthoptics VI. (5 cr. ; S-N only; Every Spring)
Third semester of Advanced Placement Year - Orthoptics certificate program. Medical Genetics, Ophthalmic Syndromes, Genetic syndromes, Treatment and Management, Oral and Practical exam review, Clinical Skills Review

Oral Biology (OBIO)

OBIO 5001. Methods in Research and Writing. (; 2 cr. ; Student Option; Every Fall)
Skills necessary to begin a research project, including literature review, hypothesis formation, research design, and writing. Each student develops a research protocol.

OBIO 5010. Molecular Virology. (1 cr. ; A-F or Audit; Every Fall)
This course provides graduate students and upper-level undergraduate students with a knowledge base for understanding the molecular aspects of replication strategies utilized in virus replication. Topics for the course will focus on the molecular aspects of virus replication for the major virus families (e.g., arenaviruses, bacteriophages,

flaviviruses, herpesviruses, orthomyxoviruses, picornaviruses, and retroviruses) as well as virus evolution, structure, and taxonomy.

OBIO 5020. Virus Pathogenesis and Host Interactions. (1 cr. ; A-F or Audit; Every Fall)

This course provides graduate students and upper-level undergraduate students with a knowledge base for understanding virus pathogenesis and host interactions. Topics for the course will focus on the molecular, cellular, and organismal aspects of virus pathogenesis and host interactions. The concepts of cellular pathogenesis, tissue tropism, portals of entry, local replication and virus spread, virus dissemination, and congenital infections will be covered. A particular emphasis will be placed on virus pathogenesis of the major virus families (e.g., arenaviruses, bacteriophages, flaviviruses, herpesviruses, orthomyxoviruses, picornaviruses, and retroviruses) and virus-host cell interactions that can restrict virus replication and are responsible for immunity will be discussed.

OBIO 5050. Evolution of Emerging Viruses. (2 cr. ; A-F or Audit; Every Spring)

This course is designed to provide graduate students and undergraduate students with junior or senior standing a knowledge base for understanding how HIV and other emerging viruses (e.g., Ebola, influenza, SARS, West Nile virus, hantavirus, hepatitis C) evolve and become public health threats. Topics for the course will focus on the biochemical, molecular, cellular, clinical, and epidemiological aspects of emerging viruses, with an emphasis on how each plays a role in virus evolution and emergence. This course will emphasize HIV as a key example of an emerging virus disease that has had a profound impact on human health.

Oral and Maxillofacial Surgery (OSUR)

OSUR 5257. Ambulatory General Anesthesia for the Oral and Maxillofacial Surgeon. (; 0-6 cr. ; S-N only; Every Fall, Spring & Summer)

Clinical rotation involving experience in outpatient management and using intravenous sedation and general anesthesia. prereq: Participation in oral and maxillofacial surgery training program.

OSUR 5276. Medicine Rotation for the Oral and Maxillofacial Surgeon. (; 0-6 cr. ; S-N only; Every Fall, Spring & Summer)

Clinical rotation at Fairview-University Medical Center under the direction of the Internal Medicine Department. Involves workup, admission, and daily management of patients on medical service, specifically cardiology and pulmonary. prereq: Participation in oral and maxillofacial surgery training program.

OSUR 5277. Physical Diagnosis for Oral Surgery Residents. (; 2 cr. [max 6 cr.]; S-N only; Every Summer)

Six-week didactic course coupled with evaluation of patients. prereq: Participation in oral and maxillofacial surgery training program.

Org Leadership, Policy & Dev (OLPD)

OLPD 1303. Leadership in the Organizational Context. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Life - like leadership - is full of paradoxes. We are all individuals. At the same time, we are all part of families, communities, institutions, structures, and systems. To understand and practice effective leadership, we must make sense of our lives - including our unique identities and experiences - within these broader organizational and societal contexts. We must think critically about how power flows through society, and how it shapes agency, opportunities and wellbeing for individuals and communities. And we must think creatively and critically about how leadership can help promote equity, justice, and human flourishing. In this course, we focus on organizations as a core context for leadership. Organizations are everywhere - some formal, some informal. For example, we are all part of an educational organization: the University of Minnesota. We all interact with governmental organizations at national, state, and local levels. We may belong to community, religious, or cultural organizations. We might work - now or in the future - for a corporation, a nonprofit, or a cooperative. We may belong to an advocacy organization that works for social change. To study leadership within these various types of organizations, we must also turn inward to examine our own identities, social locations, and experiences. We draw on concepts and theories - from the fields of leadership development, organizational studies, sociology, and psychology - to analyze our lived experiences within broader contexts, and better understand the behaviors of individuals and groups within organizations. This course will require active engagement with course materials, your classmates, and class projects. Our class sessions will include group activities, student-driven discussions, and the occasional mini-lecture. We will explore case studies and individual narratives as touchstones for applying theory to real world contexts. Over the semester, you will complete both individual and group assignments, including reflective writing and class facilitation. Ultimately, this course is a "learning lab" where we have the chance to practice being how we would like the world to be. Old: Students examine own views of leadership, differences between

OLPD 1461. Presentations in Work Settings: Business & Marketing Education and Human Resource Development. (CIV; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

This course prepares students to present information and hone their messages based on audience need in a variety of business, leadership, and workplace contexts. Students interested in majoring in Business and Marketing Education (BME), Human Resource Development (HRD), and other majors can take this course in order to develop the disciplinary practices used in training and development, as well as business and industry to convey vital and timely messages.

OLPD 2811. Societies of the Future: Changing Work Contexts. (TS; 3 cr. ; A-F or Audit; Every Fall & Spring)

Ongoing evolution of social contexts and work through the interdisciplinary lens of future studies.

OLPD 2811H. Societies of the Future: Changing Work Contexts, Honors. (TS; 3 cr. ; A-F only; Every Fall & Spring)

Ongoing evolution of social contexts and work through the interdisciplinary lens of future studies. prereq: Honors student

OLPD 3202. Introduction to Strategies for Teaching Adults. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Theories of adult learning, learning/teaching styles, methods/perspectives of teaching, applications of teaching in various settings.

OLPD 3305. Learning About Leadership Through Film and Literature. (; 3 cr. ; Student Option; Every Fall)

Readings from leadership studies, literature, and film. Ethical dilemmas. Different styles of leadership and their consequences. Intersection of public/private in exercising leadership. Competing loyalties/pressures felt by leaders/followers. Fundamental questions about nature/desirability of leadership.

OLPD 3308. Data-Driven Decision-Making in BME and HRD. (3 cr. ; A-F only; Every Fall & Summer)

Living in the age of technology has implications for everyone in Business & Marketing Education (BME) and Human Resource Development (HRD). Technology that makes it possible to collect huge amounts of data has given more individuals and organizations the power and responsibility to analyze data and make decisions based on this data. The amount of data being collected on our preferences, attitudes, and behaviors will only increase in the future, and this rich data can be used towards a variety of ends. In this course, we will use quantitative methods to uncover the information in large data sets and then consider how individuals and organizations are able to gain a competitive advantage by acting on this information. Topics covered in this course include: - Critical analysis of complex issues related to BME and HRD in organizations; - Major techniques of quantitative data analyses used in BME and HRD; - How to use of Excel and Excel Add-in Tools to conduct data analyses; - How to make effective decisions based on quantitative information in BME and HRD situations; and - Effective reporting of quantitative results to meet the expectations of stakeholders.

OLPD 3310. Special Topics for Undergraduates. (; 1-3 cr. [max 9 cr.]; Student Option; Periodic Fall, Spring & Summer)

Inquiry into special topics related to organizational leadership, policy/development.

OLPD 3318. Introduction to Project Management. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Project management for business and industry. Project lifecycles, deliverables, and processes as they are commonly used in the workplace.

OLPD 3324W. Writing in the Workplace for Education and Human Development Majors. (WI; 4 cr. ; Student Option; Every Fall & Spring) Explore professional communication. Research/analysis writing. Memos, reports, proposals, human resource-related documentation, letters or announcements, presentations. prereq: 60+ undergraduate credits, declared major

OLPD 3331H. Honors: Leveraging and Understanding Global Identity through Intercultural Learning. (GP; 1 cr. ; A-F only; Periodic Fall, Spring & Summer)

Studying abroad can be a transformative experience that has the power to challenge your thinking and enlarge your perspective on the world. This course guides you through your studies abroad with intercultural readings, theory, writing, reflection, and feedback from peers and the instructor. A key element to this course is leveraging and connecting the intercultural and self-knowledge gained abroad to strengthened core career competencies. Using scenarios from your time abroad, you will work to understand and articulate career skill outcomes. As you discover your own global identity, you will be better prepared to translate and communicate the skills and strengths that employers and grad school admissions committees value in a globalized world. prereq: studying abroad the semester student is enrolled in course

OLPD 3332. Global Identity: Connecting Your International Experience to Your Future. (GP; 1 cr. ; Student Option; Every Fall, Spring & Summer) Reflect on activities/readings of study abroad experiences overseas. E-journaling, written activities, group interaction using various formats. prereq: [3321 or EDPA 3102 or instr consent], studying abroad the semester student is enrolled in course

OLPD 3350. Special Topics in Professional Sales. (; 2 cr. [max 4 cr.] ; Student Option No Audit; Periodic Fall, Spring & Summer) In this course, students will learn how to understand and incorporate advanced professional selling topics into practical experiences in professional sales. Students will improve their ability to communicate effectively and identify, define, and solve problems through role-play simulations that incorporates topics such as Understanding Objections, Understanding Sales Differentiators, Networking, CRM and Strategic Relationships, and Sales Management. In addition, students will gain understanding of the sales cycle and how to successfully navigate buyer interactions for business relationships. Students will also describe how internships and introspective assessments can foster greater career progression in professional sales.

OLPD 3381. Developing Intercultural Competence. (; 3 cr. ; A-F or Audit; Every Fall)

Past/current research on intercultural leadership. Students share their understanding/ experiences within intercultural framework.

OLPD 3401. Teaching Marketing Promotion. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Materials, methods, and approaches to teaching marketing promotion. Advertising, promotion, public relations, direct selling, visual merchandising, and direct marketing.

OLPD 3424. Sales Training. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Strategies and techniques for developing effective sales people. A review of review practices related to sales management, business development, selling strategies, and learning objectives essential to developing the skills, knowledge, and abilities to create a competent sales force.

OLPD 3493. Directed Study in Business & Marketing Education. (1-4 cr. ; Student Option; Every Fall, Spring & Summer)

Open to qualified students. Opportunity to pursue study not available through regular coursework. In consultation with instructor, develop prospectus/complete progress reports/ final report on project. prereq: BME major, instr consent

OLPD 3601. Introduction to Human Resource Development. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Human resource development theories, principles, concepts, and practices.

OLPD 3609. Profession and Practice of Business and Marketing Education and Human Resource Development. (2 cr. ; A-F or Audit; Every Fall, Spring & Summer)

This course is designed to provide Undergraduate Business and Marketing Education (BME) & Human Resource Development (HRD) students with the tools necessary to develop a career management plan to become successful business and marketing professionals and/or human resource development professionals. prereq: Admitted BME major or Admitted HRD major

OLPD 3621. Introduction to Training and Development. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Processes to carry out theoretically sound training/development practices, within the context of systemic relationship with host organization or system.

OLPD 3641. Introduction to Organization Development. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Organization development theories, principles, concepts, and practices. How development is used to direct change in an organization.

OLPD 3805. Introduction to Strategic Planning Through Human Resources. (; 3 cr. ; A-F or Audit; Periodic Spring)

Processes organizations use when engaged in strategic planning. How to participate in planning, implementing, and evaluating strategic initiatives to improve performance. prereq: 3601 or HRD 3001

OLPD 3828. Diversity in the Workplace. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Diversity, equity, and inclusion in the workplace. Issues of recruitment, selection, management, learning, leadership, and performance.

OLPD 4401. E-Marketing. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Basic understanding and personal experience with how e-marketing can be used as part of an overall marketing and promotion plan.

OLPD 4421. Practicum in Nonprofit Organizations. (; 2 cr. [max 4 cr.] ; A-F or Audit; Every Fall & Spring)

This course will provide students the opportunity to develop and implement critical aspects of a nonprofit organization from board selection, training, fundraising, event marketing and management, and conducting outreach programs. Students will have the opportunity to develop a variety of job functions including: sales, marketing, e-marketing, operations, management, accounting, administration, purchasing, procurement, fundraising, pre-event planning, and post-event evaluation.

OLPD 4426. Strategic Customer Relationship Management. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Principles of customer relationship management, brand identity, and integrated marketing communications. Comprehensive framework for how organizations interact with their various publics to create goodwill/loyalty.

OLPD 4496. Applied Experience in Business & Marketing Education. (1-4 cr. ; S-N only; Every Fall, Spring & Summer)

Application of theory to practice related to BME core coursework with integrative paper. Work, internship, study abroad, research, field experience, service learning, etc. can all fulfill this degree requirement. Contact OLPD Program Advisors for more information. prereq: BME major, ugrd, [3496 or concurrent registration is required (or allowed) in 3496]

OLPD 4696. Applied Experience in Business Marketing Education & Human Resource Development. (1-4 cr. [max 8 cr.] ; S-N only; Every Fall, Spring & Summer)

OLPD 4696, the Applied Experience course, is designed as a culminating learning experience for students nearing graduation. It affords students an opportunity to seek out practical work experience related to their area of concentration in business and marketing or human resource development. An essential part of an Applied Experience is the opportunity to use the knowledge acquired in the classroom in practical applications in the workplace. Problem-solving and creative thinking in the workplace supports the retention and mastery of information gained in the classroom. To be successful, the Applied Experience in BME/HRD should focus on a specific project(s) or task(s) that lend to analysis and resolution over the course of 6 to 14 weeks. A typical Applied Experience in BME/HRD involves 160 hours of work for 4 credits including all the course work listed on this syllabus (20 hr) during a single semester (45 hours per credit). The Applied Experience in BME/HRD is not credit for work. Students must be engaged in specific activities/duties related to their area of concentration related to the field of business and marketing or human resource development. Each activity is expected to relate to a BME/HRD theory, a

career competency area, or professional skill. The student and the employment supervisor will be asked to sign a contract stipulating to the internship objective and activities; the contract must also be approved by the instructor. prereq: OLPD ugrad student in BME/HRD, BME compl 3 of the 4 cores: OLPD 3318, 3401, 3424, 4426. HRD compl 4 of the 4 cores: OLPD 3601, 3202, 3621, 3641. Completed or permission to be concurrently registered for OLPD 3609.

OLPD 5001. Formal Organizations in Education. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)
Classical/current theories of organizations. Applications to education and related fields.

OLPD 5002. Private Colleges as Formal Organizations. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Provide certificate students with introduction to contemporary thinking on organizations/administration. Primary focus on organizational theory. prereq: Bachelors degree must be completed before starting this course.

OLPD 5003. Borderland, Education Policy, Immigrant Experience. (3 cr. ; Student Option; Every Spring)
Borderland, Education Policy and Immigrant Student Experience brings to focus the history of individual, institutional (educational) and cultural forms of marginalization and discrimination of immigrant communities from US history. This class includes a Spring Break trip to Tucson and the Sonora Desert led by the non-profit Borderlinks (www.borderlinks.org). Service learning opportunities may include water drops in the desert, interpreting for newly arrived migrants and serving as a supportive witness for migrants at deportation court. Both in Minnesota and Tucson, participants will dialogue with local stakeholders, advocates and agents of change including migrants, activists, border patrol, ranchers, faith communities, lawyers and lawmakers. Students will also have the opportunity to compare and contrast US immigrant issues with those across the globe.

OLPD 5005. School and Society. (2 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Readings in history, philosophy, social sciences, and law revealing diverse educational values in a pluralistic society. Multiple expectations of schools. Civil liberties, rights, community. Varying cultural backgrounds of students, family circumstances, exceptional needs. prereq: Jr or sr or MED/initial licensure student or CLA music ed major or preteaching major or instr consent

OLPD 5009. Human Relations: Applied Skills for School and Society. (1 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Issues of prejudice/discrimination in terms of history, power, social perception. Knowledge/skills acquisition in cooperative learning, multicultural education, group dynamics, social influence, leadership, judgment/decision making, prejudice reduction, conflict resolution, teaching in diverse educational settings. prereq: MED/init lic or CLA music ed or preteaching or instr consent

OLPD 5011. Leading Organizational Change: Theory and Practice. (; 3 cr. ; Student Option; Every Fall)
How theory is incorporated, affects the change process, and can improve schools/institutions of higher education. Characteristics that impact change processes/outcomes. Leadership/policy effects.

OLPD 5033. Foundations of Individual/Organizational Career Development. (; 3 cr. ; Student Option; Every Spring)
Introduction to individual and organizational career development theory and practice. Examines critical issues in work patterns, work values, and workplaces in a changing global society, with implications for career planning, development, and transitions, emphasizing personal and organizational change. For nonmajors: serves students in adult ed, HRD, IR, college student advising, and other related fields.

OLPD 5041. Sociology of Education. (; 3 cr. ; Student Option; Every Spring)
Structures and processes within educational institutions; linkages between educational organizations and their social contexts, particularly related to educational change.

OLPD 5044. Introduction to the Economics of Education. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Costs and economic benefits of education, with a focus on K-12; educational markets, prices, and production relationships; investment and cost-benefit analysis.

OLPD 5048. Cross-Cultural Perspectives on Leadership. (; 3 cr. ; Student Option; Every Fall & Summer)
Introduction to cultural variables of leadership that influence functioning of cross-cultural groups. Lectures, case studies, discussion, problem-solving, simulations. Intensive workshop.

OLPD 5056. Case Studies for Policy Research. (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

This course introduces students to knowledge and skills appropriate for the conduct of rigorous case study research in educational, organizational, and other social settings. Underlying purposes and assumptions of case study methods will be examined as well as a variety of methodological approaches. The course focuses on the use of qualitative and mixed-methods approaches as these are the predominant strategies employed in contemporary case study research. Accordingly, it emphasizes links between research purposes, the conceptualization of case study projects, and the development of researchable questions. It also takes up a variety of ethical and political issues related to working with participants during the research process, as well as contemporary trustworthiness criteria for case study reports. The bulk of the course is given to training in observation, generating field notes, interviewing, collecting material cultural artifacts, using surveys, and analyzing, interpreting, and writing up case study data.

The first segment of the course focuses on a critical discussion of research paradigms and epistemological assumptions of a variety of case study approaches. Students choose and critique a published case study from their field of interest. The second part of the course is devoted to a very small scale case study project which students design and carry out themselves. This project is supported by relevant readings and in-class activities (including peer review) related to the actual conduct of case study research.

OLPD 5061. Ethnographic Research Methods. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

This course introduces students to knowledge and skills appropriate for the conduct of ethnographic research. Underlying purposes, assumptions, and distinctive characteristics of ethnographic methods will be examined as well as appropriate exemplars. Accordingly, the course emphasizes links between research purposes, the conceptualization of ethnographic projects and the development of researchable questions. The course also takes up a variety of ethical and political issues related to working with participants during the research process, as well as contemporary trustworthiness criteria for ethnographic written accounts. The bulk of the course is given to training in observation, generating field notes, developing interview questions, interviewing, collecting material cultural artifacts, using surveys, and analyzing, interpreting, and writing up ethnographic data. The first part of the course focuses on a critical discussion of ethnographic research purposes, epistemological assumptions, and essential features. Students choose and explore a published ethnographic study from their field of interest. The second part of the course is devoted to a very small scale ethnographic project which students design and carry out themselves. This project is supported by relevant readings and in-class activities (including peer review) related to the actual conduct of ethnographic research.

OLPD 5080. Special Topics: Organizational Leadership, Policy, & Development. (; 1-3 cr. [max 9 cr.]; Student Option; Every Fall, Spring & Summer)
Topical issues in organizational leadership, policy, development.

OLPD 5087. MA Research Seminar. (3 cr. ; S-N only; Every Fall, Spring & Summer)
OLPD 5087, MA Research Seminar, is intended to support OLPD Masters students working on their plan A or plan B papers. The course will focus on conducting effective research and developing the writing skills and habits needed to support the development and completion of the paper, including setting individual and realistic goals to further the project. Class time will include review and discussion of research strategies and practice, expectations for graduate level writing, in-class research and writing time, reviewing and commenting on work in progress in small groups, and review of proper APA style documentation and practices.

OLPD 5095. Problems: Organizational Leadership, Policy, and Development. (1-3 cr. [max 24 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Course or independent study on specific topic within department program emphasis.

OLPD 5096. Internship: Organizational Leadership, Policy, and Development. (; 1-9 cr. [max 24 cr.] ; Student Option; Every Fall & Spring)

Internship in elementary, secondary, general, postsecondary administration, or other approved field related setting.

OLPD 5103. Comparative Education. (; 3 cr. ; Student Option; Every Fall)

Examination of systems and philosophies of education globally with emphasis upon African, Asian, European, and North American nations. Foundations of comparative study with selected case studies.

OLPD 5104. Strategies for International Development of Education Systems. (; 3 cr. ; A-F or Audit; Periodic Fall)

This course provides a critical analysis of strategies used to improve educational outcomes worldwide. This course examines contemporary trends in educational policy, development, and practice, focusing on how? s and why?s of educational change. Empirical studies, organizational reports, and student experiences all inform class discussion. prereq: Grad student

OLPD 5107. Gender, Education, and International Development. (3 cr. ; A-F or Audit; Every Fall)

Role of gender/gender relations in international development/education. Interdisciplinary body of literature from development studies, political science, economics, anthropology, cultural studies, gender/women's studies.

OLPD 5121. Educational Reform in International Context. (; 3 cr. ; Student Option; Every Spring)

Critical policy analysis of educational innovation and reform in selected countries. Use theoretical perspectives and a variety of policy analysis approaches to examine actual educational reforms and their implementation.

OLPD 5122. Indigenous Education: Research, Policy, and Practice. (; 3 cr. ; A-F only; Periodic Fall, Spring & Summer)

This course examines the relationship between local cultures, knowledges, and education. Linked with the field of comparative and international education, this course pays particular attention to local Indigenous educational experiences and in the global context. These experiences are examined using chronological (factors of time), thematic (topical yet interconnected ideas), and critical approaches (issues requiring urgent attention), including analysis of historical trajectories of Indigenous education, the expansion of mass schooling, education and language ideologies and policies, and notions of resistance, agency, and innovation in educational design that addresses pressing concerns today. This course assumes Indigenous education as

part of an array of anti-, post-, and decolonial strategies for Indigenous self-determination, and thus takes a holistic and connective approach towards understanding educational design, practice, and impacts as part of Indigenous knowledge systems. The course also assumes multiple definitions of education proposed by Indigenous and other critical scholars, highlighting education as a) formal schooling historically designed by non-Indigenous groups, b) ancestral education/Indigenous socialization; and c) Indigenous sovereign pedagogies (Goodyear-Ka?? pua, 2013). The course seeks to expand our understanding of the vital links between these different educational practices, in and out-of- school and across diverse places, from U.S. American Indian and Alaska Native communities to agrarian Indigenous communities in the highland Andes to the Pacific Islands and beyond. Central to student work in this course is learning the ways in which Indigenous communities shape learning contexts while drawing from multiple epistemologies. Three main themes comprise the course and are reflected through readings and lectures: 1) Patterns in policy (e.g. education, land/environmental, language, etc.) for historically underrepresented and underserved populations; 2) The role of families, communities, and place-based pedagogies in formal and out-of-school education; and 3) Creative proposals for educational development, based on Indigenous research and in relation to Indigenous knowledge systems, and that lend themselves towards Indigenous self-determination. Students are asked to critically examine the role of education under local, national and international pressures and amidst other variables, including environmental degradation and to offer their own proposals toward innovative Indigenous education research agendas that inform education design and practice?meaning, this course aims to provide insights, but most importantly to cultivate dialogue and exchange questions and ideas because there are no singular, closed, or universal solutions to educational design. For students interested in certain topics related to the identified themes, this course introduces but is not limited to Indigenous Knowledge Systems, Traditional Ecological Knowledge, Indigenous community-based education, Indigenous and global languages, decolonial research, and endogenous development. Students are invited to cultivate their own focal areas in relation to prior knowledge and current study interests.

OLPD 5124. Critical Issues in International Education and Educational Exchange. (; 3 cr. ; Student Option; Every Spring)

Analysis of comprehensive policy-oriented frameworks for international education; practices of U.S. and other universities; conceptual development of international education and its practical application to programs, to employment choices, and to pedagogy.

OLPD 5128. Anthropology of Education. (; 3 cr. ; Student Option; Periodic Spring)

Insights from educational anthropology for educators to address issues of culture, ethnicity, and power in schools.

OLPD 5132. Intercultural Education and Training: Theory and Application. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

Introduction to the field of intercultural education and related field of multicultural education; analyzes the field through a critical lens; examines diverse meanings of education, including cultural knowledge.

OLPD 5201. Strategies for Teaching Adults. (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Psychological theories of adult learning; learning styles and personality types; teaching styles; group and team learning; moderating and study circles; teaching technologies and distance learning; gender, race, and cultural communication. Applications of strategies. prereq: Grad student only

OLPD 5202. Perspectives of Adult Learning and Development. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

Emphasis on major adult development theorists, theories, and current applications. Transformative learning, self-directed learning, experiential learning, and cooperative learning provide theoretical framework for exploring physiological, psychological, sociological, and cultural aspects of adult development through the life span.

OLPD 5204. Designing the Adult Education Program. (; 3 cr. ; A-F or Audit; Periodic Spring)

Designing and implementing educational programs for adults. Application of concepts, theories, and models in different adult learning situations.

OLPD 5211. Introduction to the Undereducated Adult. (; 1 cr. ; A-F or Audit; Every Summer)

Definitions of literacy in workplace, community, and family. Issues: poverty/welfare, ethnicity, cultural diversity, social class, language/learning, immigrants.

OLPD 5296. Field Experience in Adult Education. (1-6 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Supervised fieldwork and practice. Presentations and evaluations of adult education practices.

OLPD 5309. Culturally Responsive School Leadership. (3 cr. ; A-F only; Periodic Fall, Spring & Summer)

This course will cover the histories, contexts, and major strands of culturally responsive school leadership. Module 1 begins with an overview of some of the primary sources of oppression in the West and the Global South. Here, we cover material on varying epistemologies, the nature of bias, critical self-reflection, and schools, space, and identity. In Module 2, we will examine how these oppressive practices and systems exist in the modern era. We look then at how they enter institutions and how they are reproduced. This

includes an examination of various types of bigotry and discrimination in school. In Module 3, we begin to look at how these histories and complex, dynamic systems of power, privilege, and oppression enter and express in schools and communities. We move from the individual to the collective as we explore the many divides between school and community people and perspectives. In Modules 4 and 5, we finally look at emancipatory, liberatory, and culturally responsive models of schooling. In this last part of the course, we look at how community-based and indigenous knowledge can be used to inform schooling. Here, we dig deep into culturally responsive leadership practice, spending time unpacking 4 major strands of culturally responsive school leadership. We look at how curriculum, instructional leadership, PDs, and other resources are structured to improve equity in a building. We take up the community-based approaches to education.

OLPD 5321. The Principal as Leader of High-Performing Schools. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)
Theory and practice for educational leadership that is specifically applied to the principalship. Overview competencies in AR 3512 required for MN K-12 principal licensure. Examines roles of the principal as a leader and manager. prereqs: OLPD 5385 Licensure Seminar: Program Policies and Inclusionary Leadership or concurrent registration and OLPD 5386 Leadership Portfolio or concurrent registration.

OLPD 5322. Leaders in the Superintendency and Central Office. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)
Role/responsibility of superintendent in school district. Real life experiences, leadership potential as CEO. Purposes, power, politics, practices of position. Interplay of internal school forces, community forces. Leadership in public, high-profile appointment. Addresses competencies required under MN AR 3512 for administrative licensure. Grad students working on K-12 Administrative Licensure, MA, MED or PHD prereqs: OLPD 5385 Licensure Seminar: Program Policies and Inclusionary Leadership or concurrent registration and OLPD 5386 Leadership Portfolio or concurrent registration.

OLPD 5324. Strategic Financial Planning and Policy for Educational Leaders. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)
State-local school finance systems, budgeting, governmental fund accounting. Interpretation of financial information. Addresses competencies required under MN AR 3512 for administrative licensure Grad students working on K-12 Administrative Licensure, MA, MED or PHD prereqs: OLPD 5385 Licensure Seminar: Program Policies and Inclusionary Leadership or concurrent registration and OLPD 5386 Leadership Portfolio or concurrent registration.

OLPD 5344. School Law. (; 3 cr. ; Student Option; Every Spring & Summer)
Legal foundations of elementary/secondary education. Statutory themes, relevant case law, emergent policy issues. Implications for educational organizations and for

administrative practice. Addresses competencies required under MN AR 3512 for administrative licensure. Grad students working on K-12 Administrative Licensure, MA, MED or PHD prereqs: OLPD 5385 Licensure Seminar: Program Policies and Inclusionary Leadership or concurrent registration and OLPD 5386 Leadership Portfolio or concurrent registration.

OLPD 5346. Politics of Education. (; 3 cr. ; A-F or Audit; Every Fall & Spring)
Political dimensions of policy formulation/implementation in education. Use of power/influence in shaping educational policies and in resolving conflicts over educational issues. Analysis of consequences/cross-impacts. prereq: postbac, MEd, or grad student

OLPD 5348. Leaders of Human Resources Administration. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)
Skills for administrator/leader. Human resources administration, employee recruitment, selection, orientation/support, supervision, performance appraisal of school district personnel. Addresses competencies required under MN AR 3512 for administrative licensure. prereqs: OLPD 5385 Licensure Seminar: Program Policies and Inclusionary Leadership or concurrent registration and OLPD 5386 Leadership Portfolio or concurrent registration.

OLPD 5356. Disability Policy and Services. (; 3 cr. ; Student Option; Every Spring & Summer)
Policy, research, and current practices related to education, health, and social services that support children, youth, and adults with special needs, and that support their families. Federal, state, and local perspectives.

OLPD 5361. Project in Teacher Leadership. (; 3 cr. ; Student Option No Audit; Periodic Fall, Spring & Summer)
Create, implement, evaluate, and present a leadership project designed to initiate positive change in educational environments. Review of related literature, proposal development, project development, implementation and evaluation, critical reflection, sharing learning outcomes. . If Administrative Licensure candidate see advisor. prereqs: Grad students working on K-12 Administrative Licensure and/or Master in Education (Leadership in Education)

OLPD 5364. Context and Practice of Educational Leadership. (; 3 cr. ; A-F or Audit; Every Fall & Summer)
Current research/practice on educational leadership. Focuses on creating school cultures conducive to continuous improvement/change. Strategies for personal/organizational leadership in PK-12 settings.

OLPD 5368. Leadership for Special Education Services. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)
Legislative, procedural, executive, and judicial actions that affect services, families, and children with special needs at federal, state, and local levels. Overview of cultural competence, conflict management, due

process, supplemental programs. Addresses competencies required under MN AR 3512 for administrative licensure Grad students working on K-12 Administrative Licensure and/or Master in Education (Leadership in Education) prereqs: OLPD 5385 Licensure Seminar: Program Policies and Inclusionary Leadership or concurrent registration and OLPD 5386 Leadership Portfolio or concurrent registration.

OLPD 5374. Leadership for Professional Development. (; 4 cr. ; Student Option; Every Fall)
Designing, implementing, evaluating staff development in preK-12 settings. Research-based standards for effective staff development. Need for embedded time for collaborative learning, evaluating staff/student outcomes. prereq: Postbaccalaureate, at least 3 yrs teaching experience

OLPD 5375. Special Education Finance: Program Models, Policy, and Law. (; 2 cr. ; Student Option; Every Summer)
How special education revenue is a resource to accomplish student-related objectives. Revenue sources, compliance, budget monitoring. Key policy, case law, program models from perspective of director of special education. prereq: Grad students working on K-12 Administrative Licensure and/or Master in Education (Leadership in Education)

OLPD 5376. Leading School Tax Elections. (; 1 cr. ; S-N or Audit; Periodic Fall, Spring & Summer)
Comprehensive planning model for conducting school tax elections. Emphasizes systems, strategies, and campaign tactics.

OLPD 5377. Leadership in Community Education Finance and Law. (; 1 cr. ; Student Option; Periodic Fall, Spring & Summer)
Statute 124D and its relationship to each of the categories of community education: early childhood, family education, adult basic education, and ALC funding. Revenues and expenditures, UFARS, and how to access information. Organize financial and legal data for presentation. The course will be approached from the frame of resource development. Prereqs: OLPD 5385, OLPD 5386

OLPD 5384. Special Education Law for Leaders. (; 1 cr. ; Student Option; Every Fall & Summer)
Competencies of leadership, policy, and political influence. Legal/regulatory applications focusing on special education law. Addresses competencies required under MN AR 3512 for administrative licensure prereq: Grad students working on K-12 Administrative Licensure and/or Master in Education (Leadership in Education)

OLPD 5385. Licensure Seminar: Program Policies and Inclusionary Leadership. (; 1 cr. ; S-N or Audit; Every Fall, Spring & Summer)
Overview of the rules and requirements of the U of M and MN AR, completion of the required individual pre-assessment, development of

the learner's individualized program plan. Discussion of beliefs and values that guide administrative leadership, and completion of the Intercultural Conflict Style Inventory.

OLPD 5386. Leadership Portfolio Seminar. (; 1 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Development of electronic administrative licensure portfolio to use throughout Administrative Licensure program. Address competencies as mandated in the LEAPS Act. Addresses competencies required under MN AR 3512 for administrative licensure. prereq: OLPD 5385 or concurrent registration is required.

OLPD 5387. Leadership for Teaching and Learning. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

Multiple aspects of administering teaching/learning. Administration of teaching/learning as system in inclusive schools. Questions administrator must ask as leader of learning for students/adults. Addresses competencies required under MN AR 3512 for administrative licensure. prereqs: OLPD 5385 Licensure Seminar; Program Policies and Inclusionary Leadership or concurrent registration and OLPD 5386 Leadership Portfolio or concurrent registration.

OLPD 5388. Leadership for Master(ful) Scheduling. (; 2 cr. ; Student Option; Periodic Fall, Spring & Summer)

Work of high-performing professional learning communities. Implications for moving from building master schedule to leadership for master(ful) scheduling of time, space, motion, people. Addresses competencies required under MN AR 3512 for administrative licensure. prereqs: OLPD 5385 Licensure Seminar; Program Policies and Inclusionary Leadership or concurrent registration and OLPD 5386 Leadership Portfolio or concurrent registration.

OLPD 5389. Community Education Leadership. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

Competencies of leadership, community relations, communication, community assessment, program development, program evaluation. Philosophy/administration of community/alternative education programs. Addresses competencies required under MN AR 3512 for administrative licensure. prereqs: OLPD 5385 Licensure Seminar; Program Policies and Inclusionary Leadership or concurrent registration and OLPD 5386 Leadership Portfolio or concurrent registration.

OLPD 5396. Field Experience in PK-12 Administration: Authentic Practice in Leadership. (; 3 cr. [max 12 cr.]; S-N or Audit; Every Fall & Spring)

Field experience or internship arranged for students seeking licensure as PK-12 principal/superintendent. Content/credit depend on licensure requirements specified in individual field experience agreement prereqs: OLPD 5385 Licensure Seminar; Program Policies and Inclusionary Leadership or concurrent registration and OLPD 5386 Leadership Portfolio or concurrent registration.

OLPD 5501. Principles and Methods of Evaluation. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Introduction to program evaluation. Planning an evaluation study, collecting and analyzing information, reporting results; evaluation strategies; overview of the field of program evaluation.

OLPD 5502. Comparative evaluation theory for practice. (; 3 cr. ; A-F only; Every Fall & Summer)

This class will give students the foundation in evaluation theory necessary for high-quality and ethical practice in evaluation, consulting, or other forms of organizational change Recommend 5501 or equivalent (can be taken concurrently)

OLPD 5521. Cost and Economic Analysis in Educational Evaluation. (; 3 cr. ; Student Option; Every Fall)

Use and application of cost-effectiveness, cost-benefit, cost-utility, and cost-feasibility in evaluation of educational problems and programs.

OLPD 5601. Introduction to Human Resource Development. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

This course introduces the primary foci of the MHRD program classes as an introduction to the theory and the current practices in human resource development that will be dealt with in more detail in the other ten (10) graduate classes that support the MHRD degree. The primary focus of the theory and practice will be: ? Organization Development and Change ? Training and Development with a specific focus on design aspects of in-person, online, and leadership development programs ? Career planning

OLPD 5604. Systems Foundation of Human Resource Development. (; 1 cr. ; Student Option; Every Fall, Spring & Summer)

Introduction to system theory as a core discipline supporting the theory and practice of human resource development. prereq: 5601

OLPD 5605. Strategic Human Resource Development. (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Strategic nature of organizations. How HRD can align its goals with those of organization. Strategic planning, systems thinking. Ways HRD managers can become strategic players in organization. prereq: 5607 or 5615 or HRD 5201 or HRD 5301

OLPD 5606. Human Resource Development Evaluation Strategies. (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

This class will focus on the exploration of evaluation methods for human resource development programs and projects. This includes the systematic collection of data needed to make decisions related to the strengths and weaknesses of selection, adoption, value, and implementation of programs and projects.

OLPD 5607. Organization Development. (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Introduction to major concepts, skills, and techniques for organization development/change. prereq: Grad student only

OLPD 5611. Facilitation and Meeting Skills. (; 1 cr. ; Student Option; Every Fall, Spring & Summer)

Introduction to the disciplines of planning and running effective meetings. Tools and methods for meeting management and evaluation are presented within the context of organization development.

OLPD 5612. International Human Resource Development. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Problems, practices, programs, theories, and methodologies in human resource development as practiced internationally. prereq: Grad students only; ugrad seniors with instr consent

OLPD 5613. Survey of Research Methods and Emerging Research in Human Resource Development. (; 3 cr. ; A-F or Audit; Periodic Spring)

Role of research in HRD. Standards/criteria for evaluating research, critique of conference research papers, identification of emerging research themes. Offered in conjunction with the annual conference of Academy of HRD. prereq: [Registered, in attendance] at conference of Academy of HRD

OLPD 5615. Training and Development of Human Resources. (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Training/development of human resources in organizations. Process phases of analysis, design, development, implementation, and evaluation. prereq: Grad student only

OLPD 5616. Instructional Design for e-Learning. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

Major concepts, skills, and techniques for giving and receiving training on the Internet. prereq: Grad student only

OLPD 5617. Diversity, Equity, Inclusion, and Belonging. (; 3 cr. ; A-F only; Periodic Fall, Spring & Summer)

This class will focus on two elements of DEI&B: 1) awareness and 2) skill building/behavior training. The first half on the semester is focused on the awareness of important DEI&B issues facing people and organizations in a global workplace. This includes defining the global workplace and how it may be the same and different from smaller local organizations. The second half of the semester will be focused on building skills and behaviors needed in purpose-driven global workplaces. This will be an interactive and engaged set of activities that include role play, virtual reality, and case studies. The primary audience for this class will be graduate students who plan to be HRD leaders and those that are in the online MHRD program.

OLPD 5618. Leadership Development Training. (; 3 cr. ; A-F only; Periodic Fall, Spring & Summer)

The focus of this class is to introduce best practices in leadership development training leveraging adult learning and training theories

to develop effective organizational leaders. While this class will look at leadership styles, it will also focus on training strategies that support strong skills in leadership (e.g. developing vision and mission in a purpose driven organizations, developing people and organization-level strategies, and finally creating skills that support the implementation of these strategies). Along with training topics, students will develop expertise in individual leadership assessment instruments commonly used in leadership training functions. The primary audience will be HRD people who develop and implement leadership training programs globally.

OLPD 5619. Planning and Decision-Making Skills. (; 1 cr. ; Student Option; Every Fall, Spring & Summer)

Introduction to the disciplines of planning and decision making typically used in process improvement interventions. Tools and methods for facilitating group decisions and problem solving.

OLPD 5696. Internship: Human Resource Development. (; 1-10 cr. ; S-N or Audit; Periodic Fall & Spring)

Students apply/contract for human resource development positions. prereq: [[3901 or HRD 3601, [3696 or HRD 3196], [3620 or 3640 or HRD 3201 or HRD 3301], [3202 or ADED 3101], undergrad] or [[5607 or 5615 or HRD 5201 or HRD 5301], [5801 or WHRE 5001], grad student]], instr consent

OLPD 5701. U.S. Higher Education. (; 3 cr. ; Student Option; Every Fall & Summer)

U.S. higher/postsecondary education in historical/contemporary perspective. Emphasizes structure, history, and purposes of system as a whole.

OLPD 5702. Higher Education in Global Contexts. (3 cr. ; A-F only; Periodic Fall, Spring & Summer)

This course is an introductory overview of higher education in the international context and the processes of internationalization in which higher education institutions engage. It addresses contemporary issues facing regions, countries, and higher education institutions across the world and focuses on how higher education institutions approach their global work. The outcomes sought for students in this course include the following: Understanding of broad historical events, including the political, cultural, religious, psychological, and economic factors that shaped higher education in regions and countries across the world; Knowledge about the role of the federal government in shaping the structure of the higher education system in specific countries; Understanding of the process of internationalization as it relates to institutions across the world; Identification of the motivating factors that influence international activity related to higher education institutions; Identification of the cultural and sociopolitical factors that drive internationalization in higher education institutions. No single course can address all of the topics related to international higher education. In this course, the following seven primary questions serve as the focus for an

analysis of international higher education:

1) What are the most significant historical factors that shaped higher education in a specific country, and to what extent do those country-specific historical factors help understand higher education in the region? 2) What is the role of the federal government in a country, and to what extent are within-country differences analogous to differences among states in the United States? 3) How is higher education financed within a country, and are there regional economic forces that affect countries in the region? 4) What is the structure of higher education in the country (e.g., public institutions, private non-profit institutions, and for-profit institutions)? 5) What sociocultural, political, and institutional aspects of institutions? global initiatives.

OLPD 5703. College Student Mental Health and Wellbeing. (3 cr. ; A-F only; Periodic Fall, Spring & Summer)

College counseling centers across the U.S. report that the number of students with significant mental health and wellness issues is an increasing concern. For example, 21 percent of counseling center students present with severe mental health concerns, while another 40 percent of students exhibit mild mental health problems. These numbers will be exacerbated as a result of the ongoing Covid-19 pandemic. An unknown number of students receive support from college staff who work in student support roles.

College Student Mental Health and Wellness, will critically explore research and practice describing the mental and emotional concerns of students on college campuses and the types of interventions designed to address them.

Topics in the course will include ? but will not be limited to ? types of mental health concerns, ways in which multicultural issues influence how students express mental health concerns, working with students in crisis, structures of referral sources, ethical and legal issues, managing mental health in Covid-19, and self-care for those working with these students on college campuses. Components on effective strategies for providing psychological support will assist students in the development of their communication skills. We will also explore a range of wellness issues that intersect with mental health and wellness concerns. Note: this class will focus on the exploration of mental health issues from higher education and student affairs perspectives (e.g. how can higher education professionals and student affairs staff best support students with mental health concerns across individual and institutional levels?).

OLPD 5704. College Students Today. (; 3 cr. ; Student Option; Every Spring & Summer)

Issues involving population of students in colleges/universities. College student development theory, students' expectations/interests. How college affects student outcomes. Role of curricular/extracurricular activities. Student-faculty interaction.

OLPD 5709. Critical Issues in Higher Education. (; 3 cr. ; A-F or Audit; Every Spring)

Issues/opportunities facing American higher education. Financial, demographic, athletics, for-profit, changing public opinion. Framework for analysis.

OLPD 5712. College Student Development Theory and Practice. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Multicultural student development theories/theorists. Implications for teaching/learning. Students reflect on The Student Personnel Point of View and Learning Reconsidered: Campus-wide Focus on the Student Experience and other collaborative efforts.

OLPD 5721. Race and Ethnicity in Higher Education. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Review of research. Theoretical frameworks, methodological perspectives, and research strategies used to study students, staff, and faculty. Historical perspectives.

OLPD 5724. Leadership and Administration of Student Affairs. (; 2-3 cr. ; Student Option; Periodic Fall & Spring)

Scope, administration, coordination, and evaluation of programs in college and university student affairs.

OLPD 5732. The Law and Postsecondary Institutions. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Analysis of court opinions and federal regulations affecting postsecondary educational institutions.

OLPD 5736. Public Engagement and Higher Education. (; 3 cr. ; A-F only; Every Fall)

Study/practice of public engagement in higher education. Civic roles of post-secondary education institutions.

OLPD 5796. Supervised Practicum in Multicultural Postsecondary Teaching and Learning. (; 3 cr. ; S-N only; Every Fall, Spring & Summer)

Postsecondary teaching experience in supervised settings. Weekly group supervision session. Classroom experiences, learning centers, and other postsecondary teaching venues. prereq: Grad student in PsTL certificate program or admitted to PsTL master's program

OLPD 5801. Survey: Human Resource Development and Adult Education. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Overview of fields of human resource development and adult education. Societal context, theories, processes, definitions, philosophies, goals, sponsoring agencies, professional roles, participants, and resources. Unique characteristics and ways fields overlap and enhance one another. prereq: Grad student only

OLPD 5812. Consulting for Organization Change. (; 3 cr. ; Student Option No Audit; Periodic Fall, Spring & Summer)

This course is an introduction to major theories, concepts, skills, and techniques of consulting for industry, education, and government

OLPD 5819. Evaluating and Using Research in Organizations and Education. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Role of educational research in professional practice. Problems of practice for research. Alternative modes of research. Synthesis/application of results of research. prereq: Grad student

OLPD 5893. Directed Study in OLPD. (1-4 cr. ; Student Option; Every Fall, Spring & Summer)

Self-directed study, with faculty advice, in areas not covered by regular courses.

OLPD 5902. Leading Change in Private Colleges. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Theories of organizational change process/application for leading private colleges with unique cultures/distinctive missions. Factors impacting change process/implications for leading private colleges. prereq: Must have Bachelors degree awarded prior to taking this course.

Otolaryngology (OTOL)

OTOL 5101. Introduction to the Basic Sciences in Otolaryngology I: Ear. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Multidisciplinary introduction to the basic sciences of the ear. Acoustics and psychoacoustics, temporal bone anatomy, external and middle ear mechanisms, cochlear physiology, auditory neurophysiology, ear embryology, ear biochemistry, immunology, fine structures, vestibular mechanisms and measurement. S-N grading option for nonmajors only. prereq: Otolaryngology major or instr consent

OTOL 5102. Introduction to the Basic Sciences in Otolaryngology II: Head and Neck. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Multidisciplinary introduction to the basic sciences of the head and neck. Laryngeal anatomy and physiology, nasal anatomy and physiology, immune biology, embryology of head and neck. S-N grading option for nonmajors only. prereq: Otol major or instr consent

OTOL 5993. Directed Studies. (; 1-12 cr. [max 24 cr.] ; Student Option; Every Fall, Spring & Summer)

Directed readings and preparation of reports on selected topics. prereq: instr consent

Periodontics (PERO)

PERO 5123. Practice Management Externship. (; 1 cr. ; Student Option; Every Spring)

Familiarizes periodontal students with the private practice environment and prepares them to select the type of practice they want to purchase or build and successfully manage their office. prereq: Resident in advanced education program in periodontology

Pharmaceutics (PHM)

PHM 5200. New-Drug Development Process. (; 1 cr. ; Student Option; Periodic Fall & Spring)

New-drug development process in the U.S. pharmaceutical industry.

Pharmacology (PHCL)

PHCL 2001. Basic Principles of Pharmacology: A Drug's Fantastic Voyage. (2 cr. ; Student Option; Every Fall)

Basic principles of pharmacology affecting drug from administration through action/elimination. prereq: First-year chemistry
Keywords: Pharmacology, Drug, Introduction, Pharmacogenetics, Addiction, Toxicity

PHCL 3100. Pharmacology for Pre-Med and Life Science Students. (; 2 cr. ; A-F or Audit; Every Spring)

Principles/mechanisms of drug action. Major drug categories for different organ systems. prereq: College-level biology, biochemistry or physiology recommended

PHCL 4001. Mechanisms of Drug Action. (2 cr. ; Student Option; Every Fall & Spring)

How drug function as applied to the treatment of a single medical condition. Pharmacology, pharmacokinetics, pharmacodynamics, pharmacogenetics, pharmacogenomics. prereq: Upper div or instr consent; [prev or concurrent] courses in [biology, biochemistry] recommended

PHCL 4003. Anti-infective drugs: Drugs that kill invaders. (; 2 cr. ; A-F or Audit; Every Spring)

Principles/mechanisms of anti-infective drugs, and treatments of infectious diseases. prereq: College-level biology

PHCL 4010. Current Research Topics in Pharmacology. (2 cr. ; A-F only; Every Fall)

Cutting-edge research projects in pharmacology. Research seminars, literature studies, discussion sessions, oral presentations. prereq: Upper div or instr consent

PHCL 4020. Chemotherapy: from current anticancer drugs to future cancer therapeutics. (3 cr. ; A-F only; Every Fall)

This course will expose students to the studies of therapeutic agents used for the treatment of cancer. We will study the mechanisms of current anticancer drugs. We will also explore the recent development of novel anticancer agents, as well as the process of drug discovery & development. prereq: College-level biology: PHCL 2001 and/or PHCL3100, GCD4151 recommended.

PHCL 4100. Laboratory in Molecular Pharmacology. (2 cr. ; A-F only; Every Fall & Spring)

Hands-on experimentation using molecular techniques for data collection/analysis. prereq: [2001 or 4001], 3100, [BioC 3021 or BioC 4331], [BioC 4025, BioC 4125 recommended]

PHCL 4343. Pharmacology of the Synapse. (; 3 cr. ; A-F only; Every Fall)

Study synapse as pharmacological gateway to nervous system. Explore physiology of/cellular signalling at synapse, how signalling influences conditions such as Parkinson's disease, depression, anxiety, pain, addiction. How

various drugs modify signalling at synapse. recommend: [PHCL 2001, PHCL 3100]

PHCL 4993. Directed Studies. (; 1-3 cr. [max 6 cr.] ; S-N only; Every Fall, Spring & Summer)
Individual study ("dry lab" experience) on selected topics in pharmacology/biomedical science with faculty from the Pharmacology Department or other biomedicine disciplines. Readings and use of scientific literature. prereq: instr consent, dept consent

PHCL 4994. Directed Research. (; 1-3 cr. [max 12 cr.] ; S-N only; Every Fall, Spring & Summer)

Laboratory research ("wet lab" experience) in the areas of pharmacological/biomedical research. prereq: instr consent, dept consent

PHCL 5108. Introduction to Laboratory Research. (4 cr. ; A-F only; Every Fall)

In this course, students will gain practical experience working in a biomedical research laboratory. Students will develop and refine skills required for productive and safe lab work. Topics covered in this class include lab safety, proper equipment usage, making solutions and related calculations, and fundamental concepts and techniques in molecular biology and signal transduction. Key course concepts and content will be reinforced by conducting experiments in the lab under the supervision of an experienced instructor.

PHCL 5109. Introduction to Scientific Communication. (; 1-18 cr. ; Student Option; Every Fall, Spring & Summer)

This course is an interactive classroom experience focused on developing student communication skills. The primary emphasis is on student presentations of their research projects. In addition to making verbal presentations, students are expected to provide constructive criticism and feedback to their peers. Students also work on scientific writing skills by preparing a one-page NIH-style Specific Aims page outlining their research project. Prerequisites: student in the Graduate Program in Pharmacology (MS program) or approval from the Director of Graduate Studies
Keywords: Pharmacology, Directed, Independent Study, Biomedical, Basic Science, Research, Drug

PHCL 5110. Introduction to Pharmacology. (; 3 cr. ; A-F or Audit; Every Fall)

This is a course for first-year students in the Graduate Program in Pharmacology. The course introduces students to the basic principles of pharmacology and focuses on molecular mechanisms of drug action. Topics covered include pharmacokinetics, pharmacodynamics, signal transduction, toxicology pharmacogenomics, and drug discovery. Prerequisites: student in the Graduate Program in Pharmacology or approval from the Course Director(s)
Keywords: Introduction, Pharmacology, Molecular, Drug, Pharmacokinetics, Pharmacodynamics, Protein, Pharmacokinetics

PHCL 5111. Pharmacogenomics. (; 3 cr. ; A-F or Audit; Every Spring)

Human genetic variation, its implications. Functional genomics, pharmacogenomics,

toxicogenomics, proteomics. Interactive, discussion-based course. prereq: Grad student or instr consent Keywords: Pharmacology, Pharmacogenomics, Toxicogenomics, Proteomics, Genetics, Drug

PHCL 5112. Foundations of Biomedical Research. (; 1-2 cr. ; A-F only; Every Fall) This is a course for first-year students in the Graduate Program of Pharmacology. This course will introduce graduate students to the basic operating principles and techniques of a scientific research laboratory, general concepts surrounding experimental design and experimental controls, and familiarity with common laboratory calculations. Discussion of scientific techniques will include recombinant DNA and molecular biology techniques, protein expression and purification, protein assays, biochemical data analysis and fitting methods, transcriptomics and proteomics studies, and cell culture & mouse models of disease. Methods are presented in the context of highlighting general principles in experimental design. Prerequisites: student in the Graduate Program in Pharmacology Keywords: Basic Science, Pharmacology, Personnel, Writing, Presentation, Protein, DNA, Molecule, Microscope, Bioinformatics, Drug

PHCL 5462. Neuroscience Principles of Drug Abuse. (; 2 cr. ; Student Option; Periodic Spring) Current research on drugs of abuse, their mechanisms of action, characteristics shared by various agents, and neural systems affected by them. Offered biennially, spring semester of even-numbered years. prereq: instr consent

Pharmacy (PHAR)

PHAR 1001. Orientation to Pharmacy. (; 2 cr. ; Student Option; Every Fall, Spring & Summer)

You may know that pharmacists are responsible for the dispensation of medications, but did you know that pharmacists play a critical role in the healthcare process by ensuring that their patients receive the best overall care? Designed to help you better understand the world of pharmacy, this online pharmacy course will introduce you to this exciting profession and help you gain an understanding of the impact pharmacists have in the patient care process. This course examines what training is necessary for success in the pharmacy field, demonstrates the roles a pharmacist can have in patient care, research and academia, and provides virtual tours of various settings in which pharmacists work. This is not a self-study course. While it is completely online, there are deadlines for assignments throughout the semester. No late registrations will be accepted. Course information is sent to the U of M email addresses of registered students shortly before, and/or on, the first day of classes each Fall, Spring, and Summer term. For more information, contact phar1001@umn.edu or 612-624-7976.

PHAR 1002. Medical Terminology. (; 2 cr. ; Student Option; Every Fall, Spring & Summer)

Interested in learning the difference between an antigen and an antibiotic? During this course, you will not only increase your medical vocabulary by more than 2500 words at your own pace, you will also learn to identify and articulately describe a wide variety of medical conditions and processes. Communication related to disease states, procedures, and diagnostics in health care can sometimes seem like another language. This course will help you recognize medical abbreviations, relate terms to procedures and diagnostics, and comprehend the meaning of medical terminology by using word elements. If you are interested in the health care field or would like to understand more about your own medical care, this course is a great place to start.

PHAR 1003. Nonprescription Medications and Self-Care: Treating Minor Conditions. (; 2 cr. ; Student Option; Every Fall, Spring & Summer)

Nonprescription medications and dietary supplements comprise a large market within the health care industry. Throughout this course, you'll learn about these medications and other self care remedies available to treat many different medical conditions. For each condition discussed, you will learn basic causes, signs, and symptoms; self care guidelines; and when to see a health care provider. For each medication discussed, you will learn the basic mechanism of action, uses, and potential side effects. This course will help you gain a better understanding of how nonprescription and self care products can be used safely and effectively.

PHAR 1004. Common Prescription Drugs and Diseases. (; 2 cr. ; Student Option; Every Fall, Spring & Summer)

Are you interested in understanding how some of the most common prescription medications work, why they are used, and how they should be used when treating common ailments? Perhaps you would like to recognize the most common causes of specific diseases, identify their symptoms, and recognize the diagnostic criteria associated with them. Throughout this course, you will learn why some medications can't be used by certain people, understand how prescription drugs are regulated, and examine the correlation between common prescription drugs and diseases. Additionally, you will explore various drug information resources and learn how to find reliable sources of drug information. This online class is primarily self-paced with due dates for certain aspects at times throughout the semester. Students may choose to work ahead in the course. Course information is sent to the University of Minnesota email addresses of registered students shortly before, and/or on, the first day of classes each fall, spring, and summer term. For more information, contact phar1004@umn.edu or 612-624-7976.

PHAR 2002. Precision Medicine and Health: Understanding the Personal Genome. (3 cr. ; A-F only; Every Fall)

This course is intended for students who want to understand the basic concepts of Precision Medicine. It will help students understand how

individuality impacts disease predisposition, diagnosis, treatment, and health. We will begin with the creation of an individualized full genome sequence and show how this information can be used to predict, diagnose, and treat disease. We will also discuss the ethical use of this information. This course is intended for undergraduate non-science majors who are interested in the impact of genetics on different aspects of medicine, however science majors may also take the course. The course will provide a brief introduction to molecular biology and then introduce different areas of precision medicine, with an emphasis on the contribution of genetics for understanding predisposition, disease diagnosis, and drug treatment. An important part of the class will be exercises which help the student better understand concepts presented in the lectures. Prerequisites: None. The course is directed towards undergraduate non-science majors, however science majors may take the course. Class time: 2 x 75 minute in person lectures (50 minute lecture and 25 minute class exercise) Supplemental Textbook (Not Required) Classes will begin with a traditional lecture/discussion or seminar format, followed by in class discussion of assigned materials, and hands on activities using databases and case studies where the discussion is based around a situation (problem) that a clinician may encounter that requires application of precision medicine knowledge.

PHAR 3206. Foundations of Health Literacy.

(; 3 cr. ; Student Option; Every Fall & Spring) In this course, we will focus on health literacy and its implications for patients, health care providers, and the health care system at large. We will discuss the consequences of poor health literacy and practical strategies for improving health literacy. This will include steps that individual patients can take and communication strategies for future health care providers. You will explore disparities in health and health care and the relationship to health literacy. We will discuss cultural competency through both student discussions and a book club and consider the impact on the patient experience. Functional health literacy includes being able to navigate the health care system and health insurance. As a class, we will discuss choosing a health insurance policy and controversies therein.

PHAR 3700. Fundamentals of

Pharmacotherapy. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer) Pharmacotherapy?the treatment of disease through the administration of medications? is a field particularly interesting to many healthcare workers. This course is designed to introduce you to some of the main drug classes available for the treatment of particular diseases. You will also learn about basic pharmacology, recognize brand and generic drug names, and explore their common uses and therapeutic classes. A basic understanding of treatment options available for common disease states will also be developed during this course. Additionally, the course develops basic proficiency in the use of drug information resources. This is a completely online course

with due dates throughout the semester though students have the option to work ahead if they choose. Course information is sent to the University of Minnesota email addresses of registered students shortly before, and/or on, the first day of classes each fall, spring, and summer term. For more information, contact phar3700@umn.edu or 612-624-7976. Prereq: Medical terminology recommended

PHAR 3800. Pharmacotherapy for the Health Professions. (; 3 cr. ; A-F only; Every Fall & Spring)

Pharmacotherapy?the treatment of disease through the administration of medications? is a topic central to the practice of nursing. This course is designed to introduce you to the main drug classes available for the treatment of particular diseases and the monitoring parameters for patients taking these medications. You will also learn about basic pharmacology, recognize brand and generic drug names, and explore their common uses and therapeutic classes. A basic understanding of contraindications and precautions related to various classes of medications will also be covered. Additionally, the course develops basic proficiency in the use of drug information resources. Students will be assessed through patient case quizzes and exams. This is a completely online course with weekly due dates. Course information is sent to the University of Minnesota email addresses of registered students shortly before and/or on the first day of classes each fall and spring term. For more information, contact phar3800@umn.edu or 612-624-7976. Prereq: Anatomy and physiology

PHAR 4204W. Drugs and the U.S. Healthcare System. (CIV,WI; 3 cr. ; Student Option; Every Fall & Spring)

Being an empowered patient is important when discussing ethics-driven issues within the U.S. healthcare system. This course will expose students to current controversial issues surrounding medications and national healthcare and help students examine their own role as a participant in this system. Students will learn to draw comparisons between medication use systems around the world and analyze other controversies related to access, choice, and quality of healthcare. During this course, students will explore how their choices, ethics, and behavior affect societal decisions surrounding the availability of medications in the U.S. and what their rights are as a citizen-participant during the healthcare debate. Students are expected to have completed the first-year writing requirement (<https://cla.umn.edu/writing-studies/first-year-writing>), or equivalent, prior to registering for this class. This is a completely online course with weekly due dates and is offered each Fall and Spring term. For more information, contact phar4204@umn.edu or 612-624-7976.

PHAR 4248. Drugs of Abuse. (; 2 cr. ; S-N only; Every Spring)

Medicinal chemistry/pharmacology/toxicology of substances of abuse. Synthesis/natural product extraction of illicit drugs. Dangers of

clandestine lab practices. Sociological aspects of abuse.

PHAR 4293. Directed Research I for Undergraduates. (1-5 cr. ; Student Option; Every Fall, Spring & Summer)

Work with College of Pharmacy faculty. prereq: undergrad, instr consent

PHAR 4294. Directed Study I for Undergraduates. (; 1-5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer) Individualized study. Students work with faculty on special projects. prereq: Undergrad, instr consent

PHAR 5201. Applied Medical Terminology. (; 2 cr. ; Student Option; Every Fall, Spring & Summer)

Interested in learning the difference between an antigen and an antibiotic? During this course, you will not only increase your medical vocabulary by more than 2500 words at your own pace, you will also learn to identify and articulately describe a wide variety of medical conditions and processes. Communication related to disease states, procedures, and diagnostics in health care can sometimes seem like another language. This course will help you recognize medical abbreviations, relate terms to procedures and diagnostics, and comprehend the meaning of medical terminology by using word elements. If you are interested in the health care field or would like to understand more about your own medical care, this course is a great place to start. prereq: Basic knowledge of human anatomy/physiology

PHAR 5204. Drugs and the US Healthcare System. (; 3 cr. ; Student Option; Every Fall & Spring)

Being an empowered patient is important when discussing ethics-driven issues within the U.S. healthcare system. This course will expose students to current controversial issues surrounding medications and national healthcare and help students examine their own role as a participant in this system. Students will learn to draw comparisons between medication use systems around the world and analyze other controversies related to access, choice, and quality of healthcare. During this course, students will explore how their choices, ethics, and behavior affect societal decisions surrounding the availability of medications in the U.S. and what their rights are as a citizen-participant during the healthcare debate. Students are expected to have completed the first-year writing requirement (<https://cla.umn.edu/writing-studies/first-year-writing>), or equivalent, prior to registering for this class. This is a completely online course with weekly due dates and is offered each Fall and Spring term. For more information, contact phar4204@umn.edu or 612-624-7976.

PHAR 5205. Obesity: Issues, Interventions, Innovations. (; 2 cr. ; Student Option; Every Spring)

This course will focus on the role of the pharmacist in treating obesity. Students will learn the pharmacology of past and current

medications to treat obesity, as well as the pathophysiology of the disease to understand why more options aren't available. Students will explore drug information sources for dietary supplements for weight loss, discuss the care of an obese patient including non-pharmacologic treatments for obesity, as well as recognizing the potential for bias and its effect on patient care. Finally, students will look at bariatric surgery and discuss some specific adjustments in care for bariatric patients. This is a completely online course with weekly due dates offered each Fall and Spring term. For more information, contact phar5205@umn.edu or 612-624-7976. Prereq: Second or third year pharmacy student, or student enrolled in a graduate science or health-related program. Biochemistry and physiology suggested.

PHAR 5212. Survey of Pediatric Metabolic, Genetic, and Oncologic Disease. (; 2 cr. ; A-F only; Every Fall & Summer)

Appraisal of major genetic/metabolic disorders and oncologic diseases of childhood. Disease state epidemiology, pharmacotherapy, monitoring, practical applications. prereq: Second year or higher in College of Pharmacy or instr consent

PHAR 5230. Principles of Clinical Pharmacology Research. (2 cr. ; A-F only; Every Fall)

Drug therapy investigation. Topics include experimental design of drug studies in human research subject volunteers. Topics related to individualization of therapy including effects of genetic polymorphisms, demographic variables, physiologic variables, age on drug disposition treatment outcomes. prereq: 3rd Year Pharmacy Student or instr consent

PHAR 5270. Therapeutics of Herbal and Other Natural Medicinals. (; 2 cr. ; A-F or Audit; Every Spring)

Herbal products/supplements. Pharmacology/clinical indications/drug interactions of common products in nontraditional complementary health care. Historical significance/evidenced-based role of products in health care. Case studies of clinical applications. prereq: organic chemistry, pathophysiology of disease states, 3rd or 4th yr PHAR

PHAR 5310. Topics in Pharmacy Ethics (Pandemics). (; 2 cr. ; A-F only; Every Fall, Spring & Summer)

Using COVID-19 as a pandemic model, students in this elective course will explore the ethical considerations informing personal, public policy, and biomedical research decisions during a pandemic. Students will apply ethical principles and selected schools of ethical thought to discuss and debate those decisions.

PHAR 5700. Applied Fundamentals of Pharmacotherapy. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Pharmacotherapy, the treatment of disease through the administration of medications, is a field particularly interesting to many health care workers. This course is designed to introduce students to some of the main drug classes available for the treatment of particular diseases. Students will also learn about basic

pharmacology, recognize brand and generic drug names, and explore their common uses and therapeutic classes. A basic understanding of treatment options available for common disease states will also be developed during this course. Additionally, the course develops basic proficiency in the use of drug information resources. This is a completely online course with due dates throughout the semester, though students have the option to work ahead if they choose. This course is offered each Fall, Spring, and Summer term. For more information, contact phar3700@umn.edu or 612-624-7976. Prereq: Medical terminology recommended

PHAR 5800. Pharmacotherapy for the Health Professions. (; 3 cr. ; A-F only; Every Fall) Pharmacotherapy, the treatment of disease through the administration of medications, is a topic central to the practice of nursing. This course is designed to introduce you to the main drug classes available for the treatment of particular diseases and the monitoring parameters for patients taking these medications. You will also learn about basic pharmacology, recognize brand and generic drug names, and explore their common uses and therapeutic classes. A basic understanding of contraindications and precautions related to various classes of medications will also be covered. Additionally, the course develops basic proficiency in the use of drug information resources. This is a completely online course with weekly due dates offered each Fall term. For more information, contact phar5800@umn.edu or 612-624-7976. Prereq: Anatomy and physiology

Pharmacy Summer Research (PHRM)

PHRM 4999. Pharmacy Summer Research. (; 0 cr. ; No Grade Associated; Every Summer) Pharmacy Summer Research

Philosophy (PHIL)

PHIL 1001. Introduction to Logic. (MATH; 4 cr. ; Student Option; Every Fall, Spring & Summer) Sharpen your reasoning skills through a close examination of arguments. Learn formal methods for representing and assessing arguments, including how to represent informal arguments in formal languages, and how to evaluate whether the premises of an argument entail its conclusion.

PHIL 1001H. Honors Course: Introduction to Logic. (MATH; 4 cr. ; A-F only; Periodic Fall & Spring) Sharpen your reasoning skills through a close examination of arguments. Learn formal methods for representing and assessing arguments, including how to represent informal arguments in formal languages, and how to evaluate whether the premises of an argument entail its conclusion.

PHIL 1002W. Introduction to Philosophy. (AH,WI; 4 cr. ; Student Option; Every Fall & Spring)

Problems, methods, historical/contemporary schools of philosophy.

PHIL 1003W. Introduction to Ethics. (CIV,WI; 4 cr. ; Student Option; Every Fall & Spring)

Are values/principles relative to our culture? Is pleasure valuable? Are there any absolute rules? These questions and others are addressed through critical study of moral theories.

PHIL 1004W. Introduction to Political Philosophy. (AH,WI,CIV; 4 cr. ; Student Option; Every Fall & Spring)

Government -- what are its purpose; the limits on its authority; its responsibilities to citizens (and vice versa)? What roles do freedom, equality, rights, property, punishment and justice play here? Join in as we discuss and debate competing views.

PHIL 1005. Scientific Reasoning. (; 4 cr. ; Student Option; Every Fall) How does science work? What is scientific method? How to evaluate scientific information in popular media or specialized publications, especially when it relates to technology used in everyday life? General reasoning skills. prereq: [1st or 2nd] yr student or instr consent

PHIL 1006W. Philosophy and Cultural Diversity. (AH,WI,DSJ; 4 cr. ; Student Option; Every Fall & Spring)

Central problems/methods of philosophy through culturally diverse texts. Focus is critical/comparative, reflecting range of U.S. philosophical traditions.

PHIL 1007. Introduction to Political Philosophy Practicum. (; 1 cr. ; Student Option; Every Fall & Spring)

Students do at least two hours a week of community service and connect their service activities in writing to issues discussed in 1004. prereq: concurrent registration is required (or allowed) in 1004W

PHIL 1026W. Philosophy and Cultural Diversity. (AH,WI,DSJ; 3 cr. ; Student Option; Every Summer)

Central problems/methods of philosophy through culturally diverse texts. Focus is critical/comparative, reflecting a range of U.S. philosophical traditions.

PHIL 1201. Critical Reasoning. (AH; 4 cr. ; Student Option; Every Spring)

In this course, much of our focus will be on what makes reasoning good or bad. We will learn to suss out bad argumentation, and pinpoint the precise mistake in reasoning that is at fault in particular cases. Patterns will emerge, which will help us learn how to better argue for beliefs that we hold, and claims we take to be true. We will especially focus on developing these skills in various, real-world contexts, so that they can be transferable to your future life, career, and decision-making. To that end, special attention will be paid to the kinds of traps we can fall into when we encounter argumentation via social media.

PHIL 1760. Selected Topics in Philosophy. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Philosophical topics of contemporary interest. Topics specified in Class Schedule.

PHIL 1918. Comics as Art. (; 3 cr. ; A-F only; Periodic Fall)

In this seminar, we will explore the idea that comics are as legitimate an art form as painting or poetry. We will ask: How do comics differ from other artistic media? How does reading a comic differ from reading poetry or novels? How have comics influenced, and been influenced by, culture and politics? And what, exactly, makes a comic a comic (and not something else)?

PHIL 1919. Africana Philosophy. (; 3 cr. ; A-F only; Periodic Fall & Spring)

In this course, we will engage concepts related to Blackness, particularly race, gender, and sexuality. We will investigate them individually then through conversation untangle the ways that they intersect. We will see that Black philosophers reveal an epistemic insight from the ways that they push on the western status quo both rationally and morally. In terms of rationality, Black philosophers propel us to redefine Blackness, sexuality, imperialism, communal care, and whiteness in general. In relation to morality, Black philosophers place us in a tension between the inner and the outer, the individual and the community, the personal and the social; it insists on seriously inquiring into the blame, blameworthiness, and shame that avoids and rejects Black lives, i.e., of the outer, the community, and figure without being on the edges of society. It is at this intersection of the rational and moral in relation to Blacks that a breakdown of singularity creates a new something. I want us to get close to understanding that ?new something? by exploring the rational and moral in Black thought.

PHIL 3001W. General History of Western Philosophy: Ancient Period. (AH,WI; 4 cr. ; Student Option; Every Fall)

Major developments in ancient Greek philosophic thought: pre-Socrates, Socrates, Plato, Aristotle, Hellenistic thinkers.

PHIL 3005W. General History of Western Philosophy: Modern Period. (AH,WI; 4 cr. ; Student Option; Every Spring)

Can anything be known beyond a shadow of a doubt? How ought scientific knowledge be discovered and justified? In what does one's identity as a person consist? How does our human nature affect the way that we conceive of and come to know the world? This course examines the momentous intellectual transformations in Europe during the 17th and 18th centuries that inspired such questions and their innovative solutions.

PHIL 3100. Value Theory Practicum. (; 1 cr. [max 3 cr.] ; Student Option; Every Fall & Spring)

Combines issues in ethics/political philosophy courses to needs of people in Twin Cities through community service. At least 26 hours of community service for semester is required. prereq: [concurrent registration is required (or allowed) in 3301 or concurrent registration is required (or allowed) in 3302W or concurrent

registration is required (or allowed) in 3304 or concurrent registration is required (or allowed) in 3307 or concurrent registration is required (or allowed) in 3308], instr consent

PHIL 3201. Free Will and Responsibility. (; 3 cr. ; Student Option; Periodic Fall & Spring) What distinguishes actions from mere happenings? How do we accommodate our conception of ourselves as agents in a world governed by causal laws? Does free action require alternate possibilities? Is free will required to hold people accountable for actions? Conditions of moral responsibility.

PHIL 3231. Philosophy and Language. (; 4 cr. ; Student Option; Every Fall & Spring) Philosophical issues concerning the nature and use of human language.

PHIL 3234. Knowledge and Society. (; 4 cr. ; Student Option; Periodic Fall) Critical discussion of concepts such as knowledge, objectivity, justification, rationality, evidence, authority, expertise, and trust in relation to the norms and privileges of gender, race, class, and other social categories.

PHIL 3301. Environmental Ethics. (ENV; 4 cr. ; Student Option; Spring Odd Year) Philosophical basis for membership in moral community. Theories applied to specific problems (e.g., vegetarianism, wilderness preservation). Students defend their own reasoned views about moral relations between humans, animals, and nature.

PHIL 3302W. Moral Problems of Contemporary Society. (CIV,WI; 4 cr. ; Student Option; Every Fall, Spring & Summer) How do we determine what is right and wrong? How should we live our lives? What do we owe others? Moral/ethical thought applied to problems and public disputes (e.g., capital punishment, abortion, affirmative action, animal rights, same-sex marriage, environmental protection).

PHIL 3303W. Business Ethics. (WI; 4 cr. ; Student Option; Periodic Fall & Spring) The course offers a comprehensive overview of ethical questions that arise in the context of doing business, including questions regarding what duties companies have to consumers and the general public, and what the moral obligations businesses have to employees and shareholders.

PHIL 3304. Law and Morality. (; 3 cr. ; Student Option; Periodic Fall & Spring) What is law? Must true laws be just? When (if ever) are civil disobedience or legal punishment morally justified? Do good laws incorporate (or legislate) morality? Consider and debate these issues using philosophical texts, case law, and the occasional novel.

PHIL 3305. Medical Ethics. (; 4 cr. ; Student Option; Every Spring) Moral problems confronting physicians, patients, and others concerned with medical treatment, research, and public health policy. Topics include abortion, living wills, euthanasia, genetic engineering, informed consent, proxy decision-making, and allocation of medical resources.

PHIL 3311W. Introduction to Ethical Theory. (WI; 4 cr. ; Student Option; Every Fall & Spring) Nature and justification of moral judgments and moral principles; analysis of representative moral views.

PHIL 3322W. Moral Problems of Contemporary Society. (CIV,WI; 3 cr. ; Student Option; Every Summer) How do we determine what is right and wrong? How should we live our lives? What do we owe others? Moral/ethical thought applied to problems and public disputes (e.g., capital punishment, abortion, affirmative action, animal rights, same-sex marriage, environmental protection).

PHIL 3601W. Scientific Thought. (WI; 4 cr. ; Student Option; Every Fall & Spring) Science influences us daily, shaping how we understand ourselves and interpret nature. This course is an introduction to how scientists reason about the world, what that means for our lives, and the status of science as a human activity. What is science and what's so great about it? Is science the ultimate authority on the world and our place in it? This course examines the authority of science, how scientists reason, and science's status as a human activity. prereq: One course in philosophy or natural science

PHIL 3605. Disease, Diagnosis, and Intervention: Conceptual Issues in Medicine. (3 cr. ; Student Option; Periodic Fall & Spring)

Contemporary medicine dominates our daily concerns and societal conversation. From insurance coverage to the consumer advertising of pharmaceuticals, the variety of issues and their visibility is patently obvious. However, conceptual issues in medicine, such as what counts as health and disease or what do we mean by "evidence-based" or "precision" medicine, are arguably just as important--if not prior to--many of these other issues. For example, if doctors do not consider something an "official" disease or condition, it is unlikely your insurance company will pay to treat it. Additional conceptual questions include: what role do theories play in medicine? Can scientific experiments be replicated in clinical medicine? Should all medicine be based on evidence? How do we know what causes health or disease? What do advances in neuroscience reveal about the relationship between mind and body, especially with respect to mental health and illness? What properties do physicians measure and why? How does probability and chance enter into medical practice (e.g., diagnosis, therapy, and rehabilitation)? This course is an introduction to these and other related issues in medicine with an emphasis on their diversity and heterogeneity. It is designed for undergraduates across a variety of majors with an interest in these conceptual questions, including but not limited to Animal Science; Anthropology; Biochemistry; Biology, Society and Environment; Chemistry; Ecology, Evolution and Behavior; Genetics, Cell Biology and Development; Microbiology; Neuroscience; Physiology; Psychology). No prior knowledge

of medicine or philosophy is required; I do not assume that you have any previous exposure to the material we will be covering. Most of the assignments for this course are writing oriented. The goal is to identify, characterize, and critically reflect on the issues raised in our discussions and do this in the medium of writing. At the end of the class you will possess new analytical skills and recognize the value of philosophical investigation into the medical concepts and practices, including its application to your everyday life. Additionally, it is directly relevant to the Critical Analysis and Reasoning Skills portion of the MCAT.

PHIL 3607. Philosophy of Psychology. (; 4 cr. ; Student Option; Periodic Fall & Spring) What are minds and mental states (like desires and beliefs)? How are these different from brains and brain states? Should scientific explanation abandon any appeal to the mental (like behaviorism) or can we offer a scientific account of mind? prereq: One course in philosophy or psychology

PHIL 3993. Directed Studies. (1-3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) Guided individual reading or study. Prereq instr consent, dept consent, college consent.

PHIL 4009. Existentialism. (; 3 cr. ; Student Option; Periodic Fall & Spring) Existentialism as a French philosophical and artistic movement of the mid-twentieth century, is commonly associated with Jean-Paul Sartre, Albert Camus, or Simone de Beauvoir. Only in retrospect did it become transnational, dating back to at least the 19th century--Soren Kierkegaard and Friedrich Nietzsche--and comprising figures like Martin Heidegger, Hannah Arendt, Ayn Rand, Silvia Plath, or Franz Fanon. This list already makes it a hard to define a creed or an ethical or political commitment that these writers have in common. What then will allow us to call them existentialist? To begin with, it is perhaps the focus on individual experience, on the experience of finitude, a heightened awareness of the individual's embeddedness in a here and now and a quest for the possibility of an unalienated life. Such concerns cannot easily be expressed through a systematic philosophy, a set of definitions and principles that can be passed on. Instead literary writing became a form of philosophical inquiry. Further, how these concerns could lend themselves to the most revolutionary as well as the most conservative, even Fascist politics, will be one of the puzzles we will seek to answer in this course. We will engage with a number of canonical existentialist texts and trace what defines Existentialism as a key mode of modern philosophizing.

PHIL 4010. Ancient Philosophers. (; 3 cr. [max 6 cr.] ; Student Option; Periodic Spring) Major work of selected ancient philosophers (e.g., Plato's Parmenides, Plato's Sophist, Aristotle's Metaphysics). Works discussed may vary from offering to offering. prereq: 3001 or instr consent

PHIL 4040. Rationalists. (3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring)

Major work of selected early modern rationalists (e.g., Descartes' Principles of Philosophy, Spinoza's Ethics, Conway's Principles of the Most Ancient and Modern Philosophy, Leibniz's Discourse on Metaphysics). Works discussed may vary from offering to offering.

PHIL 4055. Kant. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Immanuel Kant has long been recognized as a particularly systematic thinker, one who wrote foundational texts in epistemology, metaphysics, ethics, politics, aesthetics, religion, teleology, and anthropology, which still resonate and influence contemporary thought. This course studies the wide breadth of Kant's philosophical system, paying especial attention to its relevance today. prereq: 3005 or 4004 or instr consent

PHIL 4085. Wittgenstein. (3 cr. ; Student Option; Periodic Fall & Spring)

In "Philosophical Investigations" Wittgenstein challenged some of the most long-standing and entrenched intuitions of philosophers -- basic intuitions about mind, rationality, linguistic understanding, and the very nature of philosophical/conceptual inquiry. Many of these intuitions remain entrenched and Wittgenstein's challenge is as relevant today as it was in 1950. In Phil 4805 we examine the text and the secondary literature, and do so in the light of issues and debates that continue to demand attention.

PHIL 4100. Value Theory Practicum. (; 1 cr. [max 3 cr.] ; Student Option; Every Fall & Spring)

Issues studied in ethics/political philosophy courses applied to needs of people in Twin Cities through community service. At least 26 hours of community service for semester is required. prereq: [concurrent registration is required (or allowed) in 4320 or concurrent registration is required (or allowed) in 4321 or or concurrent registration is required (or allowed) in 4330 or concurrent registration is required (or allowed) in 4324 or concurrent registration is required (or allowed) in 4414], instr consent

PHIL 4101. Metaphysics. (; 3 cr. ; Student Option; Fall Even Year)

Broadly speaking, metaphysics is the study of the nature of reality. Metaphysical questions include questions about what kinds of things exist, what is the nature of things, what are persons, what is possible or impossible, what is the nature of time, what is causality, and many other fundamental questions about the world. The aim of this course is to introduce students to some of the central questions of metaphysics to investigate some of their answers. prereq: One course in history of philosophy or instr consent

PHIL 4105W. Epistemology. (WI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Epistemology is the study of knowledge. Epistemological questions include questions about the nature of knowledge, the difference between knowledge and true belief, the nature of justification, and the structure of our

knowledge about the world. Epistemology is also centrally concerned with understanding and responding to arguments for skepticism, the view that we do not know anything about the world around us. The aim of this course is to introduce students to some of the main problems of epistemology and to investigate some of their solutions. prereq: 1001 or instr consent

PHIL 4231. Philosophy of Language. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Theories of reference, linguistic truth, relation of language/thought, translation/synonymy. prereq: 1001 or 5201 or instr consent

PHIL 4311W. History of Moral Theories. (WI; 3 cr. ; Student Option; Periodic Fall)

Is human nature fundamentally selfish or are we sympathetic creatures? What is free will and do we have it? Do moral principles have a rational basis or are our moral judgments expressions of feelings? Should morality be thought of in terms of acting on principle or producing good outcomes? We will focus on these and other questions as they are explored in primary texts from the early modern history of western philosophy. prereq: 1003 or instr consent

PHIL 4320. Intensive Study of a Historical Moral Theory. (; 3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring)

Intensive consideration of an author or theory in the history of moral or political philosophy. prereq: 1003 or instr consent

PHIL 4321W. Theories of Justice. (WI; 3 cr. ; Student Option; Periodic Fall & Spring)

What is justice, understood as a central virtue of our social (e.g., political and legal) institutions? What does justice require in the political realm and what kind of state is best suited to achieve it? Ideally, what image of the just state should regulate our behavior? How do the requirements of justice change, if they do, in non-ideal circumstances, such as in cases of noncompliance with the law or in the context of violent conflict (e.g., in war)? This course is intended to provide upper-level undergraduates and philosophy graduate students with a selective survey of important work in contemporary theory of justice that addresses such questions. prereq: 1003 or 1004 or instr consent

PHIL 4326. Lives Worth Living: Questions of Self, Vocation, and Community. (AH,CIV; 4 cr. [max 8 cr.] ; Student Option; Every Summer)

Immersion experience. Students live together as a residential community of learners. Works of philosophy, history, and literature form backdrop for exploring such questions as "How is identity constructed?," "What is vocation?," and "What experiences of community are desirable in a life?" Each student creates a life-hypothesis for a life worth living. prereq: instr consent

PHIL 4331. Contemporary Moral Theories. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Is morality objective, just a matter of feeling, or something in between? How do we know even the most basic of moral truths? Do I

always have a reason to do what is moral? What motivates people to be moral and why do some people behave immorally? This class looks at these and related questions in metaethics, moral psychology, and other areas of contemporary moral theory. prereq: 1003 or instr consent

PHIL 4350. Catching Lives Worth Living: Participation in the Growth of a Living-Learning Community. (; 2 cr. [max 4 cr.] ; Student Option; Every Summer)

Involvement in a democratic living-learning community built by students/instructors. Students participate in community activities and daily instructor meetings. Four seven-day offerings each summer. prereq: Application, instr consent

PHIL 4414. Political Philosophy. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Survey of historical/contemporary works in political philosophy. prereq: 1004 or instr consent

PHIL 4510. Philosophy of the Individual Arts. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Aesthetic problems that arise in studying or practicing an art. prereq: 3502

PHIL 4605. Space and Time. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Philosophical problems concerning nature/structure of space, time, and space-time. prereq: Courses in [philosophy or physics] or instr consent

PHIL 4607. Philosophy of the Biological Sciences. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Biology dominates the landscape of contemporary scientific research, and yet "biology" consists of a variety of different disciplinary approaches: from protein biochemistry to field ecology, from developmental biology to evolutionary genetics. Many philosophical issues can be found in the concepts and practices of life science researchers from these different disciplines. What is the structure of evolutionary theory? What is a gene? What are the units of selection? What is an individual? What counts as a "cause"? What is the relationship between evolution and development? Are all biological phenomena reducible to genes or molecules? What are adaptations, and how do we identify them? What is an ecological niche? Is there a progressive trend in the history of life? Is there such a thing as 'human nature'? This course is an introduction to these and other related issues in the biological sciences with an emphasis on their diversity and heterogeneity. It is designed for advanced undergraduates with an interest in conceptual questions and debates in biology that are manifested across a variety of majors (e.g., animal science; anthropology; biochemistry; biology, society and environment; biosystems and agricultural engineering; chemistry; ecology, evolution and behavior; genetics, cell biology and development; microbiology; neuroscience; physiology; plant biology; psychology). Some of these issues will appear familiar from previous

coursework or opportunities, whereas new issues will be intriguing because of their similarities and differences with those that have been encountered in other contexts.

PHIL 4615. Minds, Bodies, and Machines. (; 3 cr. ; Student Option; Periodic Fall & Spring) Mind-body problem. Philosophical relevance of cybernetics, artificial intelligence, computer simulation. Mental phenomena present the philosopher with a number of deep but inescapable puzzles and challenges. We tend to suppose that we know what it is to have a mind, to have beliefs, desires, etc., and we think that we know how to explain our own behavior and that of others -- and all of this without any formal training in the relevant science. All of this is surely amazing; indeed it verges on the outrageous. We admit to not knowing the makeup of the simplest structures, to not knowing how to explain the behavior of the simplest organisms -- we, OF COURSE, leave such issues to scientific investigation. Yet, at the same time, we think we know how to explain the behavior of this most complex of systems; we know how to do it, and we know what we are talking about when we explain behavior by citing the relevant beliefs, desires, etc. And, to repeat, we know all of this with no formal training. Strange indeed. Not only is this initial confidence puzzling, but attempts to articulate the mental story and to integrate it into the larger scientific picture have all proven problematical. We start our investigation with a very brief glance at a mid-century proposal that initiated a very different way of thinking about mind: the proposal by Turing -- one of the great minds of the 20th Century--that machines of a certain kind could exhibit intelligence. A story told in part in the recent movie, *The Imitation Game*. We then turn to some more traditional approaches to mind: Cartesianism, Behaviorism and Materialism. prereq: one course in philosophy or instr consent

PHIL 4622. Philosophy and Feminist Theory. (; 3 cr. ; Student Option; Periodic Fall) Encounters between philosophy/feminism. Gender's influence in traditional philosophical problems/methods. Social role of theorist/theorizing as they relate to politics of feminism. This course surveys central debates in feminist philosophy, with a focus on the methods and virtues of resistance. Along the way, we will consider the question of how we should live in an oppressive society. Topics may include intimidation, gaslighting, silencing, epistemic injustice, emotional labor, intersectionality, resistance, anger and violence. prereq: 8 crs in [philosophy or women's studies] or instr consent

PHIL 4760. Selected Topics in Philosophy. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring) Philosophical problems of contemporary interest. Topics specified in Class Schedule. prereq: 3 [3xxx-5xxx] cr in philosophy or instr consent

PHIL 4888. Philosophy Senior Capstone. (4 cr. ; A-F only; Every Spring) The Philosophy capstone course culminates students' work in the major. It offers the

opportunity to engage and combine skills in analysis, critical thought and clear and cogent expression developed throughout the course of undergraduate work in philosophy. Students will identify a provisional paper or paper topic prior to enrolling in the capstone course and will spend the semester writing, expanding, and revising this paper under the supervision of the faculty teaching the capstone. The capstone course will incorporate career readiness elements, and overall will strive to provide students with a culminating shared experience as Philosophy majors.

PHIL 4888H. Honors Philosophy Senior Capstone. (; 4 cr. ; A-F only; Every Spring) The Philosophy capstone course culminates students' work in the major. It offers the opportunity to engage and combine skills in analysis, critical thought, and clear and cogent expression developed throughout the course of undergraduate work in philosophy. Students will identify a provisional paper or paper topic prior to enrolling in the capstone course and will spend the semester writing, expanding, and revising this paper under the supervision of the faculty teaching the capstone. The capstone course will incorporate career readiness elements, and overall will strive to provide students with a culminating shared experience as Philosophy majors.

PHIL 4893. Capstone: Directed Studies. (; 1 cr. ; A-F only; Periodic Fall & Summer) Guided individual study leading to research paper that satisfies senior capstone requirement. Students enrolling in this directed study/research course will complete the Philosophy Senior Capstone: Directed Study contract form with a faculty mentor. The faculty member will ensure academic standards are upheld, including: - the work proposed is at the appropriate level for the course, academic in nature, and the student will be involved intellectually in the project. - the project scope is reasonable (42 hours of work per credit) - the faculty mentor is qualified to serve in this role - assessment of student learning and grading criteria are clear and appropriate - the student will be working in a respectful, inclusive environment. The contract will include the learning objectives for the course, the methods that will be employed, and how assessment will be conducted by the faculty mentor. The contract must be approved by the department academic approver before the student can register. prereq: instr consent, dept consent

PHIL 4993. Directed Studies. (1-3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) Guided individual reading or study. Prereq instr consent, dept consent, college consent.

PHIL 5009. Existentialism. (3 cr. ; Student Option; Periodic Fall & Spring) Existentialism as a French philosophical and artistic movement of the mid-twentieth century, is commonly associated with Jean-Paul Sartre, Albert Camus, or Simone de Beauvoir. Only in retrospect did it become transnational, dating back to at least the 19th century--Søren Kierkegaard and Friedrich Nietzsche--and comprising figures like Martin

Heidegger, Hannah Arendt, Ayn Rand, Silvia Plath, or Franz Fanon. This list already makes it a hard to define a creed or an ethical or political commitment that these writers have in common. What then will allow us to call them existentialist? To begin with, it is perhaps the focus on individual experience, on the experience of finitude, a heightened awareness of the individual's embeddedness in a here and now, and a quest for the possibility of an unalienated life. Such concerns cannot easily be expressed through a systematic philosophy, a set of definitions and principles that can be passed on. Instead literary writing became a form of philosophical inquiry. Further, how these concerns could lend themselves to the most revolutionary as well as the most conservative, even Fascist politics, will be one of the puzzles we will seek to answer in this course. We will engage with a number of canonical existentialist texts and trace what defines Existentialism as a key mode of modern philosophizing.

PHIL 5010. Ancient Philosophers. (; 3 cr. [max 6 cr.] ; Student Option; Periodic Spring) Major work of selected ancient philosophers (e.g., Plato's *Parmenides*, Plato's *Sophist*, Aristotle's *Metaphysics*). Works discussed vary. prereq: 3001 or instr consent

PHIL 5040. Rationalists. (3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring) Major work of selected early modern rationalists (e.g., Descartes' *Principles of Philosophy*, Spinoza's *Ethics*, Conway's *Principles of the Most Ancient and Modern Philosophy*, Leibniz's *Discourse on Metaphysics*). Works discussed may vary from offering to offering.

PHIL 5055. Kant. (3 cr. ; Student Option; Periodic Fall & Spring) Immanuel Kant has long been recognized as a particularly systematic thinker, one who wrote foundational texts in epistemology, metaphysics, ethics, politics, aesthetics, religion, teleology, and anthropology, which still resonate and influence contemporary thought. This course studies the wide breadth of Kant's philosophical system, paying especial attention to its relevance today. prereq: 3005 or 4004 or instr consent

PHIL 5085. Wittgenstein. (3 cr. ; Student Option; Periodic Fall & Spring) In "Philosophical Investigations" Wittgenstein challenged some of the most long-standing and entrenched intuitions of philosophers -- basic intuitions about mind, rationality, linguistic understanding, and the very nature of philosophical/conceptual inquiry. Many of these intuitions remain entrenched, and Wittgenstein's challenge is as relevant today as it was in 1950. In Phil 4805 we examine the text and the secondary literature, and do so in the light of issues and debates that continue to demand attention.

PHIL 5101. Metaphysics. (3 cr. ; Student Option; Fall Even Year) Broadly speaking, metaphysics is the study of the nature of reality. Metaphysical questions include questions about what kinds of things

exist, what is the nature of things, what are persons, what is possible or impossible, what is the nature of time, what is causality, and many other fundamental questions about the world. The aim of this course is to introduce students to some of the central questions of metaphysics to investigate some of their answers. prereq: One course in history of philosophy or instr consent

PHIL 5105. Epistemology. (3 cr. ; A-F or Audit; Periodic Fall & Spring)
Epistemology is the study of knowledge. Epistemological questions include questions about the nature of knowledge, the difference between knowledge and true belief, the nature of justification, and the structure of our knowledge about the world. Epistemology is also centrally concerned with understanding and responding to arguments for skepticism, the view that we do not know anything about the world around us. The aim of this course is to introduce students to the some of the main problems of epistemology and to investigate some of their solutions. prereq: 1001 or instr consent

PHIL 5201. Symbolic Logic I. (; 4 cr. ; Student Option; Every Fall & Spring)
Study of syntax and semantics of sentential and first-order logic. Symbolization of natural-language sentences and arguments. Development of deductive systems for first-order logic. Metatheoretic proofs and methods, including proof by mathematical induction and proof of consistency and completeness. prereq: 1001 or instr consent

PHIL 5202. Symbolic Logic II. (; 4 cr. ; Student Option; Every Spring)
Elements of set theory, including the concepts of enumerability and nonenumerability. Turing machines and recursive functions; the results of Church, Godel, and Tarski and the philosophical significance of those results. prereq: 5201 or instr consent

PHIL 5209. Mathematical Methods for Philosophy. (4 cr. ; Student Option; Fall Odd Year)
Introduction to some of the mathematical methods used throughout philosophy, such as sets, graphs, automata, probability and decision theory, statistics, and computer simulation, both explicitly and through example applications. prereq: prior course in mathematics, logic, or mathematics-related discipline or or instr consent

PHIL 5211. Modal Logic. (; 4 cr. ; Student Option; Spring Odd Year)
Axiomatic and semantic treatment of propositional and predicate modal logics; problems of interpreting modal languages. prereq: 5201 or instr consent

PHIL 5221. Philosophy of Logic. (; 3 cr. ; Student Option; Periodic Fall)
In this course, we will look at some of the central topics in philosophical logic, concentrating on issues that motivate the introduction of various non-classical logics as alternatives to the standard classical account of logical consequence. Topics covered include

(but are not limited to) the Liar paradox, vagueness, the paradoxes of relevance, and intuitionism. prereq: 5202 or instr consent

PHIL 5222. Philosophy of Mathematics. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Major philosophical questions arising in connection with mathematics. What is mathematics about? How do we know the mathematics we do? What is the relation between mathematics and the natural sciences? Selected readings of leading contributors such as Frege, Dedekind, Russell, Hilbert, Brouwer, Godel, Quine. prereq: College level logic or mathematics course or instr consent

PHIL 5231. Philosophy of Language. (3 cr. ; Student Option; Periodic Fall & Spring)
Theories of reference, linguistic truth, relation of language/thought, translation/synonymy. prereq: 1001 or 5201 or instr consent

PHIL 5311. History of Moral Theories. (3 cr. ; Student Option; Periodic Spring)
Is human nature fundamentally selfish or are we sympathetic creatures? What is free will and do we have it? Do moral principles have a rational basis or are our moral judgments expressions of feelings? Should morality be thought of in terms of acting on principle or producing good outcomes? We will focus on these and other questions as they are explored in primary texts from the early modern history of western philosophy. prereq: 1003W or instr consent or GRAD

PHIL 5320. Intensive Study of a Historical Moral Theory. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Intensive consideration of an author or theory in the history of moral or political philosophy. prereq: 1003 or instr consent

PHIL 5321. Theories of Justice. (3 cr. ; Student Option; Periodic Fall & Spring)
What is justice, understood as a central virtue of our social (e.g., political and legal) institutions? What does justice require in the political realm and what kind of state is best suited to achieve it? Ideally, what image of the just state should regulate our behavior? How do the requirements of justice change, if they do, in non-ideal circumstances, such as in cases of noncompliance with the law or in the context of violent conflict (e.g., in war)? This course is intended to provide upper-level undergraduates and philosophy graduate students with a selective survey of important work in contemporary theory of justice that addresses such questions. prereq: 1003 or 1004 or grad student or instr consent

PHIL 5326. Lives Worth Living: Questions of Self, Vocation, and Community. (4 cr. ; Student Option; Every Summer)
Immersion experience. Students live together as a residential community of learners. Works of philosophy, history, and literature form backdrop for exploring such questions as "How is identity constructed?," "What is vocation?," and "What experiences of community are desirable in a life?" Each student creates a life-hypothesis for a life worth living. prereq: instr consent

PHIL 5331. Contemporary Moral Theories. (3 cr. ; Student Option; Periodic Fall & Spring)
Is morality objective, just a matter of feeling, or something in between? How do we know even the most basic of moral truths? Do I always have a reason to do what is moral? What motivates people to be moral and why do some people behave immorally? This class looks at these and related questions in metaethics, moral psychology, and other areas of contemporary moral theory. prereq: 1003 or instr consent

PHIL 5350. Catching Lives Worth Living: Participation in the Growth of a Living-Learning Community. (; 1-3 cr. [max 6 cr.]; Student Option; Every Summer)
Involvement in a democratic living-learning community built by students/instructors. Students participate in community activities and daily instructor meetings. Four seven-day offerings each summer. prereq: Application, instr consent

PHIL 5414. Political Philosophy. (3 cr. ; Student Option; Periodic Fall & Spring)
Works in political philosophy, whether historical or more contemporary, are one central element of the study of philosophy more broadly. As we will address these works, and the issues and concepts they take up, they fall within the larger field of moral philosophy. Like other works in this broad category, discussion in political philosophy typically consider both metaethical and normative questions. Metaethical questions concern the concepts we use as we consider matters of right and wrong or of ethical value. In the realm of political philosophy, authors consider rightness, wrongness and ethical value as they bear on political societies and political leaders, and not only on citizens but on non-citizens who experience the effects of political power. Examples of such questions include: What is justice? What is political power? What are freedom, equality and autonomy? Normative questions, by contrast, concern matters of practice. In the context of moral and political philosophy, they are typically questions about what we must do or refrain from doing if we are to act rightly (as opposed to prudently or efficiently for instance). Examples in the political realm include: What are just standards of criminal punishment? What obligations does a just state have to citizens and to non-citizen residents? What right, if any, do citizens and others have to protest state laws, policies and actions? What rights can citizens or others claim to equality under the law? What grounds or justifies our responses to such questions? Over the course of this semester, we will read both canonical texts in the history of political philosophy and pieces by a variety of authors who are less well known. Our aim will be to improve our ability to understand broad claims and more nuanced points, to compare and critically assess contrasting views, and to appreciate the ways in which political philosophers often draw or expand on others' works even as they challenge them. We will also be working towards improvements in the difficult task of explaining and supporting claims and analyses, in short written pieces,

longer essays and oral discussions. prereq: 1004 or instr consent

PHIL 5415. Philosophy of Law. (; 3 cr. ; Student Option; Periodic Spring)
Analytical accounts of law and legal obligation. prereq: 1003 or 1004 or 3302 or social science major or instr consent

PHIL 5510. Philosophy of the Individual Arts. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Aesthetic problems that arise in studying or practicing an art. prereq: 3502

PHIL 5601. History of the Philosophy of Science. (; 3 cr. ; Student Option; Periodic Fall & Spring)
History of logical empiricism, from its European origins in first half of 20th century to its emergence as nearly universal account of science in post-war Anglo-American philosophy. prereq: instr consent

PHIL 5602. Scientific Representation and Explanation. (; 3 cr. ; Student Option; Periodic Fall)
Contemporary issues concerning representation and explanation of scientific facts. prereq: instr consent

PHIL 5603. Scientific Inquiry. (3 cr. ; Student Option; Periodic Spring)
Philosophical theories of methods for evaluating scientific hypotheses. Role of experimentation in science. How hypotheses are accepted within scientific community.

PHIL 5605. Space and Time. (; 3 cr. ; Student Option; Periodic Fall)
Philosophical problems concerning nature/structure of space, time, and space-time. prereq: Courses in [philosophy or physics] or instr consent

PHIL 5606. Philosophy of Quantum Mechanics. (; 3 cr. ; Student Option;)
Problems of interpretation in ordinary (nonrelativistic) quantum mechanics. Two-slit experiment, Schrodinger cat paradox (measurement problem), Einstein-Podolsky-Rosen paradox. Leading approaches to interpretation (Copenhagen, hidden variables, universal wave function) and their connections with philosophical issues.

PHIL 5607. Philosophy of the Biological Sciences. (3 cr. ; Student Option; Periodic Fall & Spring)
Biology dominates the landscape of contemporary scientific research, and yet "biology" consists of a variety of different disciplinary approaches: from protein biochemistry to field ecology, from developmental biology to evolutionary genetics. Many philosophical issues can be found in the concepts and practices of life science researchers from these different disciplines. What is the structure of evolutionary theory? What is a gene? What are the units of selection? What is an individual? What counts as a "cause"? What is the relationship between evolution and development? Are all biological phenomena reducible to genes or molecules? What are adaptations, and how do we identify

them? What is an ecological niche? Is there a progressive trend in the history of life? Is there such a thing as 'human nature'? This course is an introduction to these and other related issues in the biological sciences with an emphasis on their diversity and heterogeneity. It is designed for advanced undergraduates with an interest in conceptual questions and debates in biology that are manifested across a variety of majors (e.g., Animal Science; Anthropology; Biochemistry; Biology, Society and Environment; Biosystems and Agricultural Engineering; Chemistry; Ecology, Evolution and Behavior; Genetics, Cell Biology and Development; Microbiology; Neuroscience; Physiology; Plant Biology; Psychology). Some of these issues will appear familiar from previous coursework or opportunities, whereas new issues will be intriguing because of their similarities and differences with those that have been encountered in other contexts. prereq: Courses in [philosophy or biology] or instr consent

PHIL 5615. Mind, Bodies and Machines. (3 cr. ; Student Option; Periodic Fall & Spring)
Mind-body problem. Philosophical relevance of cybernetics, artificial intelligence, computer simulation. Mental phenomena present the philosopher with a number of deep but inescapable puzzles and challenges. We tend to suppose that we know what it is to have a mind, to have beliefs, desires, etc., and we think that we know how to explain our own behavior and that of others -- and all of this without any formal training in the relevant science. All of this is surely amazing; indeed it verges on the outrageous. We admit to not knowing the makeup of the simplest structures, to not knowing how to explain the behavior of the simplest organisms -- we, OF COURSE, leave such issues to scientific investigation. Yet, at the same time, we think we know how to explain the behavior of this most complex of systems; we know how to do it, and we know what we are talking about when we explain behavior by citing the relevant beliefs, desires, etc. And, to repeat, we know all of this with no formal training. Strange indeed. Not only is this initial confidence puzzling, but attempts to articulate the mental story and to integrate it into the larger scientific picture have all proven problematical. We start our investigation with a very brief glance at a mid-century proposal that initiated a very different way of thinking about mind: the proposal by Turing -- one of the great minds of the 20th Century--that machines of a certain kind could exhibit intelligence. A story told in part in the recent movie, *The Imitation Game*. We then turn to some more traditional approaches to mind: Cartesianism, Behaviorism and Materialism. prereq: one course in philosophy or instr consent

PHIL 5622. Philosophy and Feminist Theory. (; 3 cr. ; Student Option; Periodic Fall)
Encounters between philosophy/feminism. Gender's influence in traditional philosophical problems/methods. Social role of theorist/theorizing as they relate to politics of feminism. This course surveys central debates in feminist philosophy, with a focus on the methods and virtues of resistance. Along the way, we will

consider the question of how we should live in an oppressive society. Topics may include intimidation, gaslighting, silencing, epistemic injustice, emotional labor, intersectionality, resistance, anger and violence. prereq: 8 crs in [philosophy or women's studies] or instr consent

PHIL 5760. Selected Topics in Philosophy. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)
Philosophical problems of contemporary interest. Topics specified in Class Schedule. prereq: 3xxx-5xxx course in phil or instr consent

PHIL 5993. Directed Studies. (; 1-3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Guided individual reading or study. prereq: instr consent, dept consent, college consent

Physical Education (PE)

PE 1007. Beginning Swimming. (1 cr. ; Student Option No Audit; Every Fall & Spring)
Introduction to basic aquatic safety, fundamentals of swimming and hydrodynamics. Principles of hydrodynamics and stroke mechanics; five basic strokes; basic rescue techniques with use of pool equipment; hydrotherapy for disabilities and other conditions, opportunities for competitive activities, lifetime enjoyment of aquatics.

PE 1012. Beginning Running. (; 1 cr. ; Student Option No Audit; Every Fall & Spring)
This physically active class will expose students to the joys of running. Course topics and physical activities will explore technique, equipment, safety, etiquette, injury prevention, full-body conditioning, endurance, mobility, strength, and long-term training and goal setting. This course is designed for novices who aspire to run 5K.

PE 1014. Conditioning. (; 1 cr. ; Student Option No Audit; Every Fall & Spring)
Fundamentals of personal fitness. Principles of fitness; health and motor skill components of fitness; principles of training/conditioning programs; nutrition; weight control; common fitness injuries; motivation and consistency in fitness programs; stress management.

PE 1015. Weight Training. (1 cr. ; Student Option No Audit; Every Fall & Spring)
Introduction to weight training. Basic aspects of weight training including exercise selection and technique, charting workouts, program design, nutritional considerations, and safety.

PE 1016. Posture and Individual Exercise. (; 1 cr. ; Student Option No Audit; Every Fall & Spring)
Good posture techniques, individual exercises, fitness concepts, and mental techniques. Specific overall sound body and mind techniques to include flexibility exercises, cardiovascular fitness, resistance training, nutrition management, weight control, stress management, and self-thought.

PE 1029. Handball. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Hand and eye coordination, footwork in practice and game conditions, and skills and strategies of service and rally for the court sport handball (four-wall version). Novice to intermediate levels of play accommodated.

PE 1031. Sabre Fencing. (1 cr. ; Student Option No Audit; Every Fall)

Basic sabre techniques, movement, an overview of fencing as a recreational sport and an Olympic sport, and the history of fencing.

PE 1032. Badminton. (1 cr. ; Student Option No Audit; Periodic Fall & Spring)

Fundamentals including etiquette, terminology, game rules for singles and doubles, footwork, shot selection, and strategy.

PE 1033. Foil Fencing. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Fencing fundamentals, including basic foil techniques, movement, a general overview of fencing as a recreational sport and an Olympic sport, and the history of fencing.

PE 1034. Judo. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Basic skills for throwing, falling, grappling (matwork), choking, arm and neck techniques; contest judo from Jiu-Jitsu; fundamental rules and scoring of contests. Videotapes used for technique instruction and contest appreciation.

PE 1035. Karate. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Introduction to Traditional Japanese Shotokan Karate. Students learn to punch, block, strike, & kick with a focus on proper form, posture, & body mechanics. Students also learn a Kata (choreographed form), techniques with partners, & practical self-defense. Non-contact - no pads, hitting, or throwing.

PE 1036. Racquetball. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Fundamentals of racquetball, including equipment; safety and etiquette; terminology; game rules of singles, doubles, and cutthroat; grips; basic strategies; serves and shots.

PE 1037. Squash Racquets. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Entry-level technique, basic equipment, international dimension courts, and fitness.

PE 1038. Beginning Tennis. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Fundamental strokes, including forehands, backhands, volleys, lobs, overheads, and serves; introduction to doubles play; terminology, rules, and etiquette.

PE 1044. Self-Defense. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Physical, psychological, and de-escalation skills for acting in crisis situations. Distance, body language, and tone of voice are addressed. Physical skills include striking, kicking, shifting, blocking, releasing techniques, floor defenses, and applications to armed attackers and multiple attackers.

PE 1045. Rock Climbing. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Safety, knots, equipment, techniques, and anchor systems used in climbing. Course includes all necessary equipment. prereq:

Good general health, no [neck or back] problems

PE 1046. Tae Kwon Do. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Fundamentals of Tae Kwon Do. Principles of martial arts, body mechanics of Tae Kwon Do, practical self-defense.

PE 1048. Bowling. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Fundamentals, including stance, approach and delivery, scoring, bowling terminology, and etiquette.

PE 1053. Ice Skating. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Basic turns, basic stops, balance techniques, and various other skills from both the forward and backward positions. Equipment, safety issues, ice skating terminology.

PE 1055. Golf. (1 cr. ; Student Option No Audit; Every Fall, Spring & Summer)

Proper grip, stance, ball address, swing, club selection, psychological management, rules, and etiquette. Basic instruction in analyzing, assisting with, and coaching golf.

PE 1057. Beginning Skiing. (1 cr. ; Student Option No Audit; Every Spring)

Alpine skiing. How to stop, turn, and use lifts. Safety, etiquette, and purchase of equipment. Class held at Highland Hills ski area in Bloomington.

PE 1058. Snowboarding. (1 cr. ; Student Option No Audit; Every Spring)

Snowboarding is an exciting winter sport that is engaging and approachable to the true novice, which this course is designed for. This course is a beginning level, physically active course designed for students of all abilities. Students will develop a working knowledge of the etiquette, sportpersonship, rules, safety concerns, safe/healthy techniques, sports culture, and regulations of the international winter sport of Snowboarding. Physical literacy will be developed through in-class activities and drills that support the development of techniques and abilities in relation to the sport that students will be able to utilize in multiple environments that benefit the healthy development of the whole person. The pursuit of this lifelong activity is the ultimate goal, so students will have out-of-the-classroom opportunities to engage in this sport culture. This will expose students to the exciting local, national, and international competitive and basic engagement opportunities for individuals interested in this physical activity. This course is ideal for students interested in learning more about a growing and inclusive physical activity and a unique way to encourage a physically active lifestyle. This course takes place off-campus at an area ski hill so students need to make arrangements for their own transportation. Snowboarding equipment is available to rent at the facility for those who need it. Cold weather gear will be essential as class will take place as long as the ski hill is open.

PE 1065. Beginning Tumbling and Gymnastics. (1 cr. ; Student Option No Audit; Periodic Fall & Spring)

Rolls, handstands, cartwheels, extensions, handsprings, tucks (flips). Spotting techniques. Skills on bars, vault, and beam.

PE 1067. Basketball. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Fundamental skills and rules of basketball, with emphasis on basic court movement and different offensive and defensive strategies.

PE 1071. Beginning Cricket. (1 cr. ; Student Option No Audit; Periodic Fall & Spring)

Fundamentals of Cricket. Laws of Cricket, bowling/batting techniques, competitive/recreational Cricket opportunities.

PE 1072. Soccer. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Fundamentals of soccer including sporting behavior both on and off the field, game rules, soccer terminology, participation and competition drills, fundamental soccer skills, practical instruction in strategy.

PE 1074. Beginning Volleyball. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Basic skills, team play, rules, officiating, and strategy.

PE 1076. Flag Football. (1 cr. ; Student Option No Audit; Periodic Fall & Spring)

Introduction to flag football, techniques, field positions, rules/regulations. Students will participate in vigorous exercise activities including running, throwing, kicking, and catching.

PE 1077. Lacrosse. (1 cr. ; Student Option No Audit; Periodic Fall & Spring)

Introduction to lacrosse, techniques, field positions, rules, regulations. Students participate in vigorous exercise activities including running, throwing, catching, and stick handling.

PE 1137. Intermediate Squash. (1 cr. ; Student Option No Audit; Periodic Fall & Spring)

Stroke mechanics, shot placement, changing pace. Court movement/positioning. Fitness requirements, joint/muscle stresses. Weight training for squash. On-court etiquette. prereq: 1037 or instr consent

PE 1205. Scuba and Skin Diving. (1 cr. ; Student Option No Audit; Every Fall & Spring)

Diving equipment, physics, physiology, decompression, emergencies, recreational dive planning, oceans, currents and aquatic life, snorkeling/SCUBA equipment usage, buoyancy control, entries, emergencies. prereq: Ability to swim 400 yds comfortably or instr consent

PE 1262. Marathon Training. (3 cr. ; Student Option No Audit; Every Spring)

Physical challenge achieved through physiological/psychological adaptation. Goal setting that fosters adaptation in many facets of life. Marathon history. prereq: No pre-existing medical condition that would prevent finishing a marathon, instr consent

PE 1720. Special Activities in Physical Education. (; 1-3 cr. [max 9 cr.] ; Student Option No Audit; Periodic Fall, Spring & Summer)

Activities or related opportunities not normally available through regular course offerings.

Physical Therapy (PT)

PT 1002. Orientation to Physical Therapy. (; 1 cr. ; S-N or Audit; Every Fall & Spring)
Introduction to the profession of physical therapy through lectures, discussions, patient presentations, clinic visit, videotapes, and exposure to treatment equipment.

Physics (PHYS)

PHYS 1001W. Energy and the Environment. (ENV,WI,PHYS; 4 cr. ; Student Option; Every Fall & Spring)
Fundamental principles governing physical world in context of energy/environment. Lab. prereq: 1 yr high school algebra

PHYS 1011. Physical World. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Fundamental laws and principles governing the physical world, discussed in the context in which encountered in modern science and technology. prereq: 1 yr high school algebra

PHYS 1021. Intro Phys. (5 cr. ; S-N only;)

PHYS 1101W. Introductory College Physics I. (PHYS,WI; 4 cr. ; Student Option; Every Fall & Spring)
Fundamental principles of physics in the context of everyday world. Use of kinematics/dynamics principles and quantitative/qualitative problem solving techniques to understand natural phenomena. Lecture, recitation, lab. prereq: High school algebra, plane geometry, trigonometry; primarily for students interested in technical areas

PHYS 1102W. Introductory College Physics II. (PHYS,WI; 4 cr. ; Student Option; Every Spring)
Fundamental principles of physics in context of everyday world. Use of conservation principles and quantitative/qualitative problem solving techniques to understand natural phenomena. Lecture, recitation, lab. prereq: 1101W or 1107

PHYS 1107. Introductory Physics Online I. (PHYS; 4 cr. ; Student Option; Every Fall)
Principles of physics in context of everyday world. Use of kinematics/dynamics principles together with quantitative/qualitative problem solving techniques to understand natural phenomena. prereq: High school algebra, plane geometry, trigonometry

PHYS 1108. Introductory Physics Online II. (PHYS; 4 cr. ; Student Option; Every Spring)
Fundamental principles of physics in context of everyday world. Use of conservation principles and quantitative/qualitative problem solving techniques to understand natural phenomena. prereq: 1107; primarily for students interested in technical areas

PHYS 1181. Introductory College Physics I. (3 cr. ; S-N only; Every Fall & Spring)
Intended only to be used to recognize proficiency in material of PHYS 1101W. prereq: Proficiency in the material of PHYS 1101W

PHYS 1182. Introductory College Physics II. (3 cr. ; S-N only; Every Spring)
Intended only to be used to recognize proficiency in material of PHYS 1102W. prereq: Proficiency in the material of PHYS 1102W

PHYS 1221. Introductory Physics for Life Science Majors I. (PHYS; 4 cr. ; Student Option; Every Fall, Spring & Summer)
The class exposes the student to physical principles and concepts, demonstrates how these principles can be applied to quantitatively describe natural phenomena, and provides the student with an opportunity to perform hands-on experiments and measurements that model how physical knowledge is obtained. The living world exists in the physical universe, and a complete understanding of biological processes is impossible without a firm foundation in the basic physical principles to which all systems, living and inorganic, must adhere. The basic principles of classical mechanics, fluid mechanics, and oscillations and waves will be examined, with particular emphasis to their application in biological systems, using mathematical analysis at the level of basic calculus. prereq: High School or College Calculus

PHYS 1222. Introductory Physics for Life Science Majors II. (PHYS; 4 cr. ; Student Option; Every Fall, Spring & Summer)
This is the second course in the introductory physics sequence for life science majors. The class exposes the student to physical principles and concepts, demonstrates how these principles can be applied to quantitatively describe natural phenomena, and provides the student with an opportunity to perform hands-on experiments and measurements that model how physical knowledge is obtained. The fundamental principles of thermal physics, electricity and magnetism, optics, and nuclear physics are considered. prereq: PHYS 1221 or equivalent

PHYS 1281. Introductory Physics for Biology and Pre-medicine I. (4 cr. ; S-N only; Every Fall, Spring & Summer)
Intended only to be used to recognize proficiency in material of PHYS 1201W. prereq: Proficiency in the material of PHYS1201W

PHYS 1282. Introductory Physics for Biology and Pre-medicine II. (4 cr. ; S-N only; Every Fall & Spring)
Intended only to be used to recognize proficiency in material of PHYS 1202W. prereq: Proficiency in the material of PHYS1202W

PHYS 1301W. Introductory Physics for Science and Engineering I. (PHYS,WI; 4 cr. ; Student Option; Every Fall, Spring & Summer)
Use of fundamental principles to solve quantitative problems. Motion, forces, conservation principles, structure of matter. Applications to mechanical systems. prereq or concurrent: MATH 1271/1371/1371H or equivalent

PHYS 1302W. Introductory Physics for Science and Engineering II. (PHYS,WI; 4 cr. ; Student Option; Every Fall & Spring)
Use of fundamental principles to solve quantitative problems. Motion, forces,

conservation principles, fields, structure of matter. Applications to electromagnetic phenomena. prereq: PHYS 1301 or equivalent, Prereq or Concurrent: MATH 1272/1372/1572H or equivalent

PHYS 1381. Introductory Physics for Science and Engineering I. (3 cr. ; S-N only; Every Fall, Spring & Summer)
Intended only to be used to recognize proficiency in material of PHYS 1301W. prereq: Proficiency in the material of PHYS1301W

PHYS 1382. Introductory Physics for Science and Engineering II. (3 cr. ; S-N only; Every Fall, Spring & Summer)
Intended only to be used to recognize proficiency in material of PHYS 1302W. prereq: Proficiency in the material of PHYS1302W

PHYS 1401V. Honors Physics I. (PHYS,WI; 4 cr. ; A-F only; Every Fall)
Comprehensive, calculus-level general physics. Emphasizes use of fundamental principles to solve quantitative problems. Description of motion, forces, conservation principles. Structure of matter, with applications to mechanical systems. Prereq: Honors program or with permission, Prereq or Concurrent: MATH 1271/1371/1571H or equivalent

PHYS 1402V. Honors Physics II. (PHYS,WI; 4 cr. ; A-F only; Every Spring)
Fundamental principles to solve quantitative problems. Description of motion, forces, conservation principles, fields. Structure of matter, with applications to electromagnetic phenomena. Honors program or with permission, PHYS 1401V or equivalent, Prereq or CC: MATH 1272/1372/1572H or equivalent

PHYS 1905. Aurora: From Myths to Modern Science. (; 2 cr. ; Student Option; Periodic Fall & Spring)
The aurora, or northern lights, have long fascinated humans. We now know that aurora occur on many other planets, including Jupiter, Neptune, and Uranus. We will examine the myths from both northern and southern hemisphere that were devised to explain this beautiful natural phenomenon. We have not yet developed a complete understanding of the physical process that create the aurora. Many very prominent scientists through the ages have struggled to explain what they observed. It is only with the new measurements made after the space age that we have finally begun to understand the aurora ? both on the Earth and on other planets. If the weather and the space weather cooperates, we will try to observe the aurora and related phenomena including sunspots.

PHYS 1906. What is Space Weather (and Why Should You Care)? (; 2 cr. ; Student Option; Periodic Fall & Spring)
In this class, we will explore the way our sun changes over the eleven-year solar cycle and how this can affect events from GPS signals, airline travel, cell phone coverage, and power outages to beautiful aurora and manned spaceflight to Mars. We will also touch on space weather and the possible impact on development of life on other planets (and exoplanets). If the space weather cooperates,

we will try to observe the aurora and related phenomena including sunspots.

PHYS 1910W. What is Time?. (WI; 2 cr. ; Student Option; Periodic Fall & Spring)
The precise meaning and use of the concept of time has evoked serious study and debate among the most able of human thinkers for more than 2,000 years. In this seminar, we will review several of the current perspectives as well as some of this history of the concept of time from the points of view of philosophers, biologists, psychologists, and physicists.

PHYS 1911W. How Likely is Extraterrestrial Life?. (WI; 2 cr. ; A-F or Audit; Periodic Fall & Spring)

The goal of this course is to familiarize students with the main available scientific facts and arguments which bear on the question of the likelihood of extraterrestrial life. A second goal is to familiarize students with aspects of the various relevant disciplines early in their university careers when they may still be selecting a major. The third goal is to provide familiarity with information resources at the university, particularly through the library, as well as improved reasoning, writing, and speaking skills.

PHYS 2201. Introductory Thermodynamics and Statistical Physics. (; 4 cr. ; Student Option; Every Fall)

Thermodynamics and its underlying statistical nature. Prereq: PHYS 1302W or equivalent

PHYS 2303. Physics III: Physics of Matter. (; 4 cr. ; Student Option; Every Spring)

Thermodynamics, mechanical/electromagnetic waves, optics, quantum theory. Applications of quantum nature of solids. prereq: 1302, [MATH 1272 or MATH 1372 or MATH 1572H], [MatSci or EE] student

PHYS 2503. Physics III: Intro to Waves, Optics, and Special Relativity. (; 4 cr. ; Student Option; Every Fall)

Third semester of introductory physics. Mechanical/electromagnetic waves, optics, special relativity. prereq: 1302W or equivalent

PHYS 2503H. Honors Physics III. (; 4 cr. ; A-F only; Every Fall)

The third semester of a calculus-based introductory physics sequence. Topics include: relativistic kinematics and dynamics, mechanical and electromagnetic waves, light, interference, diffraction, wave-particle duality, and topics in modern physics. Course emphasizes the use of fundamental problems to solve quantitative problems. Intended primarily for those who have completed 1401V/1402V, although those students with outstanding performance in 1301W/1302W may be granted permission to enroll. prereq: Honors program or with permission, PHYS 1402V or equivalent prereq: 1402V or 1502V, honors student or permission of University Honors Program or instr consent

PHYS 2601. Quantum Physics. (; 4 cr. ; Student Option; Every Spring)

Introduction to quantum mechanics. Applications to atomic, molecular, condensed-matter, nuclear, elementary-particle, and

statistical physics. prereq: PHYS2503/2503H, Recommended Concurrent: Phys 3041

PHYS 3022. Introduction to Cosmology. (; 3 cr. ; Student Option; Spring Odd Year)

Large-scale structure and history of universe. Dark matter, cosmic microwave background. Newtonian/relativistic world models. Physics of early universe. Cosmological tests. Prereq: PHYS 2601

PHYS 3041. Mathematical Methods for Physicists. (3 cr. ; Student Option; Every Spring)

This course introduces additional mathematical topics that physics majors need to properly handle upper division physics classes. PHYS 1302W, Prereq or CC: MATH 2263/2374/2573H or equivalent, Recommended Prereq: 2503/2503H, Recommended CC: PHYS 2601

PHYS 3071W. Laboratory-Based Physics for Teachers. (PHYS,WI; 4 cr. ; Student Option; Every Fall & Spring)

Laboratory-based introductory physics. Topics selected to apply to elementary school curriculum: earth's motion, properties of matter, heat and temperature, kinematics, and electric current. prereq: College algebra; no credit for CSE students or students who have completed PHYS 1201/1202, PHYS 1301/1301, PHYS 1401/1402, or PHYS 1501/1502.

PHYS 3605W. Modern Physics Laboratory. (WI; 3 cr. ; Student Option; Every Fall & Spring)

Laboratory experiments in atomic, solid state, and nuclear physics. Introduction to data analysis techniques as well as the communication of scientific results through maintaining a logbook and writing papers. Prerequisites: completion (or concurrent registration) in PHYS 2503 or 2503H.

PHYS 3993. Directed Studies. (; 1-5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)

Directed study in Physics in areas arranged by the student and a faculty member. prereq: instr consent, dept consent

PHYS 3994. Directed Research. (; 1-5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)

Independent, directed study in physics in areas arranged by the student and a faculty member. prereq: instr consent, dept consent

PHYS 4001. Analytical Mechanics. (; 4 cr. ; Student Option; Every Fall)

Analytic Newtonian mechanics. Mathematics beyond prerequisites developed as required. prereq: PHYS 2503/2503H or equivalent, PHYS 304

PHYS 4002. Electricity and Magnetism. (; 4 cr. ; Student Option; Every Fall & Spring)

Classical theory of electromagnetic fields using vector algebra and vector calculus. prereq: PHYS 3041, PHYS 2503/2503H or equivalent

PHYS 4041. Computational Methods in the Physical Sciences. (; 4 cr. ; Student Option; Periodic Fall & Spring)

Introduction to using computer programs to solve problems in physical sciences. Selected

numerical methods, mapping problems onto computational algorithms. Arranged lab.

Prereq: PHYS 3041

PHYS 4051. Methods of Experimental Physics I. (5 cr. ; Student Option; Every Fall)

Contemporary experimental techniques. Introduction to modern analog and digital electronics from an experimental viewpoint. Use of computers for data acquisition and experimental control. Statistics of data analysis. Prereq or Concurrent PHYS 3605W, PHYS 3041

PHYS 4052W. Methods of Experimental Physics II. (WI; 5 cr. ; Student Option; Every Spring)

Second semester of laboratory sequence. Contemporary experimental techniques illustrated by experiments with data analysis. Students design and execute an experimental project. Lectures on specialized topics of professional concern. prereq: PHYS 4051

PHYS 4101. Quantum Mechanics. (; 4 cr. ; Student Option; Every Fall)

Mathematical techniques of quantum mechanics. Schrodinger Equation and simple applications. General structure of wave mechanics. Operator methods, perturbation theory, radiation from atoms. prereq: PHYS 3041, PHYS 2601

PHYS 4121W. History of 20th-Century Physics. (WI; 3 cr. ; Student Option; Periodic Spring)

The transition from classical to modern physics (relativity, quantum) and its architects (from Planck and Einstein to Heisenberg and Schrödinger). The WWII bomb projects in the US and in Germany. Post-war developments (solid state, particle physics).

PHYS 4201. Statistical and Thermal Physics. (; 3 cr. ; Student Option; Every Fall)

Principles of thermodynamics and statistical mechanics. Selected applications such as kinetic theory, transport theory, and phase transitions. prereq: PHYS 3041, PHYS 2201, PHYS 2601

PHYS 4211. Introduction to Solid-State Physics. (; 3 cr. ; Student Option; Every Spring)

A modern presentation of the properties of solids. Topics include vibrational and electronic properties of solids; diffraction of waves in solids and electron band structure. Other possible topics include optical properties, magnetic phenomena, and superconductivity. prereq: 2201, 4101

PHYS 4303. Electrodynamics and Waves. (; 3 cr. ; Student Option; Every Spring)

Analytical mechanics. Electricity/magnetism, including mechanical/electromagnetic wave phenomena. Physical/geometrical optics. Prereq: PHYS 4002

PHYS 4501. Experimental Project. (; 1-5 cr. ; Student Option; Every Fall, Spring & Summer)

Research project in physics area of contemporary interest. Project must be approved by faculty coordinator before registration. prereq: 4052, instr consent

PHYS 4511. Introduction to Nuclear and Particle Physics. (; 3 cr. ; Student Option; Every Fall)

Fundamental particles and Standard Model. Symmetries/quarks, models of nuclei, interactions between particles/nuclei, tests of conservation laws, fission/fusion. prereq: 4101

PHYS 4611. Introduction to Space Physics. (; 3 cr. ; Student Option; Fall Odd Year)

Dynamics of charged particles/plasmas in space. Physics of the Sun and solar wind. Solar/galactic cosmic rays. Interactions of solar wind with planetary magnetospheres. Dynamics of Magnetosphere. Formation of the aurora. Physics of radiation belts. prereq: PHYS 4001, PHYS 4002

PHYS 4621. Introduction to Plasma Physics.

(; 3 cr. ; Student Option; Periodic Fall & Spring) Basic properties of collisionless, magnetized plasmas, single particle motion, plasmas as fluids, magnetohydrodynamics, waves in plasmas, equilibrium, instabilities, kinetic theory/shocks. Prereq: PHYS 4001, PHYS 4002

PHYS 4623. Introduction to Modern Optics.

(; 3 cr. ; Student Option; Every Fall) Modern optics broadly defined as geometrical, physical, and quantum optics, including interference and diffraction, optical polarization, Fourier optics, cavity optics, optical propagation, optical coherence, lasers, optical detection, and optical instruments.

PHYS 4811. Introduction to General Relativity.

(3 cr. ; Student Option; Spring Odd Year)

Introduction to general relativity for undergraduate students. The course will introduce basic concepts of differential geometry and use them to motivate Einstein's Equation. It will then solve Einstein's equation to study particle orbits, gravitational lensing of light, black holes, and gravitational waves. Brief introduction to cosmology and evolution of the universe will be included. prereq: PHYS 4001 and (PHYS 2503 or 2503H)

PHYS 4894. Thesis - Directed Research. (; 1-3 cr. [max 6 cr.]; S-N or Audit; Every Fall & Spring)

Thesis research/writing under direction of a faculty member. Students plan/implement scientific study while gaining experience in research methods. Details of work are determined in consultation with faculty thesis adviser selected based on availability/topic. Final grade (S/N) will be based on the completed thesis. Students enrolling in this directed research course will complete the University's common Directed Study/Research contract with the faculty mentor/evaluator.

PHYS 4911. Introduction to Biopolymer Physics. (; 3 cr. ; Student Option; Every Spring)

Introduction to biological and soft condensed matter physics. Emphasizes physical ideas necessary to understand behavior of macromolecules and other biological materials. Elements of thermodynamics and statistical mechanics are presented as needed. Prereq: PHYS 2201 or equivalent

PHYS 4960H. Honors Seminar. (; 1 cr. [max 2 cr.]; Student Option No Audit; Every Fall & Spring)

Designed to prepare students for senior honors thesis projects and provide guidance in choice of future careers. prereq: Upper div honors, instr consent

PHYS 4993. Directed Studies. (; 1-5 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)

Directed study in Physics in areas arranged by student and faculty member. prereq: instr consent

PHYS 4994. Directed Research. (; 1-5 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)

Independent, directed study in physics in areas arranged by student and a faculty member. prereq: instr consent

PHYS 5001. Quantum Mechanics I. (; 4 cr. ; Student Option; Every Fall)

Schrodinger equation: bound state and scattering problems in one dimension. Spherically symmetric problems in three dimensions, angular momentum, and the hydrogen atom. Approximation methods for stationary states. Time-dependent perturbation theory. Operators and state vectors: general formalism of quantum theory. prereq: 4101 or equiv or instr consent

PHYS 5002. Quantum Mechanics II. (; 4 cr. ; Student Option; Every Spring)

Symmetry in quantum mechanics, space-time symmetries and the rotation group, Clebsch-Gordan coefficients and the Wigner-Eckart theorem. Scattering theory. Method of second quantization with elementary applications. Relativistic wave equations including Dirac equation. prereq: 5001 or equiv

PHYS 5011. Classical Physics I. (; 4 cr. ; Student Option; Every Fall)

Classical mechanics: Lagrangian/Hamiltonian mechanics, orbital dynamics, rigid body motion, special relativity. prereq: 4001, 4002 or instr consent

PHYS 5012. Classical Physics II. (; 4 cr. ; Student Option; Every Spring)

Classical electromagnetism: electrostatics, magnetostatics, Maxwell's equations, electromagnetic waves, radiation, interaction of charged particles with matter. prereq: 5011 or instr consent

PHYS 5022. Relativity, Cosmology, and the Universe. (; 4 cr. ; Student Option; Periodic Fall)

Large-scale structure and history of universe. Introduction to Newtonian and relativistic world models. Physics of early universe. Cosmological tests. Formation of galaxies. prereq: 2601 or instr consent

PHYS 5041. Mathematical Methods for Physics. (; 4 cr. ; Student Option; Every Spring)

Survey of mathematical techniques needed in analysis of physical problems. Emphasizes analytical methods. prereq: 2601 or grad student

PHYS 5072. Best Practices in College Physics Teaching. (; 1-3 cr. [max 5 cr.]; Student Option; Every Fall & Spring)

Pedagogies for introductory physics classes. Topics from educational research/practice as applied to classroom.

PHYS 5081. Introduction to Biopolymer Physics. (; 3 cr. ; Student Option; Every Spring)

Introduction to biological and soft condensed matter physics. Emphasizes physical ideas necessary to understand behavior of macromolecules and other biological materials. prereq: PHYS 2201 or equivalent

PHYS 5201. Thermal and Statistical Physics. (; 3 cr. ; A-F or Audit; Every Fall)

Equilibrium Statistical Mechanics. General Principles of Statistical Mechanics: Ensembles. Derivation of Thermodynamics from statistical principles. Classical Systems. Quantum Statistical Mechanics: Fundamentals. Photons. Ideal Fermi & Bose Gases. Non-ideal gases. Introduction to Phase Transitions. prereq: [[4101, 4201] or equiv] previous exposure to thermodynamics, introductory statistical physics

PHYS 5621. Introduction to Plasma Physics.

(; 3 cr. ; Student Option; Periodic Fall) Basic properties of collisionless, magnetized plasmas, single particle motion, plasmas as fluids, magnetohydrodynamics, waves in plasmas, equilibrium, instabilities, kinetic theory/shocks. prereq: CSE grad student, working knowledge of waves/electromagnetism

PHYS 5701. Solid-State Physics for Engineers and Scientists. (; 4 cr. ; Student Option; Periodic Fall & Spring)

Crystal structure and binding; diffraction; phonons; thermal and dielectric properties of insulators; free electron model; band structure; semiconductors. prereq: Grad or advanced undergrad in physics or engineering or the sciences

PHYS 5750. Advanced Topics in Quantum Mechanics and Quantum Information. (; 3 cr. [max 6 cr.]; Student Option; Periodic Fall & Spring)

Topics may include quantum circuits and algorithms, hardware considerations for quantum computing, quantum information theory, and open quantum systems.

PHYS 5950. Colloquium Seminar. (; 1 cr. ; S-N or Audit; Every Fall & Spring)

Colloquium of School of Physics and Astronomy. prereq: [Grad student or advanced undergrad in physics], dept consent

PHYS 5970. Physics Journal Club. (; 1-3 cr. ; S-N only; Every Fall & Spring)

Weekly student-led presentation, discussion, and critical analysis of important papers. prereq: 2601, 2605 or equiv; intended for 2nd-yr grad students in physics

PHYS 5980. Introduction to Research Seminar. (; 1 cr. [max 3 cr.]; S-N or Audit; Every Fall & Spring)

Introduction to the research activities of the School of Physics and Astronomy. prereq: Grad or upper div phys major

PHYS 5993. Directed Studies. (; 1-5 cr. [max 15 cr.]; Student Option; Every Fall, Spring & Summer)

Independent, directed study in physics in areas arranged by the student and a faculty member. prereq: instr consent, dept consent

PHYS 5994. Directed Research. (; 1-5 cr. [max 15 cr.]; Student Option; Every Fall, Spring & Summer)

Problems, experimental or theoretical, of special interest to students. Written reports. prereq: Jr, dept consent

Physiology (PHSL)

PHSL 1001. Introductory Human Anatomy and Physiology for Non-Majors. (; 4 cr. ; Student Option; Every Fall & Spring)

Have you ever wondered why you get the chills when you are sick? Or what the lung of a lifelong smoker actually looks like? Ever curious about what your brain looks like compared to someone with Alzheimer's? If your answer is yes, then this class is for you! This entirely human-based course is designed to tap into the curiosities we all have about our bodies by providing you with a foundational understanding of how your body works. The goal of this course is for you to learn about the human body and how it functions when it is both healthy and when things break down. In the classroom setting, we will focus on understanding the functions of each major organ system from the heart to the brain. Then in the lab, each of you will have the opportunity to see and touch real human organs you just learned about in class. Additionally, in this course, you will compare both healthy and diseased human tissue to better understand how choices you make every day can affect your organ's structure and function. When you leave this course, you will leave empowered, not only by your understanding of your own physiology, but by your ability to evaluate and understand the science you will continue to hear about and see in the media.

PHSL 2001. Introductory Physiology for Human Physiology Majors. (4 cr. ; Student Option; Every Fall & Spring)

This introductory human physiology course is designed to give human physiology majors a basic understanding of the human body and how it functions when it is both healthy and when things break down. During lecture, we will focus on understanding the functions of each major organ system from the heart to the brain. Then in the lab, we will build on what you have learned by applying the content to actual human cadaveric material. Students will be asked to observe and document changes in structure of diseased organs and hypothesize how these changes would have affected the function of this organ in a human body. Additionally, the discussion portion of the class will focus on specific pathology as it relates to the organ systems you learned about in lecture and lab. These discussions will challenge students to think critically about disease mechanisms by studying primary literature and by diving into well understood mechanisms that highlight powerful physiology. The goal

of this course is to provide students a strong foundation in physiology and the important role each organ system plays in maintaining homeostasis within the body.

PHSL 2041. Physiology and Medicine. (2 cr. ; A-F only; Every Fall & Spring)

An understanding of Human Physiology is the basis of the practice of medicine. This course will provide an introduction and exploration of Physiology as it relates to the functions of the Human Body with special emphasis on the role of Physiology in Contemporary Medicine. The role of physiological research on advances in our understanding of health and disease will be emphasized. Students interested preparing for health science based careers and/or considering the Human Physiology major are encouraged to enroll.

PHSL 3051. Human Physiology. (; 4 cr. ; Student Option; Every Fall & Spring)

How major organ systems function (nerve, muscle, circulation, respiration, endocrine, renal, gastrointestinal, temperature regulation and energy metabolism). Three one-hour lectures, two-hour lab. prereq: [BIOL 1009 or 1 yr college biol], 1 yr college chem

PHSL 3061. Principles of Physiology. (; 4 cr. ; Student Option; Every Fall)

Human physiology with emphasis on quantitative aspects. Organ systems (circulation, respiration, gastrointestinal, renal, endocrine, muscle, peripheral and central nervous systems), cellular transport processes, and scaling in biology. prereq: 1 year college chem and physics and math through integral calculus

PHSL 3062W. Research Paper for Physiology Majors. (WI; 1 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Students write a research review on a physiological topic. Students select an area of focus within the discipline of physiology, and complete a literature review of basic science papers published in the past 10 years in their topic area. All students will work with a faculty advisor, who will assist the student in selecting their topic area, refining the focus of their literature review, and provide guidance on writing a scientific review article. prereq: concurrent registration is required (or allowed) in 3061, physiology major, 1 yr [college chem, physics], math through integral calculus

PHSL 3095. Problems in Physiology. (; 1-5 cr. [max 20 cr.]; Student Option; Every Fall, Spring & Summer)

Individualized study in physiology. Students address a selected problem in physiology through library or lab research, supervised by physiology faculty. prereq: concurrent registration is required (or allowed) in college physiology, instr consent

PHSL 3701. Physiology Laboratory. (; 2 cr. ; A-F or Audit; Every Fall)

Experiments in physiology. Emphasizes quantitative aspects, including analysis of organ systems. prereq: Physiology major

PHSL 4021. Advanced Physiology and Bioengineering: Bionic Human. (; 3 cr. ; A-F only; Every Spring)

Is "Iron Man" technology just around the corner? This course will examine how, and if, biomedical devices can address the needs of humans suffering from various pathologies and/or disabilities, or enhance human performance. Advanced discussion of the physiology of organs/organ systems and relevant devices past, present, and future. Emphasis will be on an in-depth understanding of normal physiology including cardiovascular, respiratory, renal, liver, motor, sensory, and pancreatic physiology. Classes will involve review of the physiology of organ systems, design considerations for medical devices, and discussions of published papers about basic science and clinical trials. Classes will be a combination of content presentation and discussion.

PHSL 4031. Physiological Discussions: Contemporary Topics. (; 2 cr. ; A-F only; Every Spring)

Students read, critically evaluate, present, and discuss research in cellular and organ system physiology. Journal club setting led by faculty members. prereq: 3061 or 3063 or 5061 or instr consent

PHSL 4095H. Honors Problems in Physiology. (; 2-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Students pursue a selected topic in physiology through library or lab research supervised by physiology faculty. Prereq & 3061, physiology honors candidate, approval of director of undergrad studies in physiology.

PHSL 4221. Systems and Computational Physiology. (3 cr. ; Student Option; Every Spring)

Physiological processes can involve a complex level of interactions that can be challenging to understand based on intuition alone. Quantitative and computational approaches can be used to help us better understand the mechanisms regulating such complex processes, both in healthy and pathological conditions. In this course, students will be introduced to current methods from systems biology, computational biology, and artificial intelligence to better understand human physiology. We will discuss mathematical approaches to model biological interactions that describe fundamental physiological concepts such as feedback and homeostasis that operate across biological scales, from intracellular enzymes to organ regulation. We will apply these approaches to understand a range of physiological systems, including hormone secretion, circadian rhythms, and inflammation. We will also introduce students to machine learning and deep learning methods, and discuss how these computational approaches are being applied in the areas of clinical physiology and biomedical imaging.

PHSL 4242. Professional Skills Development for Biomedical Scientists. (2 cr. ; A-F only; Spring Even Year)

Students will gain valuable experience in professional development for bio-medical science, applicable to academic, clinical, biotech, pharma, medical and other career paths. This course features essential

professional skills development, including critical evaluation of the scientific literature, oral short presentations, development of research project specific aims, and development of individual WOW statements (aka the Bill Gates elevator pitch). Students will gain knowledge of grant mechanisms and on strategies and mechanics to writing a winning grant. Students will evaluate funded research projects, develop and write their own grant, (possibly based on their previous PHSL 3062W paper or other experiences) and perform peer review critiques of their submitted grants. There are no conventional tests in this class. prereq: PHSL 3062W is recommended.

PHSL 4702. Cell Physiology. (3 cr. ; A-F or Audit; Every Fall)

Critical cell functions. Regulation of pH, volume, intracellular electrolyte composition, calcium signaling, membrane potential dynamics, motility, aspects of intercellular communication. prereq: [3051 or 3061 or BIOL 3211], [CHEM 1022 or equiv], [MATH 1272 or equiv]

PHSL 4900. Advanced Physiology Teaching Laboratory. (1-6 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)

Teaching in undergrad physiology labs. Instructional sessions, hands-on teaching experiences. prereq: [3051 or [3061, 3071]], instr consent

PHSL 5061. Principles of Physiology for Biomedical Engineering. (4 cr. ; Student Option; Every Fall)

Human physiology with emphasis on quantitative aspects. Organ systems (circulation, respiration, renal, gastrointestinal, endocrine, muscle, central and peripheral nervous systems), cellular transport processes, and scaling in biology. prereq: Biomedical engineering grad, one yr college chem and physics and math through integral calculus

PHSL 5094. Research in Physiology. (1-5 cr. [max 20 cr.] ; Student Option; Every Fall, Spring & Summer)

Independent lab research project in physiology, supervised by physiology faculty. prereq: instr consent

PHSL 5095. Problems in Physiology. (1-5 cr. [max 20 cr.] ; Student Option; Every Fall, Spring & Summer)

Individualized study in physiology. Students address selected problem through library or lab research, supervised by physiology faculty. prereq: instr consent

PHSL 5096. Integrative Biology and Physiology Research Advances. (1 cr. [max 4 cr.] ; A-F only; Every Fall & Spring)

Attend/participate in IBP Fall/Spring seminar series. Seminars given by faculty, invited speakers, students. Exposure to key topics. How to present seminars. prereq: instr consent

PHSL 5101. Human Physiology. (5 cr. ; Student Option; Every Spring)

Survey of human physiology: Cardiovascular, muscle, respiratory, gastrointestinal, nutrition, renal physiology. Integrative, systems approach. Emphasizes normal function. prereq: Grad student

PHSL 5115. Clinical Physiology I. (3 cr. ; A-F or Audit; Every Fall)

Cellular mechanisms, disease states and clinical applications of excitable tissues: cellular transport, neurophysiology, skeletal muscle physiology, cardiovascular physiology. prereq: instr consent

PHSL 5116. Clinical Physiology II. (3 cr. ; A-F or Audit; Every Spring)

Cellular mechanisms, disease states and clinical applications of metabolic systems: respiratory physiology, renal physiology, acid base physiology, metabolism, gastrointestinal physiology, endocrine physiology, physiology of pregnancy and labor. prereq: instr consent

PHSL 5197. Stress Physiology. (1-3 cr. ; A-F only; Every Spring)

Journal club format. Meets weekly to examine foundations of stress, historical progress, development of stress, modern stress physiology. Focus on stress-induced pathology with attention to cardiovascular, metabolic, neuroendocrine disorders. Students participating in the weekly discussion are assessed on discussion participation, completion of weekly writing assignments and quality of the presentation in the class, are eligible for 1 credit. Students completing a midterm (test) and a final project (specific aims page of an NIH RO1 grant) in addition to the criteria described above are eligible for 3 credits. Prerequisite: instructor consent is required. Graduate student standing, master students, and post-doctoral fellows (if they are eligible for credits). Undergraduate students must have taken PHSL 3061 or equivalent, and have previous laboratory research experience.

PHSL 5201. Computational Neuroscience I: Membranes and Channels. (3 cr. ; Student Option; Every Fall)

Neural excitation (ion channels, excitation models, effects of neural morphology) using UNIX workstations to simulate empirical results. Includes the Hodgkin-Huxley model, nonlinear dynamic systems analysis, voltage and ligand gated ion channels, ion transport theories, and impulse initiation and propagation. prereq: calculus through differential equations

PHSL 5211. Physiology of Inflammation in Disease. (3 cr. ; A-F only; Every Spring)

In this course, we will explore the latest developments in the field of inflammation-mediated chronic diseases. The students will learn basic concepts of immunity and inflammation and the mechanisms by which non-infectious inflammatory processes mediate chronic disease. Instructor consent is required. Courses in physiology, such as PHSL3051, 3061, and Microbiology and Immunology, such as MICB 4131, are recommended but not required.

PHSL 5221. Systems and Computational Physiology. (3 cr. ; A-F only; Every Spring)

Physiological processes can involve a complex level of interactions that can be challenging to understand based on intuition alone. Quantitative and computational approaches can be used to help us better understand

the mechanisms regulating such complex processes, both in healthy and pathological conditions. In this course, students will be introduced to current methods from systems biology, computational biology, and artificial intelligence to better understand human physiology. We will discuss mathematical approaches to model biological interactions that describe fundamental physiological concepts such as feedback and homeostasis that operate across biological scales, from intracellular enzymes to organ regulation. We will apply these approaches to understand a range of physiological systems, including hormone secretion, circadian rhythms, and inflammation. We will also introduce students to machine learning and deep learning methods, and discuss how these computational approaches are being applied in the areas of clinical physiology and biomedical imaging.

PHSL 5444. Muscle. (3 cr. ; Student Option; Every Spring)

Muscle membranes: structures, mechanisms, and physiological roles of channels/pumps. Muscle contraction: force generation by actin/myosin. prereq: 3061 or 3071 or 5061 or BioC 3021 or BioC 4331 or instr consent

PHSL 5510. Advanced Cardiac Physiology and Anatomy. (2-3 cr. ; Student Option; Every Spring)

Fundamental concepts, advanced topics related to clinical/biomedical cardiac physiology. Lectures, laboratories, workshops, anatomical dissections. Intense, one week course. prereq: instr consent

PHSL 5525. Anatomy and Physiology of the Pelvis and Urinary System. (1-2 cr. ; A-F only; Every Spring)

Two-day intensive course. Pelvis, perineum, and urinary system with cadaveric dissection. Structure/function of pelvic and urinary organs, including common dysfunction and pathophysiology. Laboratory dissections, including kidneys, ureters, urinary bladder, pelvic viscera and perineum (male or female), pelvic floor, vascular and nervous structures. Grand rounds section. prereq: One undergrad anatomy course, one undergrad physiology course, instr consent

PHSL 5540. Advanced Exercise Medicine: Physiology and Bioenergetics. (1-2 cr. ; Student Option; Periodic Fall)

Three-day intensive course. Physiology, bioenergetics, nutrition, and sports medicine. Focuses on application of principles to treatment of diseases and functional deficits. Lectures, demonstrations, hands-on experiences in an exercise medicine facility. prereq: [Grad student or practicing health professional], instr consent

PHSL 5701. Physiology Laboratory. (1-2 cr. ; A-F or Audit; Every Fall & Spring)

Experiments in physiology. Emphasizes quantitative aspects, including analysis of organ systems. prereq: instr consent

PHSL 5702. Cell Physiology. (4 cr. ; A-F only; Every Fall)

Control mechanisms in maintaining homeostasis with respect to critical cell

functions. Regulation of pH, volume, nutrient transport, intracellular electrolyte composition, membrane potential. Aspects of intercellular communication. prereq: [Two semesters of physics/chemistry, calculus, one semester of systems-level physiology] or instr consent

Plant Pathology (PLPA)

PLPA 1005. Plants Get Sick Too. (BIOL; 4 cr. ; Student Option; Every Fall)
Biology of plant disease and plant-disease-causing organisms. Effects of plant disease on agriculture, human health/welfare, and the environment. Management/control of plant disease. Lecture, Internet, lab.

PLPA 1901. Antibiotics: Promise, Profits, and Pitfalls. (TS; 3 cr. ; A-F or Audit; Periodic Fall)

The discovery and availability of antibiotics has fundamentally changed the treatment of human infectious diseases. However, the broad effectiveness of antibiotics in reducing bacterial infections has led to overuse in medicine and agriculture. Consequences of overuse include widespread resistance to common antibiotics as well as antibiotic contamination in the environment. Antibiotic resistance currently represents a significant threat to treatment of some infectious bacteria, yet profit incentives and patenting regulations have limited investments by pharmaceutical companies in development of new antimicrobials. This course will explore the intriguing biology, chemistry, ecology, and evolutionary biology of antimicrobial warfare; the history of antibiotic discovery; the broad uses for antibiotics in medicine and agriculture; the costs, profits, and patenting issues associated with antibiotic development and production; the ethics of antibiotic regulation in developed and developing countries; and the future of antibiotic therapies in medicine and agriculture. prereq: freshman

PLPA 2001. Introductory Plant Pathology. (; 3 cr. ; Student Option; Every Spring)
Biology of the major groups of plant pathogens, symptoms and signs of plant disease, plant disease diagnosis, and principles of disease management. Lecture and laboratory. prereq: BIOL 1009 or equiv

PLPA 2003. Plague, Famine, and Beer: The Impact of Microscopic Organisms on Human Civilization. (HIS; 3 cr. ; Student Option; Every Spring)
Impacts that microbes have made on course of human civilization. Negative influences of major human/plant infectious disease. Positive benefits attained by harnessing power of microbes. Scale of history includes prehistoric to present day. Projected future impacts.

PLPA 3003. Diseases of Forest and Shade Trees. (; 3 cr. ; Student Option; Every Spring)
This course provides an overview of tree diseases in urban and forested areas. It covers diseases that have had a significant impact on society such as Dutch Elm disease; oak wilt, chestnut blight, white pine blister rust, sudden oak death and many others. It also

provides an overview of important cankers, leaf diseases, wilts, rusts, root rots and other tree problems. Laboratory sessions enable students to get hands-on experience identifying disease agents, examining symptoms and learning appropriate control procedures. Emphasis will also be placed on ecological processes, biological and cultural control, and host-parasite interactions. This course should be of value to anyone interested in biological sciences, natural resources or ecology. It is a must for individuals that will have a career in natural resources but should also be useful to those interested in maintaining healthy trees at home, in urban areas or woodlands. Alumni of the University working with trees or woody ornamentals indicate this is one of the most important courses you can take as a student.

PLPA 3993. Directed Study. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

PLPA 4096. Professional Experience Program: Internship. (; 1-3 cr. [max 6 cr.] ; S-N or Audit; Every Fall & Spring)
Supervised practicum with professional experience in plant pathology and related industries including the Plant Disease and "Dial-U" clinics. Evaluative reports and consultations with faculty advisers and employers. prereq: COAFES undergrad, complete internship contract available in COAFES Career Services before registering; UC only

PLPA 5003. Diseases of Forest and Shade Trees. (; 3 cr. ; Student Option; Every Spring)
This course provides an overview of tree diseases in urban and forested areas. It covers diseases that have had a significant impact on society such as Dutch Elm disease; oak wilt, chestnut blight, white pine blister rust, sudden oak death and many others. It also provides an overview of important cankers, leaf diseases, wilts, rusts, root rots and other tree problems. Laboratory sessions enable students to get hands-on experience identifying disease agents, examining symptoms and learning appropriate control procedures. Emphasis will also be placed on ecological processes, biological and cultural control, and host-parasite interactions. This course should be of value to anyone interested in biological sciences, natural resources or ecology. It is a must or individuals that will have a career in natural resources but should also be useful to those interested in maintaining healthy trees at home, in urban areas or woodlands. Alumni of the University working with trees or woody

ornamentals indicate this is one of the most important courses you can take as a student.

PLPA 5100. Topics in Plant Pathology. (; 1-4 cr. ; A-F or Audit; Every Fall & Spring)
Topics in Plant Pathology

PLPA 5103. Plant-Microbe Interactions. (3 cr. ; Student Option; Every Spring)
Genetics, physiology, molecular biology of plant-microbe interactions. Communication between plant/microbes, signal transduction, control of gene expression, symbiosis/parasitism, plant host response mechanisms, plant disease physiology. prereq: Intro course in plant pathology or molecular biology or equiv

PLPA 5202. Field Plant Pathology. (; 2 cr. ; S-N only; Every Fall)
Characteristics of a variety of plant diseases. Field trips to observe symptoms and effects of diseases, and to learn about prevention and control of diseases in field, forest, golf course, greenhouse, nursery, orchard, and urban environments.

PLPA 5203. Introduction to Fungal Biology. (; 3 cr. ; Student Option; Spring Odd Year)
Fungi are a critical component of the diversity and function of terrestrial ecosystems, affecting decomposition, plant nutrient uptake, and agricultural practices. Key components of fungal biology, including ecology, genetics, life cycles and diversity. Labs provide hands on experience with a diverse range of organisms. prereq: BIOL 1009 or equiv

PLPA 5300. Current Topics in Molecular Plant Pathology. (; 1 cr. [max 2 cr.] ; S-N only; Every Spring)
Current Topics in Molecular Plant Pathology is a highly interactive class in which students read, discuss, and critique pivotal publications in the field of molecular plant pathology. Specific topics will change from year to year, but will generally include subjects such as plant-microbe communication, diversity and evolution of plant-microbe associations, genomic analysis of pathogens (symbionts) and plant host responses, and mechanisms of pathogenicity. prereq: Introductory courses in plant pathology or microbiology; genetics; molecular biology or genomics; or consent of instructor

PLPA 5301. Large Scale Omic Data in Plant Biology. (; 3 cr. ; Student Option; Every Fall)
Introduction to large scale data in plant biology. Emphasizes model plants and important agricultural crops focusing on new approaches and technologies in the field. Fundamentals, acquisition, and analysis of high-throughput DNA and RNA sequencing, high-throughput plant phenotyping, functional and comparative genomics, epigenomics, proteomics, metabolomics, and microbiomics. prereq: Intro course in genetics or instr consent

PLPA 5303. Data Visualization in Plant and Microbial Biology. (3 cr. [max 31 cr.] ; Student Option; Every Fall)
Data Visualization in Plant and Microbial Biology is a course for graduate and advanced undergraduate students interested in developing skills to visualize common datasets in plant and microbial research. Students will

learn fundamentals of data visualization and reproducibility that are common approaches to present plant and microbial biological data. The topics to be covered in the course are not limited to but can include fundamentals of proper data visualization techniques, principles of manuscript figure design, differences between manuscript, poster, presentation, and communication data visualizations, and how to ensure that analysis and visualizations are reproducible. The class will consist of lectures, discussions, group activities, and lots of hands-on learning and analysis. prereq: Limited experience with R software is recommended, but not required.

PLPA 5444. Ecology, Epidemiology, and Evolutionary Biology of Plant-Microbe Interactions. (; 3 cr. ; A-F or Audit; Every Fall) Concepts and recent research in the ecology, epidemiology, and evolutionary/coevolutionary biology of plant-microbe interactions spanning the range from parasitic to mutualistic in agricultural and natural habitats. prereq: Intro plant pathology or advanced biology coursework recommended

PLPA 5480. Principles of Plant Pathology. (; 3 cr. ; Student Option; Every Fall) This course is intended for graduate students and undergraduate students in their third or fourth year that are interested in learning about principles of plant pathology, diseases that affect plants, microbiology and microbial and plant interactions. In this course students will learn principles of plant pathology through lectures and demonstrations and exercises in laboratory. Students will gain knowledge of mycology and select diseases caused by fungi within Ascomycota, Basidiomycota and the fungal-like Oomycota. Diseases caused by bacteria, nematodes, viruses, parasitic plants and abiotic damage are also examined. Lectures will include information concerning the history and importance of plant pathology, mycology, bacteriology, nematology, virology, infection process, genetics of host and microorganism interactions, epidemiology of diseases and disease control strategies. In the hands-on laboratory period the student will learn laboratory skills, gain experience using the microscope, work with microorganisms, learn diagnostic skills, and be able to recognize 30 plant diseases. prereq: BIOL 1009 or equiv

PLPA 5660. Plant Disease Resistance and Applications. (; 3 cr. ; A-F or Audit; Every Spring) Fundamentals of disease resistance in plants and the genetics of host-parasite interactions as they relate to the sustainable control of plant diseases. Examples explored at the Mendelian, populational, and molecular level of organization. prereq: 2001, BIOL 4003

PLPA 5999. Special Topics in Plant Pathology. (; 1 cr. ; Student Option; Every Fall, Spring & Summer) Workshops on topics in plant pathology. See Class Schedule or department for current offerings.

Plant Science (PLSC)

PLSC 3002. Seed Science, Technology, and Society. (2 cr. ; Student Option; Every Fall) Cultivate an understanding of seed and appreciation for seed with respect to agriculture. Focus of this course will be on agronomic crop seeds produced in the upper Midwest. prereq: HORT 1001 or BIOL 1009 or BIOL 2002 or consent of the instructor

PLSC 3005W. Introduction to Plant Physiology. (WI; 4 cr. ; Student Option; Every Spring) Introduction to physiological basis for effects of environment on plant growth/development. How to produce optimal plant growth. Experimental technique, data analysis, scientific writing. Lecture, readings, lab. Prerequisites: Biol 1009 or Hort 1001 and BioC 3021 or Hort 2100 or BioC 2011

PLSC 3093. Directed Study. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

PLSC 3094. Directed Research. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

PLSC 3401. Plant Genetics and Breeding. (4 cr. ; Student Option; Every Spring) Principles of plant genetics and environmental variation. Applications of genetics to crop evolution and breeding of self-pollinated, cross-pollinated, and asexually propagated crops. Investigation of hybridization, variation, and selection. Course is offered with two alternating instructors: Spring Odd its with Eric Watkins. Spring Even is with Aaron Lorenz. Prerequisites: BIOL 1009 or 1009H

Plant and Microbial Biology (PMB)

PMB 2022. General Botany. (; 3 cr. ; A-F or Audit; Every Fall & Spring) Introduction to the biology of plants, algae, and fungi. Structure, growth, development, reproduction, diversity, and aspects of their ecology. Includes laboratory that focuses on structures in photosynthetic organisms and

fungi as well as an introduction to physiology. prereq: One semester of college biology

PMB 3002. Plant Biology: Function. (; 2 cr. ; Student Option; Every Spring) This course explores a range of plant physiological processes, including how plants make and use food; acquire and use minerals; transport water and nutrients; and regulate growth and development in response to hormones and environmental cues, such as light quality. While this course is paired with the PMB 3005W Plant Function Laboratory, the courses do not need to be taken together or in a specific order. prereq: [1002 or 1009 or 2003 or equiv], [CHEM 1011 or one semester chemistry with some organic content]

PMB 3005W. Plant Function Laboratory. (WI; 2 cr. ; Student Option; Every Spring) In this lab course, students will use a variety of biological techniques to study plant structure and anatomy, plant physiology, cell biology, and plant growth. This includes topics related to climate change, plant adaptation, crop domestication, and genetic engineering. Includes hands-on laboratory activities and writing focus. While this course is paired with the PMB3002 lecture course, the courses do not need to be taken together or in a specific order. Prereq: BIOL 1009, BIOL 2003, or equiv.

PMB 3007W. Plant, Algal, and Fungal Diversity and Adaptation. (WI; 4 cr. ; Student Option; Every Fall) Evolution/Ecology/Diversity of plants, fungi, and algae. Lectures highlight phylogenetic diversity among and within multiple eukaryotic groups as well as adaptations and strategies for survival in varied environments. Includes both hands-on laboratory activities and writing focus. prereq: One semester college biology

PMB 3212. Fungi - A Kingdom of Their Own. (3 cr. ; A-F only; Every Spring) No matter how you classify life on Earth, the fungi are in a Kingdom of their own. Latest estimates of the number of fungal species on our planet are between 2.2 and 3.8 million species. The diversity of single-celled and multi-cellular fungi is staggering, the result of divergence within a group of aquatic eukaryotes one billion years ago (? 500 million years). That divergence ultimately gave rise to animals and fungi, but the diversification within the fungal lineages is unrivaled. They can be found in aerobic and anaerobic environments. They are found on every Continent, recycling and reallocating vast amounts of nutrients in every Biome. They cause problems in crops but are also used to make food, with ancient processes such as fermentation and mushroom cultivation. For these reasons, mycology (study of fungi) is increasingly popular among students with interests as diverse as their fungal subjects. With the advent of high-throughput DNA sequencing to sample entire communities, we are seeing fungi in all of these places where they were previously invisible. The fungal role in Earth's most critical processes is, right now, coming into light. It is an exciting time to study Kingdom Fungi. This course uses a format of lecture, discussion, and field trips to provide undergraduate and

graduate students with a solid foundation in the fungi, primarily through an environmental lens. Undergraduate and graduate students will learn the basics of fungi in three core sections: 1) Phylogeny, taxonomy, and diagnostics (Who are the fungi?); 2) Morphology and physiology (How do fungi work?); 3) Ecology and Biotechnology (What are fungal implications and applications?). Within each core section, there will be one class period devoted to a discussion of the environment, the role of fungi, and the human dimensions of conservation and management. This discussion will be used by the class to vote for an environmental theme used to frame writing assignments, one per unit. Using this theme, all students will create a "Fungus in Focus" one-page "brief" focused on this environmental issue. This is a creative way to connect "dots" for students linking microbial processes to environment, in our case harnessing connections to fungi that often have visible characters (e.g. mushrooms) that make those connections easier for students. We will also go on two field trips, one to a mushroom cultivation facility, and one into the field in April, all depending on class size and weather. prereq: Introductory Biology course

PMB 3701. PMB Seminar. (1 cr. ; S-N only; Every Fall & Spring)

Develop professional oral communication skills through the attendance and evaluation of biological science public seminars, the construction and presentation of a professional public seminar, and the introduction of a student seminar speaker. prereq: BIOL 3004/3004H.

PMB 3802. Field Microbiology at Itasca Biological Research Station. (3 cr. ; A-F only; Every Summer)

The microbial world is incredibly diverse: there are estimated to be more microbial cells on Earth than stars in the entire universe. Much of our understanding in microbiology derives from studies of pure cultures; organisms that can easily be grown in the lab. However, it is now clear that the vast majority of microorganisms in nearly every environment are not readily grown under laboratory conditions. We must therefore go to them. Field Microbiology will be a three-week intensive course where students will be taught methods of environmental microbiology in both lecture and laboratory format. The goal is to not only quantify who is in a given sample, but also to understand something about the conditions they live in (temperature, nutrient availability, etc.). Ecological data and microbial community structure will be generated using Oxford Nanopore sequencing technology ? a cutting edge method to generate large sequencing datasets in real-time. Analyses will be integrated with an in situ set of field instrumentation that includes an eddy covariance system for quantifying fluxes of methane and carbon dioxide from Lake Itasca and Elk Lake, as well as in-lake measurements of solar radiation, dissolved organic matter, pH, conductivity, temperature, dissolved oxygen and chlorophyll. A series of field trips will be scheduled to locations in and around Itasca State Park including Elk

Lake, Arco Lake, Iron Springs Bog and Lake Alice Spring. Students will also develop an independent research project that will apply methods learned during the first 1.5 weeks of the course.

PMB 3812. Field Mycology. (3 cr. ; A-F only; Every Summer)

This class focuses on learning about how to study fungi. Students will gain experience identifying mushrooms and other samples collected during course field trips using macromorphological, microscopic, and molecular techniques. In addition, students will isolate fungi from environmental samples and maintain cultures as well as assess fungal community abundance and composition using both traditional (e.g., root tip colonization) and DNA-based methods (e.g., next-generation sequencing, bioinformatics, and ecological statistics). Course lectures highlight different aspects of fungal diversity (taxonomic, physiological, and ecological) and lab exercises provide hands-on practice. Course writing assignments and presentations emphasize exploring the natural history of fungi as well as critically assessing primary research literature. Permission is required for undergraduates to enroll in the graduate level of this course (PMB 5812); inquire with the instructor.

PMB 4111. Microbial Physiology and Diversity. (; 3 cr. ; Student Option; Every Fall)

Structural/functional organization of bacteria/archaea. Energy metabolism utilizing light, inorganic/organic chemicals. Cell morphologies, roles/assembly of surface structures. Growth/survival mechanisms in various extreme environments. Adaptation to changing conditions by development of specialized cells/structures, altering metabolic patterns. prereq: MicB 3301 required; BioC 3021 or BioC 4331 recommended

PMB 4121. Microbial Ecology and Applied Microbiology. (; 3 cr. ; A-F or Audit; Every Spring)

Evolution/structure of microbial communities. Population interaction within ecosystems. Quantitative/habitat ecology. Biogeochemical cycling. Molecular microbial ecology, gene transfer in the environment. Molecular phylogeny of microorganisms. Application of microbes in agriculture. Production of commodity chemicals, drugs, and other high-value products. prereq: 3301

PMB 4131. Prokaryotic Genetics. (3 cr. ; Student Option; Every Spring)

Genetics is the application of abstractions to understand biological function. Much of our understanding at the molecular level of the natural world is derived from genetic work in model microbial systems like *Escherichia coli*, *Salmonella*, and *Saccharomyces*. Prokaryotic Genetics will focus on a molecular understanding of bacteria, with a smattering of archaea and phage genetics, covering both classic (transposons, mutant/suppressors) and modern (sequencing, metagenomics, synthetic biology) genetic approaches.

PMB 4321. Minnesota Flora. (3 cr. ; Student Option; Fall Even Year)

Practical skills for identifying plant species/surveying Minnesota vegetation to students of biology, environmental sciences, resource management, horticulture. Integrates botany, ecology, evolution, earth history, climate, global change in context of local plant communities. Labs/Saturday field trips explore Minnesota plants/plant communities. prereq: One semester college biology

PMB 4412. Plant Physiology and Development. (3 cr. ; A-F only; Every Fall)

Plant physiology and development is the study of how plant cells, tissues, and whole organisms grow and function in response to internal and external cues. PMB 4412/5412 covers the classic plant physiology and development processes including plant water relations, mineral nutrition, membrane transport, photosynthesis, respiration, vascular function, metabolism, growth and development, and hormone responses. The physics underlying our understanding of these physiological systems will also be addressed. Other areas of plant science such as plant genetics and biochemistry are covered in other courses and will not be emphasized this course. There are no enforced prerequisites for this course. The following preparation is recommended: PMB 2022 General Botany or PMB 3007W Plant Algal and Fungal Diversity; General Chemistry and Introductory Physics.

PMB 4511. Flowering Plant Diversity. (; 3 cr. ; Student Option; Spring Odd Year)

Systematics of flowering plants of the world. Ecology, geography, origins, and evolution. Family characteristics. Floral structure, function, evolution. Pollination biology. Methods of phylogenetic reconstruction. Molecular evolution. Taxonomic terms. Methods of collection/identification. Lab. prereq: BIOL 1001 or 1009 or 1009H or 2002

PMB 4516W. Plant Cell Biology: Writing Intensive. (WI; 3 cr. ; Student Option; Periodic Spring)

In this course, we will cover current important research topics in plant cell biology. We will cover many plant-specific topics such as gravitropism, plant cell wall biosynthesis, structure and function, plasmodesmata connections, signal transduction, tip growth, plant cytokinesis, cell energetics. We will also cover some topics that are important for both plant, fungal, and animal cell biology such as cell polarity, the cytoskeleton, protein sorting, and the secretory system. Since we will be using recent literature as the course text, some important and classic cell biology topics will not be covered. In the field of cell biology, new discoveries are often the result of improvements in technology especially in imaging, so we will cover some recent advances in methodology. This is also a writing class with the goal of helping students become familiar and comfortable with writing in a scientific style. There will be writing instruction and there will be some reading assignments on scientific writing. There are no enforced prerequisites. Introductory courses on plants, genetics, and biochemistry are helpful.

PMB 4601. Topics in Plant Biochemistry. (; 3 cr. ; A-F only; Every Spring)

Biochemical analysis of processes unique to photosynthetic organisms. Photosynthesis and carbon dioxide fixation. Synthesis of carbohydrates, lipids, and derivatives. Aromatic compounds such as lignin, other natural products. Functions of natural products. prereq: [BIOL 1002 or BIOL 1009 or BIOL 2003], CHEM 2301

PMB 4793W. Directed Studies: Writing Intensive. (WI; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Writing Intensive Directed Studies is an individual-study, literature-based investigation in which the student is mentored directly by a faculty member. One main feature of this course is that the student will receive writing instruction and the written output of the course will be revised during the semester. The project needs to be explained in a research/directed studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, how writing instruction will take place, a timeline for when student writing will be handed in and how it will be assessed, methodology to be used by the student, and how assessment of learning will be conducted by the mentor. Additional oversight is established for this course near the end of the semester the written output is submitted to the DUGS for the major. The DUGS is responsible to determine that the writing meets standards set by the CBS Education Policy Committee for quality of writing, appropriate citation of literature, well-constructed figures, tables, and legends (if present), appropriate use and interpretation of statistics (if present), conclusions that are supported by evidence, and well-formatted references. This course is graded S/N and approval of the DUGS is required before a grade of S can be given by the faculty mentor. prereq: department consent, instructor consent, no more than 7 credits of 4793W, 4794W, 4993, 4994 counts towards CBS major requirements.

PMB 4794W. Directed Research: Writing Intensive. (WI; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Writing Intensive Directed Research is an individual-study, laboratory or field research experience in which the student is mentored directly by a faculty member. This course is intended for students who already have initiated a research project in the lab of the mentor and already have results. In this course the student will receive writing instruction. The written output usually is in the form of a scientific paper describing the results of the student's project. Written output of the course must be revised during the semester and a schedule for writing, assessment and revision needs to be in place at the beginning of the semester. The project needs to be explained in a Research/Directed Studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the Director of Undergraduate Studies (DUGS) for the major before the student is allowed to

register. The contract includes a description of learning objectives for the course, how writing instruction will take place, a timeline for when student writing will be handed in and how it will be assessed, methodology to be used by the student, and how assessment of learning will be conducted by the mentor. Additional oversight is established for this course - near the end of the semester the written output is submitted to the DUGS for the major. The DUGS is responsible to determine that the writing meets standards set by the CBS Education Policy Committee for quality of writing, appropriate citation of literature, well-constructed figures, tables, and legends (if present), appropriate use and interpretation of statistics (if present), conclusions that are supported by evidence, and well-formatted references. The DUGS can call for a final revision before a grade is given. This course is graded S/N and approval of the DUGS is required before a grade of S can be given by the faculty mentor. prereq: department consent, instructor consent, no more than 7 credits of 4793W, 4794W, 4993, 4994 counts towards CBS major requirements.

PMB 4993. Directed Studies. (; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Directed Studies is an individual-study, literature-based investigation in which the student is mentored directly by a faculty member. The topic for the course needs to be explained in a research/directed studies contract and agreed on by both the student and faculty mentor. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. prereq: department consent, instructor consent, no more than 7 credits of 4793W, 4794W, 4993, 4994 counts towards CBS major requirements.

PMB 4994. Directed Research. (; 1-7 cr. ; S-N only; Every Fall, Spring & Summer)

Directed Research is an individual-study, laboratory, or field investigation course. The research topic needs to be agreed on by both the student and the faculty mentor and explained in a research/directed studies contract. The contract must be approved by the director of undergraduate studies (DUGS) for the major before the student is allowed to register. The contract includes a description of learning objectives for the course, methodology to be used, and how the assessment of learning will be conducted. prereq: department consent, instructor consent, no more than 7 credits of 4793, 4794, 4993W, 4994W counts towards CBS major requirements.

PMB 5111. Microbial Physiology and Diversity. (3 cr. ; Student Option; Every Fall)

Structural/functional organization of bacteria/archaea. Energy metabolism utilizing light, inorganic/organic chemicals. Cell morphologies, roles/assembly of surface structures. Growth/survival mechanisms in various extreme environments. Adaptation

to changing conditions by development of specialized cells/structures, altering metabolic patterns.

PMB 5131. Prokaryotic Genetics. (3 cr. ; Student Option; Every Spring)

Genetics is the application of abstractions to understand biological function. Much of our understanding at the molecular level of the natural world is derived from genetic work in model microbial systems like *Escherichia coli*, *Salmonella*, and *Saccharomyces*. Prokaryotic Genetics will focus on a molecular understanding of bacteria, with a smattering of archaea and phage genetics, covering both classic (transposons, mutant/suppressors) and modern (sequencing, metagenomics, synthetic biology) genetic approaches. prereq.: Introductory microbiology course.

PMB 5212. Fungi - A Kingdom of Their Own.

(3 cr. ; Student Option No Audit; Every Spring) No matter how you classify life on Earth, the fungi are in a Kingdom of their own. Latest estimates of the number of fungal species on our planet are between 2.2 and 3.8 million species. The diversity of single-celled and multi-cellular fungi is staggering, the result of divergence within a group of aquatic eukaryotes one billion years ago (? 500 million years). That divergence ultimately gave rise to animals and fungi, but the diversification within the fungal lineages is unrivaled. They can be found in aerobic and anaerobic environments. They are found on every Continent, recycling and reallocating vast amounts of nutrients in every Biome. They cause problems in crops but are also used to make food, with ancient processes such as fermentation and mushroom cultivation. For these reasons, mycology (study of fungi) is increasingly popular among students with interests as diverse as their fungal subjects. With the advent of high-throughput DNA sequencing to sample entire communities, we are seeing fungi in all of these places where they were previously invisible. The fungal role in Earth's most critical processes is, right now, coming into light. It is an exciting time to study Kingdom Fungi. This course uses a format of lecture, discussion, and field trips to provide undergraduate and graduate students with a solid foundation in the fungi, primarily through an environmental lens. Undergraduate and graduate students will learn the basics of fungi in three core sections: 1) Phylogeny, taxonomy, and diagnostics (Who are the fungi?); 2) Morphology and physiology (How do fungi work?); 3) Ecology and Biotechnology (What are fungal implications and applications?). Within each core section, there will be one class period devoted to a discussion of the environment, the role of fungi, and the human dimensions of conservation and management. This discussion will be used by the class to vote for an environmental theme used to frame writing assignments, one per unit. Using this theme, all students will create a Fungus in Focus one-page brief focused on this environmental issue. This is a creative way to connect dots for students linking microbial processes to the environment, in our case harnessing connections to fungi that often have visible characters (e.g. mushrooms) that make

those connections easier for students. We will also go on two field trips, one to a mushroom cultivation facility, and one into the field in April, all depending on class size and weather.

PMB 5412. Plant Physiology and Development. (3 cr. ; Student Option; Every Fall)

Plant physiology and development is the study of how plant cells, tissues and whole organisms grow and function in response to internal and external cues. PMB 4412/5412 covers the classic plant physiology and development processes including plant water relations, mineral nutrition, membrane transport, photosynthesis, respiration, vascular function, metabolism, growth and development, and hormone responses. The physics underlying our understanding of these physiological systems will also be addressed. Other areas of plant science such as plant genetics and biochemistry are covered in other courses and will not be emphasized this course. There are no enforced prerequisites for this course. The following preparation is recommended: PMB 2022 General Botany or PMB 3007W Plant Algal and Fungal Diversity; General Chemistry and Introductory Physics.

PMB 5601. Topics in Plant Biochemistry. (; 3 cr. ; Student Option; Every Spring)

Biochemical analysis of processes unique to photosynthetic organisms. Photosynthesis and carbon dioxide fixation. Synthesis of carbohydrates, lipids, and derivatives. Aromatic compounds such as lignin, other natural products. Functions of natural products. prereq: [BIOL 1002 or BIOL 1009 or BIOL 2003], CHEM 2301

PMB 5802. Field Microbiology at Itasca Biological Research Station. (3 cr. ; A-F only; Every Summer)

The microbial world is incredibly diverse: there are estimated to be more microbial cells on Earth than stars in the entire universe. Much of our understanding in microbiology derives from studies of pure cultures; organisms that can easily be grown in the lab. However, it is now clear that the vast majority of microorganisms in nearly every environment are not readily grown under laboratory conditions. We must, therefore, go to them. Field Microbiology will be a three-week intensive course where students will be taught methods of environmental microbiology in both lecture and laboratory format. The goal is to not only quantify who is in a given sample but also to understand something about the conditions they live in (temperature, nutrient availability, etc.). Ecological data and microbial community structure will be generated using Oxford Nanopore sequencing technology - a cutting edge method to generate large sequencing datasets in real-time. Analyses will be integrated with an in situ set of field instrumentation that includes an eddy covariance system for quantifying fluxes of methane and carbon dioxide from Lake Itasca and Elk Lake, as well as in-lake measurements of solar radiation, dissolved organic matter, pH, conductivity, temperature, dissolved oxygen and chlorophyll. A series of field trips will be

scheduled to locations in and around Itasca State Park including Elk Lake, Arco Lake, Iron Springs Bog and Lake Alice Spring. Students will also develop an independent research project that will apply methods learned during the first 1.5 weeks of the course.

PMB 5812. Field Mycology. (3 cr. ; A-F only; Every Spring & Summer)

This class focuses on learning about how to study fungi. Students will gain experience identifying mushrooms and other samples collected during course field trips using macromorphological, microscopic, and molecular techniques. In addition, students will isolate fungi from environmental samples and maintain cultures as well as assess fungal community abundance and composition using both traditional (e.g., root tip colonization) and DNA-based methods (e.g., next-generation sequencing, bioinformatics, and ecological statistics). Course lectures highlight different aspects of fungal diversity (taxonomic, physiological, and ecological) and lab exercises provide hands-on practice. Course writing assignments and presentations emphasize exploring the natural history of fungi as well as critically assessing primary research literature. Permission is required for undergraduates to enroll in the graduate-level of this course (PMB 5812); inquire with the instructor.

Political Science (POL)

POL 1001. American Democracy in a Changing World. (SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course is intended to introduce students to the expressed hopes of the American people for their government and to the institutions and processes that have been created and recreated to achieve these hopes. The course is designed to help students understand what liberal education is by engaging in the study of American politics as a fundamentally critical and creative enterprise, and by grappling with the most complex and challenging problems of political life, such as the sources of political equality and inequality, and the tension between individual aspirations and political control. Questions of power and choice, opportunity and discrimination, freedom and restrictions on freedom are fundamental to the historical development of and current controversies within the American political system, and we will attend to all of these. We will explore topics including the ideas underlying the nation's founding and its constitutional foundations; civil rights and civil liberties; the role of the United States in an increasingly globalized world; the structure and function of American political institutions; and the behavior of American citizens in the political process. In addition, we will learn to think and communicate like political scientists. We will read primary documents, such as the Federalist papers, engage with scholarly arguments about the way the American political system works, and critically evaluate critiques of the American political system that have been offered from a variety of perspectives. By the end of the semester students should

have a basic understanding of the structure and function of American government as well as an increased ability to critically reflect on the degree to which our institutions, processes, and citizens live up to the expectations placed on them. Students will be able to identify, define, and solve problems and to locate and critically evaluate information. Students will have mastered a body of knowledge and a mode of inquiry. This course fulfills the liberal education requirements for the Social Sciences Core.

POL 1001H. Honors Course: American Democracy in a Changing World. (SOCS; 4 cr. ; A-F only; Every Fall & Spring)

Introduction to politics/government in the United States. Constitutional origins/development, major institutions, parties, interest groups, elections, participation, public opinion. Ways of explaining politics, nature of political science. Emphasizes recent trends.

POL 1019. Indigenous Peoples in Global Perspective. (GP; 3 cr. ; A-F or Audit; Every Fall & Spring)

Colonial experiences of selected indigenous peoples in Americas, Euroasia, Pacific Rim.

POL 1025. Global Politics. (GP,SOCS; 3 cr. [max 4 cr.]; Student Option; Every Fall, Spring & Summer)

Global politics is complex, fast-paced, and often confusing. This introductory course explores both the enduring challenges of international politics as well as more recent transformative trends. The course introduces theoretical traditions, but its focus is on making sense of real-world problems, both today and in the past. Why is the world organized into states, and what implications does the states system have for indigenous populations globally? Why and when do states go to war and use military force? Why do they sign international agreements and treaties, on matters from arms control to investment? In what ways do existing systems of international law and trade exacerbate or mitigate global inequities? Why has human rights emerged as a central problem in world politics? What are the prospects for international cooperation to address climate change? How have inequities and prejudices, along the lines of race and other categorical identities, shaped our world - from the practice of global security to the structures of the international political economy? These are among the pressing real-world questions that this course in Global Politics will address and that it will give you the tools to answer - though particular instructors will naturally emphasize different topics and questions. But the course will also highlight how our answers to these questions are changing along with the deep power structures of global politics - as US dominance wanes and others, most notably China, rise; as core ideas and discourses underpinning the international system, such as sovereignty, come under assault; as institutions, such as those governing international law, thicken; and as attention grows to the structuring effects of race and other ascriptive categories. Global Politics is an essential guide to our increasingly globalized world.

POL 1025H. Honors: Global Politics.

(GP,SOCS; 4 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to international relations/issues in contemporary world affairs. War, peace, nuclear proliferation. Politics of humanitarian intervention. Global monetary/trading systems. Activities of international institutions/non-governmental organizations. prereq: Honors student

POL 1026. U.S. Foreign Policy. (; 3 cr. ; Student Option; Every Fall & Spring)

The United States is the most powerful country in the world. This means that how the United States behaves in the world is hugely important. As a result, we should all try to better understand U.S. foreign policy: why the U.S. behaves in the way it does, how the U.S. should behave, and how it has behaved in the past. These are the questions that this class tackles. For example, we'll ask: why does the United States play such an active role in world politics? Might this change in the future and has the United States always behaved in this way? Why is the United States so often at war despite being so militarily powerful and secure? What role has race and racism played in key episodes of U.S. foreign policy? Does the rise of China pose a threat to the United States and if so, what should the United States do about it? Why does the United States care so much about stopping other countries from acquiring nuclear weapons? Should addressing climate change be a key priority of U.S. foreign policy and how should it be addressed?

POL 1054. Politics Around the World.

(GP,SOCS; 3 cr. [max 4 cr.] ; Student Option; Every Fall, Spring & Summer)

This course is an introduction to the study of politics in different countries around the world. It focuses on domestic politics within countries, as opposed to a course in international relations, which focuses on relations between countries. Some of the questions we tackle include: Why are some countries prone to violent conflict while others remain peaceful? Why do some countries grow rich while others remain poor? Why does democracy emerge in some countries, while dictators hold onto power elsewhere? How do attitudes about gender and sexuality influence politics? Do particular religions, or the strength of religious faith, strengthen or weaken democracy? The readings and assignments help you make sense of the complexity of world politics - to sift through and distill the avalanche of information available and learn how to develop your own arguments about pertinent global issues. Upon completion of this course you will be able to understand and provide examples of 1) the difference between strong and weak states; 2) the distinctions between democratic and non-democratic forms of government; 3) the various ways democracies are governed; 4) arguments explaining the origin of democracy and the persistence of non-democracy; 5) the significance of different forms of political identity such as ethnicity, religion, and gender; 6) why some countries are rich while others remain poor; and 7) why some countries tax and spend more than others. Assignments

seek to develop your skills at developing arguments through logic and evidence and to give you the ability to distinguish between a persuasive argument about politics and simply stating an opinion.

POL 1201. Political Ideas. (CIV,HIS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course serves as an introduction to the study of political theory. Political theory analyzes the meaning and significance of fundamental concepts in politics. Starting from such basic concerns as the nature of politics, humans, power and justice, political theorists explore how these basic starting assumptions organize the norms, practices, and institutions of political and social order. To explore these topics, the field turns to key texts, as well as to political and social events and other media (film, historical documents, etc.). In this introductory course, students will investigate some of the basic texts in political theory, with the goal of learning how to read texts more analytically and to address fundamental questions in political theory. Among the topics that might be the nature of justice and injustice, political obligation and civil disobedience, democracy and other forms of governance. Students who complete this course will understand the deep issues about the nature of politics, will have learned to read and to analyze complex texts. They will also have had the opportunity to reflect upon their own ethical engagement in political life and upon the ways in which historically, political ideas change.

POL 3065. Political Engagement Careers: Planning and Preparing For Your Future.

(CIV; 3 cr. ; Student Option; Every Spring)

Are you interested in pursuing a career in public service? Do you plan to run for office in the future, or work in a government agency (such as the State Department or the FBI or the MN DNR), or become a professional campaign manager or lobbyist, or work as an issue activist on a cause important to you? Would you like to learn more about the variety of public service careers open to a college graduate? Do you wonder what motivates people to pursue careers in politics, public administration, and community service, and how these motivations vary across career fields? Would you like to explore some options for future internship or service learning while at the University? Then this course is for you! This course is the Political Science Department's introduction to careers in political and civic engagement. Through readings focused on theories about and case studies of political engagement, and on the ethics of politics and public service, numerous guest speakers with extensive experience as public service professionals, and a discussion-oriented class format, we will explore the meaning of public service and the main types of public service careers that you could pursue. We will think about the virtues and challenges associated with doing public service work, and how these differ across different types of jobs and venues for serving the public. Finally, you will acquire practical knowledge and skills related to the search for public service work opportunities,

including how to write a resume and cover letter, how to conduct an informational interview, networking, and the job search and application process. Intended primarily for first- and second-year undergraduates, but open to students of any major at any point in their undergraduate program.

POL 3080. Internship in Politics or Government. (; 3-13 cr. [max 15 cr.] ; A-F only; Every Fall, Spring & Summer)

Students search for and arrange an internship with an organization or office working in government or politics, and then complete academic coursework in association with their internship. prereq: instr consent, dept consent

POL 3085. Quantitative Analysis in Political Science. (MATH; 4 cr. ; A-F or Audit; Every Fall & Spring)

POL 3085 teaches students how to study politics scientifically and introduces them to how to use quantitative analysis to answer political questions. The first part of the class covers how to formulate a theory (a possible answer to a question), specify testable hypotheses (what you would see if the theory is correct or incorrect), and set up a research design to test those hypotheses. In the second part of the class, we cover quantitative data analysis, beginning from preliminary statistical analysis to multivariate linear regression. There is no mathematical or statistical background required for this course. By the end of the class, students should be able to ask and answer political questions using quantitative data and fluently evaluate statistical analyses of political phenomena in the media and many academic articles.

POL 3085H. Honors Course: Quantitative Analysis in Political Science. (MATH; 4 cr. ; A-F only; Every Fall & Spring)

POL 3085 teaches students how to study politics scientifically and introduces them to how to use quantitative analysis to answer political questions. The first part of the class covers how to formulate a theory (a possible answer to a question), specify testable hypotheses (what you would see if the theory is correct or incorrect), and set up a research design to test those hypotheses. In the second part of the class, we cover quantitative data analysis, beginning from preliminary statistical analysis to multivariate linear regression. There is no mathematical or statistical background required for this course. By the end of the class, students should be able to ask and answer political questions using quantitative data and fluently evaluate statistical analyses of political phenomena in the media and many academic articles. prereq: Honors student

POL 3108H. Honors Tutorial: Thesis Preparation and Political Science Inquiry. (; 3 cr. ; A-F only; Every Spring)

In this course, students will improve their research skills in preparation to write their senior theses. Students will enter with a few ideas for topics about which they might like to write their theses. They will leave the class with a clear and tractable research question, a literature review that describes how this question fits in with the existing scholarly

literature, and a research design that will enable them to answer the question. Along the way, they will advance their understanding of what constitutes political science research and how to conduct political science research. Students will be graded on the basis of drafts of their annotated bibliography, literature review and research design, a class presentation of the "front half" of their senior thesis, and class participation including short weekly assignments. Students are expected to keep up with the reading and, most importantly, to begin to conduct their own independent research. prereq: Pol sci major, honors

POL 3135. Political Dynamics in the Horn of Africa. (GP,SOCS; 3 cr. ; Student Option; Every Spring)

Who wields political power? Who challenges those in power? And how do they legitimize their claims and go about enforcing them? These are the core questions that will guide our exploration of the political dynamics in the Horn of Africa. Just like most regions in Africa, the Horn is home to diverse cultures and languages. What distinguishes it, however, is the contested nature of state borders, which have been redrawn in ways not observed anywhere else in Africa since the end of European colonialism. The purpose of this class is to delve deeper into these conflicts, to examine the interactions between incumbent governments, armed rebel groups, and international actors in shaping war and peace in the Horn. Throughout this journey, we will pay special attention to ideas of sovereignty, identity, and violence and draw on literature outside of the Horn to help us better dissect what is going on within it.

POL 3225. American Political Thought. (CIV; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course provides an introduction to several key periods and some of the leading concepts and debates in American political thought. It might also focus on a broader theme such as: conceptions of destiny, mission, and exceptionalism; arguments over economic development and inequality; or debates over government and corporate power. The course will begin with Puritan religious and political thought, tracing its secularization over time. Considerable attention will be paid to the ideas behind the Declaration of Independence and the Constitution, such as the social contract and the right of resistance to civil authority, civic republicanism, and the founders' new science of politics and government. The course will consider some if not all of the following: debates over slavery and emancipation, women's rights, the rise of imperialism and nationalism, race and racism, and the rise of rule by public and private bureaucratic organizations, and the consequences of these developments for the possibility of continued individual liberty, equality, and justice. This course requires considerable reading of difficult texts. The ultimate goal of this course is for students to gain a deeper understanding of American political thought as a product of the country's ever-evolving political discourse. prereq: Suggested prerequisite POL 1201

POL 3235W. Democracy and Citizenship. (CIV,WI; 3 cr. ; Student Option; Every Fall & Spring)

This course considers the nature of contemporary democracy and the role that members of the political community do, can, and should play. While approaches in teaching the class vary, students can expect to read historical and contemporary texts, see films and videos, to approach questions about the nature of democracy, justifications for democracy, and challenges faced by contemporary democracy as it relates to racial inequality, immigration, gender inequality, and ecological crises. Topics will include: the centrality of social movements for democracies; deliberative and participatory democracy; as well as questions about how members of political communities can best participate in democratic life to address structural inequalities. Students will write a longer essay that allows them to demonstrate their capacities to understand and explain complex ideas and to make a theoretically compelling argument, using appropriate supporting evidence. prereq: Suggested prerequisite 1201

POL 3251W. Power, Virtue, and Vice: Ancient and Early Modern Political Theory. (WI; 3 cr. ; Student Option; Periodic Fall)

Key concepts of contemporary political life such as "democracy", "tyranny", "authority" and indeed "politics" itself? derive from ancient sources. This course offers students an opportunity to return to the foundations of this vocabulary by delving into work by such major thinkers as Plato, Aristotle, Augustine, Aquinas, and Machiavelli. Lectures and discussion shall consider the endurance of certain basic questions of political life, such as: What is justice? What is the best regime? What is the relationship between human nature and political order? Can politics be virtuous and, if so, in what way? The course will also consider the radically diverse responses to these essential questions through examination of a wide range of historical periods and the unique terms of political order each offered. Previous iterations of the course have included examination of the Classical Greek city-state system and its fragile experiments with democracy; the rise and fall of the Roman empire; the establishment of Western Christendom; the Renaissance, so-called "discovery" of the New World, and dawn of the modern era. Students will gain a glimpse into worlds preoccupied by matters of truth, virtue and nobility, but also widely populated by slavery, imperialism, violence, and religious strife. In this way, the study of ancient theory is intended to serve as both supplement and challenge to the terms of contemporary political life.

POL 3252W. Revolution, Democracy, and Empire: Modern Political Thought.

(AH,WI,CIV; 3 cr. ; Student Option; Spring Even Year)
From the seventeenth through the nineteenth centuries, Europe and its colonies were wracked by large scale, sweeping changes: from the violent emergence of the sovereign state, to intense religious conflict, to geographic

expansions at once transformative and brutal in search of new economic markets. These changes posed extraordinary challenges to usual ways of conceiving of political order and governance. Our course this semester will read these changes through three key concepts: revolution, democracy, and empire. Class discussion will seek to understand different meanings of these concepts, their political stakes, and ways of knowing how to move between political ideals and historical examples. Students will read a range of materials: from primary historical sources, to philosophic texts, political pamphlets and treatises, and travel journals? so as to study the effects on both the European context and beyond. prereq: Suggested prerequisite 1201

POL 3265. Ideas and Protest in French Postwar Thought. (AH,CIV; 3 cr. ; Student Option; Every Fall & Spring)

France witnessed a number of extraordinary events in the 20th century: the carnage and trauma of World Wars I and II; the Vichy regime's collaboration with German Nazis; the general strike and student protests of the 1960s; the tensions prompted by anti-colonialism and later decolonization in North Africa; and the challenges of post-colonialism and racial politics. This course will examine these events, the political and ethical challenges they raised, and the intellectuals who shaped the ensuing public debates. It will draw on historical documents, cultural media (e.g. posters, art, film), and philosophical texts to explore contemporary France in its century of politics and protest. Thinkers range from film-maker Gillo Pontecorvo, to philosopher-playwright Jean-Paul Sartre, to philosopher Michel Foucault.

POL 3272. Colonial Encounters. (AH,CIV; 3 cr. ; Student Option; Periodic Fall & Spring)

If politics classically is the exercise of power by rulers over the ruled, how have different communities, traditions, and contexts sought to organize this power and render it just? What are the lessons to be learned from looking to past experiences with political communities ranging in size from the face-to-face polis to the far-flung reaches of empire? How does the "discovery" of other societies disorient our usual frames of reference for thinking about political community? What different frames might we use? What should we make of problems that seem to exceed the capacity of existing institutions to manage, such as mass violence and total war? The aim of this course is to examine exemplary moments that consider the radical conflict of interpretations that can arise when different cultures come into contact with one another (whether through trade, war, intellectual exchange, or the like), and how these exchanges transform the scale of political community (local, regional, global, universal). Here, we are concerned with large-scale upheaval, processes that are more than simply difficult political problems, but in fact transform the very institutions, relationships, and concepts through which we come to understand what political community is and can be. The substantive focus of the course varies according to instructor, and

may include: Colonial Encounters; the Black Atlantic; Revolutionary Moments; Colonialism and the Post-colony.

POL 3282. Black Political Thought:

Conceptions of Freedom. (DSJ,HIS; 3 cr. ; Student Option; Periodic Fall & Spring)

On January 21, 1964, Ella Baker, one of the most important Black leaders of the Civil Rights Movement stood in front of a large crowd in Hattiesburg, Mississippi and said: "Even if segregation is gone, we will still need to be free; we will still have to see that everyone has a job. Even if we can all vote, but if people are still hungry, we will not be free. Remember, we are not fighting for the freedom of the Negro alone, but for the freedom of the human spirit, a larger freedom that encompasses all mankind." With these words, Baker held before the crowd a political vision that went beyond the immediate goals of social struggle and defined one of the central impulses of Black political thought: to articulate a large and expansive conception of freedom. In this course, our main objective is to enter an intellectual terrain of rich and vibrant debates between African American political thinkers over the meaning of Black freedom. We will explore questions about 1) the geographical reach of their visions of freedom 2) their strategies for agitating for and achieving freedom 3) their different understandings of the nature of domination and how this informs their conception of freedom and 4) their emphasis on political affect in the struggle for freedom. Our orientation will be historical and theoretical. To this end, we reconstruct theoretical debates from four important periods of African American history. 1) pre-Civil War debates about the abolition of slavery (1830-1860) 2) Turn of the century debates about racial progress (1880-1910) 3) Civil rights era debates about integration and separatism (1950-1970) and 4) contemporary debates about law enforcement, police killings, mass incarceration, and political disenfranchisement (1990-present).

POL 3306. Presidential Leadership and American Democracy. (; 3 cr. ; Student Option; Spring Odd Year)

To most Americans?if not most human beings? the President of the United States is probably the most powerful person on the planet. This course examines how, why, and whether that is the case. What does the US President do, and why? Why is so much power entrusted to just one person? Students will critically analyze these questions and synthesize answers by evaluating the history, evolution, and current state of the "highest office in the land."

POL 3308. Congressional Politics and Institutions. (SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course is an introduction to the politics of the U.S. Congress and the federal legislative process. Throughout the semester, we will focus on the behavior of individual legislators and the role that they play in crafting federal legislation in policy areas such as healthcare, civil rights and the environment. We will devote special attention to changes in Congress, as well as current political and scholarly controversies such as congressional

confirmation process of Supreme Court justices, congressional war powers, the influence of parties, and campaign finance. The theme of the course is why do legislators behave as they do and who interests do they represent.

POL 3309. U.S. Supreme Court Decision-Making, Process, and Politics. (; 3 cr. ; Student Option; Every Fall & Spring)

The principal purpose of this course is to introduce you to judicial politics and decision-making of the U.S. Supreme Court. Specifically, we will examine theoretical issues regarding judicial process and politics. Unlike constitutional law and civil liberties classes, this course does not study legal doctrine. Rather, it examines political aspects of the legal system with an emphasis on the social scientific literature about how the U.S. Supreme Court functions. Thus, we will cover nominations of justices, decision making models, and how justices interact with one another and the political world beyond the ivory tower. Recommended prerequisite: POL 1001

POL 3310. Topics in American Politics. (; 3 cr. [max 15 cr.] ; Student Option; Every Fall, Spring & Summer)

Topic in American politics, as specified in Class Schedule.

POL 3310H. Topics in American Politics. (; 3 cr. ; A-F only; Periodic Fall & Spring)

Topics in American politics.

POL 3311. Law and Justice: The View From Hollywood. (3 cr. ; Student Option; Every Summer)

Politics and the law have played major thematic roles in American films. This course analyzes eight films that focus on justice, the law, and the legal system, to see what they tell us about political and legal culture, and what messages (if any) they have for contemporary politics. To that end, we will read about, watch, talk about, and write about films. Mostly we will be focusing on questions about the relationship between law and justice, the practice of law, and the role of courts and trials in a political system; however, many other issues will arise in the course of these discussions? race/class/gender and the law, legal ethics, legal education, the adversarial system, the relationship between law and popular culture, among others. You should expect to develop a more in-depth understanding of these issues as well as a better appreciation of the cultural and political significance of the way that law, lawyers, and judges are depicted in the movies.

POL 3317. Food Politics: Actors, Arenas, and Agendas. (SOCS; 3 cr. ; Student Option; Every Fall & Spring)

Food: Everyone eats it but we increasingly fight about how it is grown, transported, processed and consumed. This disagreements find their ways into politics, whether it is neighbors battling over backyard chicken ordinances, Members of Congress arguing over how best to protect the safety of the food supply, or countries engaging in trade wars to limit the importation of agricultural products. This course takes a broad, multi-disciplinary perspective on food politics drawing on concepts and

ideas from political science, sociology, and economics to analyze several contemporary "food fights," including agricultural trade, U.S. farm bills, the National School Lunch Program, proposals for taxing sodas and fatty foods, and the labeling of genetically modified food. Take this course if you want to learn more about the various resources, arguments, evidence, and rules of engagement that structure contemporary food politics. This course satisfies the Social Science Core of the Liberal Education requirements and is an eligible elective for the public health minor in CLA and the Food Systems major in CFANS.

POL 3319. Education and the American Dream. (DSJ,SOCS; 3 cr. ; A-F or Audit; Every Fall)

What role does education play in American democracy? What role should it play? Does American education, particularly public education, live up to its citizens' hopes and expectations? And, perhaps most importantly, what do we mean by a "good education"? This is a question with deep historical roots in this country, one that is the subject of current policy debates and one that cannot be separated from questions of discrimination and inequality. The over-arching theme of the course is to wrestle with what it means to be an educated citizen in the context of historical struggles to achieve that vision in the face of multiple and inter-related inequalities and competing visions about how to make the American dream a reality in the field of public education. No one political perspective will be offered or favored. No magic powder will be revealed on the last day of the course. The fact is that the underlying issues are really complicated, often seemingly intractable, and very, very political. This course is intended as introduction to education politics and policy in the United States. It will focus on K-12 education, especially in the public system. It is designed for any student who might have an interest in exploring education, public policy, or American government. Topics will include equality of educational opportunity, educating democratic citizens, school finance, the role of political institutions in making educational policy, and efforts to reform and remake American education, including charter schools, private school vouchers, and standardized testing. By the end of the course, students should have a basic understanding of the provision of public education in the United States, including the ways in which education is governed and the institutions involved in that governance. Students should be able to critically reflect on the degree to which American education fulfills the sometimes-competing goals Americans have for their schools. This course fulfills the Social Sciences Core of the University liberal education requirements. In this course students will act as policy analysts, with all of the complexity that such a task entails in the field of American public education. This course also fulfills the Diversity and Social Justice in the United States theme of the University liberal education requirements.

POL 3321. Issues in American Public Policy. (; 3 cr. ; Student Option; Periodic Fall)

This course examines the politics of social policy in the United States. Recent controversies over Social Security reform, the Patient Protection and Affordable Care Act (?Obamacare?), and the No Child Left Behind Act and Common Core showcase the profound political and substantive impact of this topic. The first half of the course places the United States in comparative perspective. Scholars typically describe the United States as a ?laggard? where social policies developed relatively late, grew relatively slowly, and are less generous than are corresponding policies in other advanced industrial democracies. Is this an accurate portrayal of American social policy? Recent scholarship challenges the conventional wisdom, suggesting that the United States does not necessarily do less in terms of social policy but that it relies on an unusual set of policy tools to pursue objectives like poverty alleviation. What explains the distinctive shape of American social policy? This course investigates the impact of political culture, the relative power of various interest groups, the American constitutional system, and other factors. The second half of the course examines recent trends in American social policy, focusing on four specific policy areas: pensions, health care, education, and income support. It examines both the historical origins of contemporary American policies and recent reform proposals. A major theme of the course is that it is impossible to understand the contemporary shape of social policy, and the positions of specific stakeholders, without understanding the long-term historical processes that have shaped, and that continue to shape, the present political terrain of preferences and actors. New generations of leaders do not have the opportunity to build social policy from scratch. Rather, they have to react to what already exists. Some reforms will seem like logical extensions of what is already in place, while existing programs might make other alternatives difficult if not impossible to pursue. By understanding the roots of contemporary American social policy it becomes possible to devise a political strategy for major policy change.

POL 3323. Political Tolerance in the United States. (; 3 cr. ; Student Option; Every Spring) Intergroup conflict continues to be one of the defining fault lines in American politics. Most obviously, the existence of racial inequality has consequences for any given individual?s social and economic standing. However, it also has had an enormous impact on the pattern of attitudes and beliefs that have served as the backdrop for many of society?s most pressing political debates and conflicts. The purpose of this course is to provide students with an introduction to how political scientists have studied ethno-racial attitudes and the larger problem of inter-ethnic conflict in American society.

POL 3325. U.S. Campaigns and Elections. (; 3 cr. ; A-F or Audit; Fall Even Year) Presidential/congressional campaigns/elections in the United States. How political scientists study electoral politics. Theoretical generalizations about candidates, voters,

parties, and the media. Ways electoral context and "rules of the game" matter.

POL 3329. The Balance of Power: Federalism & Community in the United States. (3 cr. ; Student Option; Every Spring) The appropriate balance of power between the national government and the states has been the subject of intense debate since the United States became an independent country in the eighteenth century, and it has never been resolved. This unresolved controversy has profound democratic and policy implications. Some of the political and social rights that are part and parcel of what it means to be a member of the American community are influenced by geography and the specific state in which an individual resides. For example, state governments make numerous decisions that define voter eligibility, an especially important form of community membership and political participation. In addition, federalism strongly affects the policymaking process. In fields as diverse as environmental protection and health care, the relationship between the national government and the states affects which policies are adopted and how they work in practice. While federalism is rarely at the forefront of the minds of the American public, it plays a central and increasingly important role in the U.S. political system. This course seeks to give students a better understanding of American federalism. By examining both the historical evolution of intergovernmental relations in the United States and contemporary policy debates, it also aims to help students develop the substantive knowledge and analytical skills they need to become critical thinkers. All of the writing assignments that students will complete in the course have been designed with this objective in mind, and the course will emphasize systematic thinking about politics, the explication of logically coherent arguments, and the use of relevant and appropriate empirical evidence to evaluate those arguments. The successful development of the critical thinking and writing skills emphasized in this course will enable students to communicate effectively in a variety of future roles, including as employees and citizens.

POL 3362. Politics of Race, Class, and US Social Policy. (DSJ,SOCS; 3 cr. ; Student Option; Every Fall) This course examines the causes and effects of the vast social and economic inequalities that exist between blacks and whites in US society. Specifically, the course examines the complex role that federal, state, and local government plays in creating as well as addressing high rates of poverty, unemployment, violent crime, residential segregation, and under performing schools found in African American communities. Students will examine critically whether class-based policies such as Social Security, Medicaid, and unemployment insurance are more effective than race-based affirmative action policies in reducing the racial disparities between blacks and whites. Further, in discussions, the course will emphasize general concepts that recur in the readings and in other

classes. Students will master the key concepts in race and ethnic studies necessary to conduct original research and policy analysis.

POL 3409. Introduction to Authoritarian Politics. (3 cr. ; Student Option; Every Fall) For much of history, states were largely organized along dictatorial principles. There were the days of emperors and empresses, of kings and queens, of rulers who ruled not because they were elected by their subjects, but because they saw it as their right to reign and were shrewd enough to maintain their position in power. While it is true that monarchies have virtually disappeared from the modern political landscape, the same cannot be said about dictatorships. The purpose of this class is to examine this regime type by introducing students to the current literature on dictatorships. The core questions that will be addressed in the class are as follows: Are dictatorships qualitatively different from democracies or do regimes instead lie somewhere on a democracy-dictatorship continuum? How do dictators survive in power? In the absence of free and fair elections, how does the transfer of power occur in this political setting? In asking these questions, the goal is to go beyond the often simplistic descriptions of dictators as the all-powerful and omnipotent tyrant, the one who does as he pleases without having to fear any repercussions for his actions. Instead, we will learn that the dictator is only one among many other political elites that make up the regime and to survive, much less thrive, he must traverse the terrain of power politics with the utmost care.

POL 3410. Topics in Comparative Politics. (; 3 cr. [max 9 cr.] ; Student Option; Every Fall, Spring & Summer) Topics of current analytical or policy importance to comparative politics. Topics vary, as specified in Class Schedule.

POL 3423. Politics of Disruption: Violence and Its Alternatives. (GP; 3 cr. [max 4 cr.] ; Student Option; Periodic Fall & Spring) Political struggles aimed at undermining the existing political order have been a pervasive feature of global politics. Modern states have constantly been sites of relentless challenges from their citizenry, which sometimes take the form of non-violent action while on other occasions manifest in terrorism and violence. This course introduces students to the politics of disruption and violent and non-violent struggles targeted at bringing about political change. We will study a range of manifestations of such struggles focusing on some well-known cases such as the US civil rights movement, the Arab Springs, the Ferguson riots and the Islamic State (ISIS). Can non-violent resistance succeed against a coercive state? Why do individuals and groups participate in high-risk political struggles? What explains patterns of violence in civil conflicts? What are the effects of violence? What facilitates peace? This course will enable you to answer these questions.

POL 3431. Politics of India. (GP; 3 cr. [max 4 cr.] ; Student Option; Every Spring) The course introduces students to the politics of India; a non-Western, parliamentary

political system that stands out as a bastion of democracy in the developing world, despite underdevelopment & significant ethno-religious divisions. By focusing on India, we offer an understanding of the problems of democratization, underdevelopment, governance & political violence. We examine India's political institutions & challenges confronting the institutions such as socio-economic inequalities, social exclusion, social divisions, ethno-religious & ideological insurgencies, criminalization of politics & rampant corruption. The course enables students to answer important questions: Why did democracy endure in post-colonial India when much of the developing world endured authoritarian regimes? What accounts for the persistence of ethno-religious conflict & violence? What determines a country's approach to socio-economic development? What accounts for India's economic development over the last few decades? How do we explain the existence of political democracy and rampant corruption?

POL 3451W. Politics and Society in the New Europe. (GP,WI; 3 cr. ; Student Option; Fall Even, Spring Odd Year)

The devastation of Europe through two World Wars put the deadly results of ultra-nationalism on full display. To avoid such destruction again, a group of European technocrats and leaders embarked on a mission of incrementally deepening economic and later, social partnerships between an ever-expanding number of European countries. These efforts culminated in the birth of the European Union in the late 20th Century. From its inception, the Union has found obstacles in the forms of a weak institutional structure and authority, deep skepticism of a central European authority, financial crisis, ethnic anxiety, and resurgent nationalism. Yet, the continuation and strengthening of the Union is seen as the antidote to the rise of anti-democratic and authoritarian tendencies on the continent. Some of the key questions that we will engage in are: What are the ideological and historical roots of the European Union? What are the structural flaws of the Union? What are the obstacles to a stronger Union? Is the Union still or even more essential than ever? What are the ways the Union could collapse from within and from the intervention of outside forces?

POL 3462. Politics of Race, Class, and Ethnicity. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Is it true that since the election of Donald Trump the United States is more racist than ever? Is racism on the rise elsewhere in the world? Consistent with the goals of liberal education, this course helps students navigate their way through what is often seen as one of the most perplexing and intractable problems in today's world? racial and ethnic conflicts. It supplies a set of theoretical tools that can be utilized in the most diverse of settings? including, though to a lesser extent, gender. Rather than looking at these conflicts, as the media and popular knowledge often does, as centuries-old conflicts deeply set in our

memory banks, a script from which none of us can escape, the course argues that inequalities in power and authority? in other words, class? go a long way in explaining racial and ethnic dynamics. To support this argument, the course examines the so-called "black-white" conflict in three settings, the U.S., South Africa and Cuba. While all three share certain similarities, their differences provide the most explanatory power. Most instructive is the Cuba versus U.S. and South Africa comparison. Specifically, what are the consequences for race relations when a society, Cuba, attempts to eliminate class inequalities? The course hopes to show that while we all carry with us the legacy of the past, we are not necessarily its prisoners.

POL 3464. The Politics of Economic Inequality. (DSJ; 3 cr. ; Student Option; Every Fall & Spring)

Distributional issues are at the core of the study of politics. This is because while democracy is premised on formal political equality, if wealth and property can shape political power then equal rights do not mean equal influence. This class meets the UMN "Race, Power, and Justice in the US" Liberal Education theme by engaging the question of the tension between democracy and economic inequality. What policies increase or decrease inequality? What are the political consequences of rising inequality - in general and particularly for ethnic and racial minorities? The course focuses on the USA but puts American politics in global perspective. To do so, the course explores how dominant socio-economic groups in the US have historically shaped political institutions and attitudes to generate, perpetuate, and defend inequality. We will also explore the extent to which and why white and non-white citizens have bought into the concept of the "American Dream," undermining efforts to redress social injustice.

POL 3471. Dictatorships & Violence in Central Asia. (3 cr. ; Student Option; Every Fall)

This course is an overview of politics in Central Asia, a region of the world that has layers of history, culture, and politics, that extend back to the time of Alexander the Great's conquest, Islamization by the Arabs, Tamerlane's empire, and the Great Game of the 19th Century. Our focus will mainly be on the twentieth century to the present, including the period of control by the Soviet Union, then independence and 30-years of independent nation-states with new forms of political power. Otherwise known as the "stans" (the land of)-this region includes the land of the Kyrgyz, Kazakhs, Uzbeks, Turkmen, Tajiks, Uighurs, and Afghans. We will also discuss Azerbaijan, a Turkic post-Soviet republic in the Caucasus that is a neighbor to the Central Asian region. We will focus on the role of ethnic, religious, and national identities in Soviet and post-Soviet politics. We will explore their history, and especially the legacy of communism for the present day. We will particularly address the problems of the post-Soviet era, including political transition to new regimes, the struggle by some for democracy, human rights issues,

the challenges of economic reform, ethnic conflict, civil war, and the growth of both moderate and radical Islamist movements. We will focus on religious repression by the Central Asian states, and religious and ethnic repression of the Uighurs by the Chinese state. We will consider US policy in the region, and how it has positively or negatively affected political developments. We will also analyze the growing competition between Russia, China, and the US for influence in the region.

POL 3475. Islamist Politics. (; 3 cr. ; Student Option; Every Fall)

The relationship between Islam and politics-both in the Muslim world and in the West-is one of the most important political issues of our day. This class will address these issues by taking a historical and political look at the development of Islam (the religion) and Islamism (Islamic political movements) in many areas of the Muslim world. We will begin by discussing the Islamic faith and historical debates about its relationship to politics. Then we will turn to the twentieth century, and examine the rise of Islamist politics in the Middle East and North Africa (e.g. Saudi Arabia, Egypt, Iran, Sudan) and south central Asia (e.g. Pakistan, Afghanistan). We will study the successes and failures of Islamist revolutions. Then we will focus on the evolution of the "Arab Spring" and its implications for both Islamism and democracy. In doing so, we will discuss debates about the compatibility of Islam and democracy, and examine attempts at democracy in the Muslim World (e.g. Tunisia). We will examine the revival of Islam and rise of post-Soviet Islamism in Eurasia (Central Asia, Russia, and the Caucasus) during the last two to three decades. We will examine the effects of state repression of Islam and religious freedom in those countries. We will also discuss varying ideas about jihad, and the rise of global jihadists and terrorist groups, such as Al Qaeda and ISIS. We will study the jihads waged by Al Qaeda, the Taliban, and ISIS, and the implications of militancy and terrorism for establishing stability and democracy in the Muslim world. We will read both Muslim and non-Muslim, American and non-American perspectives on these problems. Understanding these issues is critical to gaining perspective on the troubling state of today's complex global politics, and US foreign policy in Afghanistan, Iraq, Syria, and elsewhere.

POL 3477. Political Economy of Development. (GP,SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

How can the vast disparities of wealth between countries be explained? Why have some countries in the post-colonial world, in particular, those of East Asia, experienced stunning economic growth, while those in other parts have not? We will explore inequality among nations through an engagement with competing explanations from multiple disciplines. Do free markets, the legacies of colonialism, state power, culture, or geography offer the most persuasive account of current patterns of global inequality? The course also examines what we mean by "development" and exposes students to cutting-edge debates

in contemporary development studies. By the end of the course, students will have a better understanding of the causes of and possible solutions to global inequality.

POL 3479. Latin American Politics. (GP; 3 cr. ; Student Option; Every Fall)

This course offers an introduction to the political history and contemporary politics of Latin America, along with some of the main concepts and theories used by social scientists to explain the region's political dynamics. Through a comparative, historical approach, the course aims to help students understand the continued challenges faced by countries in the region-- to the establishment of security, the rule of law and rights protection, to the stability and quality of democracy, and to sustainable and equitable economic growth? and how these interact. The objective of the course is not only to help students understand the similarities and differences in outcomes in Latin America over time, but also to reflect on what the region's experiences can teach us about the requirements of and barriers to meaningful democracy and sustainable and equitable development around the world, including ?north of the border.? In other words, the course seeks not just to provide students? knowledge about Latin America, but to help them learn from Latin America.

POL 3481H. Comparative Political Economy: Governments and Markets. (; 3 cr. [max 4 cr.] ; A-F only; Periodic Fall & Spring)

This course analyzes the compatibility of democracy and markets-whether democratic institutions undermine (enhance) the workings of market institutions and vice versa. Competing theoretical perspectives in political economy are critically evaluated. And the experiences of countries with different forms of democratic market systems are studied. Among the topics singled out for in-depth investigation are the economics of voting, producer group politics, the politics of monetary and fiscal policy, political business cycles, and trade politics.

POL 3489W. Citizens, Consumers, and Corporations. (CIV,WI; 3 cr. ; Student Option; Spring Even Year)

Corporations are the most powerful actors in the global political economy. They employ millions of people, produce a wide variety of goods, and have massive effects on the communities where they do business. Although considered to be "legal persons," corporations are not living beings with a conscience. Milton Friedman famously proclaimed that the only moral obligation of corporations is the maximize shareholder returns. Yet maximizing financial returns may negatively affect humans, other living beings, and the planet. This potential conflict between profit and ethics is at the heart of this course, which focuses on how people have mobilized as citizens and consumers to demand ethical behavior from corporations. We will explore these different modes of action through an examination of corporate social responsibility for sweatshops, the industrial food system in the United States, and the privatization of life, water, and war.

The course also considers how corporations exploit racial hierarchies and immigration status in their pursuit of profit.

POL 3701. Indigenous Tribal Governments and Politics. (DSJ,HIS; 3 cr. ; A-F or Audit; Fall Even Year)

History, development, structure, politics of American Indian Governments. North American indigenous societies from pre-colonial times to present. Evolution of aboriginal governments confronted/affected by colonizing forces of European/Euro-American states. Bearing of dual citizenship on nature/powers of tribal governments in relation to states and federal government.

POL 3733. From Suffragettes to Senators: Gender, Politics & Policy in the U.S.. (DSJ; 3 cr. ; A-F or Audit; Every Spring)

Overview to field of gender/politics. Examine role women play in U.S. policy process. How public policies are "gendered." How policies compare to feminist thinking about related issue area. Theories of role(s) gender plays in various aspects of politics.

POL 3752. Chicana/o Politics. (DSJ,SOCS; 3 cr. ; Student Option; Every Fall & Spring)

Theory/practice of Chicana/o politics through analysis of Mexican American experience, social agency. Response to larger political systems/behaviors using social science methods of inquiry. Unequal power relations, social justice, political economy.

POL 3766. Political Psychology of Mass Behavior. (SOCS; 3 cr. ; Student Option; Every Fall & Spring)

How do people develop their political opinions? What makes people vote the way that they do? Why do some people love, and other loathe, Donald Trump? Understanding how ordinary citizens engage with the political sphere is essential to understanding how politics work. This course applies a psychological approach to understanding how average people - members of the mass public - think about politics, make political decisions, and decide how (and whether) to take political actions. We will explore arguments about the role that ideology, biological and evolutionary factors, personality, identity and partisanship, racial attitudes, and political discussion play in shaping the opinion and behavior of members of the mass public. In addition, this class introduces students to the methodology of political psychology and how political psychologists approach questions and attempt to understand the political world. Students will exit the class having mastered a body of knowledge about how they and their fellow citizens think about politics and the different approaches that scholars take to study these decisions. They will also gain the critical capacity to judge arguments about politics, the ability to identify, define, and solve problems, and the skill to locate and critically evaluate information relevant to these tasks. Finally, this course takes a cooperative approach to learning, and many course activities will be structured around learning and working with a group of fellow students over the course of the semester.

POL 3767. Political Psychology of Elite Behavior. (CIV; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

Why do some world leaders seek cooperation while others advocate war? Why do some Presidents effect major change while others are relegated to the dustbin of history? How does the personality of leaders affect how they behave in office? In this class, we will address questions like these by exploring the psychology of political elites, those members of society who wield outsized influence over political decisions. This outsized influence means that understanding how elites think is particularly important. It is also unusually difficult, leading some to argue that political psychology can play little role in understanding elite decision-making. Students will exit the class having mastered a body of knowledge about elite decision-making and learned about the different approaches that scholars take to study these decisions. They will also gain the critical capacity to judge arguments about politics, the ability to identify, define, and solve problems, and the skill to locate and critically evaluate information relevant to these tasks. Finally, this course takes a cooperative approach to learning, and many course activities will be structured around learning and working with a group of fellow students over the course of the semester. This course fulfills the Civic Life and Ethics theme requirement.

POL 3769. Public Opinion and Voting Behavior. (SOCS; 3 cr. ; Student Option; Every Fall & Spring)

Polls are ubiquitous, measuring what Americans think on topics big and small. This course examines the nature, measurement, and consequences of public opinion in the contemporary United States, with a particular emphasis on understanding why some voters preferred Donald Trump to Hillary Clinton - vice versa ? in the 2016 presidential election. We? ll address the following questions throughout the term. First, how do pollsters measure what the public thinks about government and public affairs? Second, can we assume that the responses people give to survey questions reflect their true thoughts and feelings about politics? Third, what are the major factors that shape voter decision making in U.S. presidential elections? By the end of this semester you will have a broader and deeper understanding of the nature, measurement, meaning, and consequences of public opinion.

POL 3786. Media and Politics. (3 cr. ; Student Option; Every Fall)

Do facts matter anymore? Is press freedom under threat? Are audiences trapped in filter bubbles? Why do people hate the media, and how can the news be improved to better serve citizens? Explore the historical and contemporary dynamics that shape the relationship between professionals in the media, the mass public, and political actors across different parts of government. Study major forms of mass media, including television and newspapers, alongside new forms such as digital and social media. Look at specific reporting rituals and practices, as well as

issues involving media ownership, regulation, ethics, and press freedom. We will study politicians' efforts to craft messages, advertise strategically, and target select audiences for political gain. The course will focus primarily, but not exclusively, on the United States, and you will be asked to engage with current events and the role of communication technologies in political and civic life.

POL 3810. Topics in International Relations and Foreign Policy. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall & Spring)

Topics courses delve in-depth into important issues in contemporary international politics. They aim to give students the theoretical, conceptual, and historical understanding, and/or empirical tools needed to understand the complexity of international politics today. Topics courses vary substantially from year to year as specified in the class schedule, but recent topics courses have included: 'Technology and War', 'International Law', 'Drones, Detention and Torture: The Laws of War', and 'The Consequences of War.'

POL 3833. The United States and the Global Economy. (3 cr. ; Student Option; Periodic Fall & Spring)

POL 3833 teaches students about the politics of the global economy with a focus on the role the United States plays within it. The class covers a variety of topics in international political economy, including international trade, international investment, and international finance. Students will learn about the factors that drive politicians' decision-making, interest-group stances, and citizens' preferences over such salient issues as tariffs and other forms of trade protection, trade and investment agreements, central banking, interest rates, international migration, and more. No background in economics is required or assumed.

POL 3835. International Relations.

(GP,SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Why do countries go to war? Are individuals, organizations, and states driven by their interests or their ideas? What role does power play in international relations and is there any role for justice in global politics? Do international laws and transnational advocacy groups matter in a world dominated by powerful states? Whose interests are served by a globalizing world economy? These questions are central to the study of international relations, yet different theoretical approaches have been developed in an attempt to answer them. Often these approaches disagree with one another, leading to markedly different policy prescriptions and predictions for future events. This course provides the conceptual and theoretical means for analyzing these issues, processes, and events in international politics. By the end of this class, you will be able to understand the assumptions, the logics, and the implications of major theories and concepts of international relations. These include realism and neorealism, liberalism and liberal institutionalism, constructivism, feminism, Marxism, and critical theory. A special effort is made to relate the course

material to world events, developments, or conflicts in the past decade or so.

POL 3841. The Consequences of War. (3 cr. ; Student Option; Periodic Fall & Spring)

War - both between and within states - is often horrific. With good reason, when the field of international relations emerged in the wake of the world wars, it was centrally preoccupied with shedding light on the causes of war so as thereby to prevent another one. But both interstate and civil wars are remarkably complex affairs. Notwithstanding wars' alarming human costs, their consequences are varied, often cross-cutting, and sometimes contradictory, and they resist our efforts to narrate their consequences in simple and straightforward ways. Wars can increase executive authority and strengthen the state, but they can also undermine inequitable international and domestic political orders, empires, and regimes, and make it possible for more just ones to take their place. Wars can permit repression and exploitation along the lines of race and other categorical identities, but those same experiences can also inspire those groups to demand first-class citizenship. In the name of insecurity and war, governments sometimes trample upon liberties, especially those of the politically weak and unpopular, but those measures may eventually come to seem unwarranted and even provoke a backlash that expands human liberty. War is filled with privation and trauma, but its horrors can also inspire veterans and victims to mobilize and promote more humane norms. We are properly taught to hate war, to avoid it at all costs. Yet social and political good has sometimes, surprisingly, come out of war too. This course explores the consequences of violent conflict in all its dimensions - the threat of conflict, mobilization for conflict, and the experience of warfare - on, among others, international order and norms, the fate of states and empires, population movements, state-building, nationalism, democracy, civil society, the citizenship struggles of racial minorities and other groups, gender roles, economic growth and inequality, the military-industrial complex, public health, and political culture. At this course's end, you will emerge not only with greater substantive understanding of war's consequences, but also with greater appreciation of war's complexity. For better or worse, you will never look at war the same way again.

POL 3843W. Night Raids, Detention, Torture, and Drones: Methods of War. (WI; 3 cr. ; Student Option; Every Fall)

In this class, we will be examining the use of particular tactics of war-night raids, detention, torture, and drones-as deployed, primarily, but not only, in the US-led war on terror. The purpose of this class is to grapple with the fundamental questions such tactics raise about what is right in war, and the costs and consequences of such tactics on both those who choose to use them and those that are targeted by them.

POL 3879. Critical Humanitarianism: Policy and Politics. (3 cr. ; Student Option; Every Spring)

Over the last two centuries the international community established a set of humanitarian norms, principles, and institutions designed to alleviate the suffering and improve the welfare of vulnerable populations. Humanitarianism? the efforts undertaken to relieve suffering for those displaced by war, human rights violations, climate change, and other disasters? has undergone significant development and transformation, with the expansion and institutionalization of humanitarian action now accepted as a normal part of global politics. Humanitarian organizations, such as the International Committee of the Red Cross or Doctors without Borders, are expected to be on the ground in situations of violence and disaster, with humanitarians leading the emergency responses. Their successes and failures inform not only our sense of what humanitarianism is, or what humanitarians do, but the life and death of those individuals whom they are sent to assist. Thus, this course engages the questions of what does it mean to claim humanitarianism, to do humanitarian work, and to be a humanitarian? We will take a historical approach to the rise of humanitarianism and trace its subjects and actors from the early 19th century to today, as one way of gaining purchase on these questions and to chart the practical, political, and ethical issues intrinsic to the promotion and legitimacy of humanitarianism. Students in this course will develop a better understanding of the current themes and debates in the field of humanitarianism, including the decolonization of aid and aid organizations, the relationship of humanitarian aid and military might, the professionalization of humanitarianism and the attendant issues of accountability to vulnerable populations. This course will also analyze the successes and failures of humanitarianism through both historical and contemporary examples.

POL 3994. Directed Research: Distinguished Undergraduate Research Program. (2 cr. [max 4 cr.] ; A-F only; Every Fall, Spring & Summer)

Students accepted into the Distinguished Undergraduate Research Program work closely with a faculty mentor on supervised projects related to faculty research. Through these activities, students will deepen research, organizational, and communication skills that will prove useful for further training in political science or for other careers. Students are chosen through a highly competitive online application the semester prior to registration. Students should check with Political Science advising for details about the application process. This course is only open to Political Science majors.

POL 4210. Topics in Political Theory. (; 3 cr. [max 9 cr.] ; Student Option; Every Fall & Spring)

Topics in political theory, as specified in Class Schedule.

POL 4255. Comparative Real Time Political Analysis: Marxist versus Liberal Perspectives. (GP,HIS; 3 cr. ; Student Option; Every Spring)

Karl Marx and Frederick Engels had better democratic credentials than Alexis de Tocqueville and John Stuart Mill. Vladimir Lenin, too, had better democratic credentials than Max Weber and Woodrow Wilson. That's the provocative argument of this course. Performing what it calls "comparative real-time political analysis," it presents convincing evidence to sustain both claims. When the two sets of protagonists are compared and contrasted in how they read and responded to big political events in motion, in real-time, the Marxists, it contends, proved to be better democrats than the Liberals. Real-time analysis argues that responding to and making decisions about events in motion is the real test of political perspective and theory; on Monday morning, we can all look smart. The writings and actions of all seven protagonists are the primary course materials? reading them in their own words. The European Spring of 1848, the United States Civil War, the 1905 Russian Revolution and, the 1917 Russian Revolution and end of World War I, all consequential in the democratic quest, are the main scenarios the course employs to test its claims. The findings, course participants will learn, challenge assumed political wisdom like never before. Employing the lessons of the comparisons to trying to make sense of current politics?given the unprecedented moment in which we find ourselves?is the other goal of the course.

POL 4267. Imperialism and Modern Political Thought. (CIV,HIS; 3 cr. ; Student Option; Periodic Fall & Spring)

How has political theory been shaped by imperialism? We will investigate this question through a study of such key thinkers as Kant, Mill, Marx, Lenin, C?saire, Fanon, and Gandhi, reading them through the lens of empire. Our goal is to analyze how such thinkers reflected upon, problematized and, at times, justified forms of Western imperialism. We will look at their explicit reflections on empire, as well as more tangential or ostensibly separate themes that may have only been shaped by the imperial context in indirect ways. Finally, we will reflect upon our contemporary location as readers and agents situated in the wake of these political and intellectual developments, analyzed through the question of what it means to engage in anti-colonial, decolonial, and/or postcolonial critique. This course will combine lectures by the professor with student-led seminar discussion.

POL 4275. Domination, Exclusion, and Justice: Contemporary Political Thought. (DSJ; 3 cr. ; Student Option; Periodic Fall & Spring)

Contemporary Political Theory systematically analyzes the meaning and significance of concepts central to current politics: domination, exclusion, and justice. Starting from basic concerns about the nature of politics, humans, power and justice, this course will explore how these basic starting assumptions organize the norms, practices, and institutions of political and social order. To explore these topics, the field turns to key texts, as well as to political and social events and other media (film,

historical documents, etc.). Through this course, students will also be introduced to different interpretive approaches, ranging from democratic theory, feminist, queer and critical race theories, as well as ethics and moral philosophy. Organized around the politics of the twentieth and twenty-first centuries, the course will pursue a range of questions about democratic legitimation, the exclusion of historically marginalized communities, systematic inequalities of different kinds, as well as ideals of democracy and justice. It will range from theoretical inquiry to practical questions of implementing different political projects. Through this course, students will develop skills in critical thinking, careful reading and clear writing, as well as recognizing and constructing arguments. These skills are basic for the critical, lifelong role that all of us play as members of political community. prereq: 1201 recommended

POL 4315W. State Governments:

Laboratories of Democracy. (WI; 3 cr. [max 4 cr.] ; Student Option; Periodic Fall & Spring) State governments are rarely at the forefront of the minds of the American public, but in recent years they have made critical decisions about issues like education, health care, climate change, and same-sex marriage. State governments perform a host of vital services, and they regulate and tax a wide array of business activities. Moreover, the states have adopted a very wide range of approaches in addressing these and other policy issues. This course examines the institutional and political changes that sparked the recent "resurgence of the states," and it investigates why state policies differ so dramatically from one another. In addition to playing a central and increasingly important role in the U.S. political system, the American states provide an unusually advantageous venue in which to conduct research about political behavior and policymaking. They are broadly similar in many ways, but they also offer significant variation across a range of social, political, economic, and institutional characteristics that are central to theories about politics. As a result, it becomes possible for scholars to evaluate hypotheses about cause-and-effect relationships in a valid way. This course pursues two related objectives. Its first goal is to give students a better understanding of American state governments? substantive significance. Its second goal is to use the states as an analytical venue in which students can hone their research and writing skills. Students will design and complete an original research paper on an aspect of state politics of their choosing. They will develop a research question, gather and critically evaluate appropriate and relevant evidence, and discuss the implications of their research. prereq: 1001 or equiv, non-pol sci grad major or instr consent

POL 4317. Becoming Stupid: Anti-Science in American Politics. (3 cr. ; Student Option; Every Fall)

(1) Political attacks on basic science, including climatology & global warming, vaccines, the Big Bang, evolution, human reproduction, sexuality,

and much more. (2) Pseudoscience and anti-intellectualism in American political culture. (3) Money, political interests, and propaganda that drive attacks on science.

POL 4335. African American Politics. (DSJ,SOCS; 3 cr. ; Student Option; Periodic Fall & Spring)

This course examines the historical and contemporary efforts by African Americans to gain full inclusion as citizens in the US political system. Specifically, the course explores advocacy efforts by civil rights organizations and political parties to obtain and enforce civil and political rights for blacks. An examination of these efforts begins in the Reconstruction Era and concludes with the historic election of the nation's first African American president. The course will cover topics such as the politics of the civil rights movement, black presidential bids and racialized voting in federal and state elections. Finally, the course examines how political parties and organized interests used the Voting Rights Act to increase the number of minorities in Congress. The course focuses on whether the growing number of minorities in Congress increases citizens' trust in government and their involvement in voting and participation in political organizations.

POL 4403W. Constitutions, Democracy, and Rights: Comparative Perspectives. (GP,WI; 3 cr. ; Student Option; Fall Even, Spring Odd Year)

Around the world, fundamental political questions are often debated and decided in constitutional terms, and in the United States, the constitution is invoked at almost every turn to endorse or condemn different policies. Is adhering to constitutional terms the best way to safeguard rights and to achieve a successful democracy? When and how do constitutions matter to political outcomes? This course centers on these questions as it moves from debates over how constitutional drafting processes should be structured and how detailed constitutions should be, to the risks and benefits of different institutional structures (federal v. unitary, and the distribution of powers between the executive, legislature, and judiciary), to which rights (if any) should be constitutionalized and when and why different rights are protected, closing with a discussion of what rules should guide constitutional amendment and rewrite. For each topic, we compare how these issues have been resolved in the U.S. with alternative approaches in a wide variety of other countries around the globe. The goal is not only to expose students to the variety of ways, successful or unsuccessful, that other political communities have addressed these issues, but also to gain a more contextualized and clearer understanding of the pros and cons of the U.S. model, its relevance for other democratic or democratizing countries, whether and how it might be reformed, and, generally speaking, when/how constitutions matter for democratic quality and stability.

POL 4410. Topics in Comparative Politics. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Topics of current analytical or policy importance to comparative politics. Topics vary, as specified in Class Schedule.

POL 4461W. European Government and Politics. (GP,WI; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

This course will introduce you to three major topics that shape European social and political life today: 1) the struggle over what makes for a national/European identity: how contested national identities matter to European democratic politics and to the new populist movements, and the historical role of Islam in shaping European identities 2) the role of institutions in shaping popular representation and citizen agency; 3) European Union policies: dealing with immigration, the single currency and foreign and security policy especially in regard to Eastern/Central Europe and Russia. Each section will conclude with a comparative class debate, led by students, on the way contested historical interpretations and identities, institutions and policies matter also to US political and civic life. This is a writing intensive course and you will be asked to write a 12-15 page research essay on a European country of your choice. Several assignments, preceded by a writing workshop, will help you complete your final essay. The course will consist of lectures with PPTs, class discussions and group work, and at least one guest lecturer working in a local business connected with Europe. Indeed this course aims at preparing you to live and work in a deeply interconnected world, with special attention to the historical, social, political and economic ties between the US and Europe. Small changes will be made to the syllabus if current events or unexpected class needs require it, but the main themes, most readings and the assignments will remain as indicated in the syllabus. prereq: 1054 or 3051 or non-pol sci grad or instr consent

POL 4463. The Cuban Revolution Through the Words of Cuban Revolutionaries. (GP; 3 cr. ; Student Option; Every Fall)

Why do policy makers in Washington, D.C. continue to rail against the Cuban Revolution? Despite their best efforts, both Republican and Democratic administrations, the Revolution is still in place after six decades. How to explain? This is the central research question of the course. A definitive answer would require a thorough examination of the revolution from its initiation until today?which is beyond what can be done in a semester. The focus, rather, is more limited. First, how was the revolution made and consolidated?from 1953 until about 1969?and, second, how has it been able to survive and advance since the collapse of the Soviet Union, that is, since 1991? The emphasis here is on the role of leadership and strategy, how the Cubans and their leaders saw and see what they are doing?in their own words. This is an attempt to get into their heads, their understandings, through documents, speeches and writings. In keeping with the goals of liberal education, this course helps students to think outside the box of conventional wisdom. Why, for example, an underdeveloped society lacking many of the characteristics of a liberal democracy can

do a better job in meeting the basic needs of its citizens than its far richer neighbor to the north? What the Cubans seek to do is reorganize human relations on the basis of solidarity and not individual self-interest. How successful they have been in that pursuit is exactly one of the questions to which the course seeks to provide an answer. These questions are not simply of intellectual interest. Given the deepening crisis of world capitalism with the accompanying human misery, to know about Cuba's reality can have life and death consequences. Given, also, that the U.S. government doesn't make it easy for most of its citizens to travel to the island to make up their own minds about its reality, this course is a unique educational opportunity.

POL 4465. Democracy and Dictatorship in Southeast Asia. (GP; 3 cr. ; Student Option; Fall Even Year)

A fundamental question of politics is why some regimes endure for many years while others do not. This course examines the "menu of manipulation" through which dictators and democrats claim and retain power, and the conditions under which average citizens mobilize to challenge their governments, despite the risks and in the face of what may seem to be insurmountable odds. We will explore these political dynamics in Southeast Asia, one of the most culturally and politically diverse regions of the globe. Composed of eleven countries, Southeast Asia covers a wide geographical region stretching from India to China. With a rich endowment of natural resources, a dynamic manufacturing base, and a strategic location on China's southern flank, the region has come to play an increasingly important role in the political and economic affairs of the globe. Culturally and ethnically diverse, hundreds of languages are spoken, and the religions practiced include Buddhism, Catholicism, Hinduism, and Islam. The region is similarly diverse in its political systems, which range from democratic to semi-democratic to fully authoritarian.

POL 4474W. Russian Politics: From Soviet Empire to Post-Soviet State. (WI; 3 cr. ; Student Option; Every Fall & Spring)

Twenty five years ago, Russia appeared to be democratizing and was even on friendly relations with the US and NATO. Now Vladimir Putin runs the state with the FSB (KGB), and US-Russian relations are at their worst point since the 1970s. This course examines major themes and periods in Soviet and Post-Soviet Russian politics. It begins with the Russian Revolution of 1917, and continues with a study of the creation of the USSR and Soviet rule under Lenin, Stalin, and later decades. We look in depth at the economic and political system set up by the Communist Party, and at the causes of its collapse in 1991, which has had profound legacies for the post-Soviet development of Russia. Then in the second half of the course we turn to themes of political, economic, social and civic development under Yeltsin and Putin. We will pose the following questions: Why does democratization begin and why does it fail? How is economic reform undermined? What type of state and regime is

Russia now? What caused the Chechen wars and the massive bloodshed in the Caucasus during this period? Is Putin trying to recreate the Soviet Union and retake control of its neighbors? Are US-Russian relations improving as a result of Obama's "Reset," or are we now in an era of a new Cold War? What is Russia's goal in Syria, Iran, or Central Asia? Is Putin rebuilding Russia, or driving it to disaster, and how will this impact the West?

POL 4478W. Contemporary Politics in Africa and the Colonial Legacy. (GP,WI; 3 cr. ; Student Option; Every Spring)

At the core, this class is about the interaction between the assertion of and challenge to political authority in Africa. Who should have the right to make decisions that structure people's lives? To what extent is ?might? an important source of political authority? How, in turn, do people respond to these different means of establishing political authority? Using these questions as a springboard, this class will examine some broader themes relating to colonialism, state building, conflict and development in Africa. Politics in Africa, just as in any other place in the world, is complex and for that reason, the objective of the class is not to give you answers, but to have you think critically about the issues we cover. Towards this end, this class will draw on different sources ranging from novels to manifestos so as to illustrate both the mundane and extraordinary events that have helped shape the political landscape of the continent.

POL 4481. Comparative Political Economy: Governments and Markets. (3 cr. ; Student Option; Periodic Fall & Spring)

This course analyzes the compatibility of democracy and markets - whether democratic institutions undermine (enhance) the workings of market institutions and vice versa. Competing theoretical perspectives in political economy are critically evaluated. And the experiences of countries with different forms of democratic market systems are studied. Among the topics singled out for in-depth investigation are the economics of voting, producer group politics, the politics of monetary and fiscal policy, political business cycles, and trade politics.

POL 4487. The Struggle for Democratization and Citizenship. (; 3 cr. [max 4 cr.] ; Student Option; Every Spring)

How best to advance democracy?through the ballot box or in the streets? This question more than any other is what informs the course. As well as the streets, the barricades and the battlefields, it argues, are decisive in the democratic quest. If democracy means the rule of the demos, the people, then who gets to be included in ?the people"? An underlying assumption of the course is that the inclusion of previously disenfranchised layers of society into the category of the people, the citizens, is due to social struggles or the threat of such? an assumption to be examined in the course. Struggles refer to any kinds of movement for social change, from protests and strikes to revolutions broadly defined. This course seeks to see if there are lessons of struggle. The

course traces the history of the democratic movement from its earliest moments in human history and attempts to draw a balance sheet. In the process it seeks to answer a number of questions. Did social inequality always exist? How do property rights figure in the inclusion process? What is the relationship between the state, social inequality and democracy? Which social layers played a decisive role in the democratic breakthrough? What are the effective strategies and tactics in the democratic struggle? How crucial is leadership? And lastly, can the lessons of the past inform current practice? A particular feature of the course is to read about the thinking and actions of activists on both sides of the democratic struggle in, as much as possible, their own words.

POL 4492. Law and (In)Justice in Latin America. (; 3 cr. ; Student Option; Every Spring)

This course examines, from various angles, how law and justice function in contemporary Latin America, highlighting similarities and differences within and between countries and issue areas. Students reflect on and debate the causes behind the varied outcomes, as well as the effectiveness, actual and potential, of the different institutional and social change efforts that have been underway in the region since the 1980s. Specific topics addressed include accountability for past and present mass violence; origins of and responses to crime, from "mano dura" policies to criminal justice reform and anti-corruption initiatives; and advances and limitations in equal rights protection. Special attention is paid across the course to issues of indigeneity, race, class, gender, and sexuality. Throughout, students compare situations within Latin America, which is by no means a monolith, as well as consider parallels between Latin America and the United States, where, despite great differences in wealth, history and culture, similar problems of law and justice can be found. The course aims thus not only to teach students about Latin America but also to get students to think about what we might learn from Latin America.

POL 4497W. Patronage & Corruption.

(GP,WI; 3 cr. ; Student Option; Every Spring) This course examines dysfunction within the state apparatus -- in the specific forms of patronage, corruption, and clientalism -- and asks why such dysfunction persists and what factors drive it to change. The first half of the course will be primarily devoted to patronage. It will examine the functioning of the patronage mechanism; ask when and why patronage is abandoned in favor of meritocracy; and will assess the relationship between merit reforms and changes in the quality of governance. The second half of the course will be devoted to corruption. Specific topics to be covered will include: an examination of different forms of corruption, both at the level of political leaders and of bureaucratic officials; the relationship between corruption, democracy, transparency and accountability; governments' manipulation of corruption to provide incentives to bureaucratic and party officials; and different means of combating corruption. The course

will conclude with an examination of the relationship between patronage, corruption, clientalism and party politics, with a particular focus on the mechanisms that cause the correlation between these different forms of mis-governance.

POL 4501W. The Supreme Court and Constitutional Interpretation. (CIV,WI; 3 cr. ; Student Option; Every Fall)

This Course is designed to introduce students to constitutional law, with an emphasis on the U.S. Supreme Court's interpretation of Articles I, II, and III. This means that we will discuss how the nation's Court of last resort has helped shape the powers of and constraints on the three branches of our federal government. We will also discuss and analyze the development of law surrounding the separation of powers, the structure of federalism, congressional power over the commerce clause, and the creation and demise of the concept of substantive due process. Successful completion of this course will satisfy the liberal education requirement of Civic Life and Ethics. Effective citizenship in the 21st century requires an understanding of our how government was created, is structured, and has been interpreted by the Supreme Court over the past two centuries. This course is premised on the notion that such an understanding is best achieved by reading the primary sources that led to these goals ? the opinions handed down by the U.S. Supreme Court.

POL 4502W. The Supreme Court, Civil Liberties, and Civil Rights. (CIV,WI; 3 cr. ; Student Option; Every Spring)

Today, more than anytime since the civil rights movement of the 1960s, individual liberties are at the heart of controversial debate in the U.S. Groups, from the far left and far right of the political spectrum have pushed free speech towards the boundaries set by the Supreme Court. At the same time, the religion clauses have become as controversial as ever, with corporations and local governments using them in ways they have not been used before. Finally, the right to privacy is at a crossroads as the U.S. Supreme Court considers cases about reproductive rights and personal privacy. Given these issues, this course allows students to read all the major cases where the U.S. Supreme Court interprets the balance of protecting civil liberties versus allowing government to limit or suppress such liberties. Specifically, the course covers the 14th Amendment, freedom of speech, press, religion, and the limits of the free speech clause of the 1st Amendment. It also covers the 2nd Amendment and the right to privacy found in the 1st, 3rd, 4th, 5th, 9th, and 14th Amendments.

POL 4525W. Federal Indian Policy. (WI; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

Formulation, implementation, evolution, comparison of Indian policy from pre-colonial times to self-governance of new millennium. Theoretical approaches to federal Indian policy. Major federal Indian policies. Views/attitudes of policy-makers, reactions of indigenous nations

to policies. Effect of bodies of literature on policies.

POL 4737. American Political Parties. (; 3 cr. [max 4 cr.] ; Student Option; Fall Odd, Spring Even Year)

This course focuses on U.S. political parties. We will cover the following themes this term: (1) what parties are and what they do; (2) party factions and coalitions; (3) social and issue cleavages; (4) how Democratic and Republicans view the world; (5) elite and mass polarization; and (6) the future of the Democratic and Republican parties. By the end of the semester you'll have a broad and deep understanding of the key role parties play in American politics, where they have been, and where they are going. prereq: 1001 or equiv or instr consent

POL 4771. Race and Politics in America: Making Sense of Racial Attitudes in the United States. (DSJ; 3 cr. ; Student Option; Periodic Fall)

Race continues to be one of the defining fault lines in American politics. Most obviously, the existence of racial inequality has enormous consequences for any given individual's social and economic standing. However, it also has had an enormous impact on the pattern of attitudes and beliefs which have served as the backdrop for many of society's most pressing political debates and conflicts. The purpose of this course is to provide students with an introduction to how political scientists have studied racial attitudes and the larger problem of inter-ethnic conflict in American society. We will begin with a look at the historical circumstances which have given rise to the major research questions in the area. From there, we'll look at the major research perspectives in the area, and see how well they actually explain public opinion on matters of race. In doing so, we'll also get a look at some of the major controversies in this area of study, particularly the issues of whether the "old-fashioned racism" of the pre-civil-rights era has been replaced by new forms of racism; and the degree to which debates over policy matters with no apparent link to race - such as crime and social welfare - may actually have a lot to do with racial attitudes. Finally, we will conclude by taking an informed look at racial attitudes in recent American history, focusing on how racial attitudes and their political consequences of have changed - and not changed - over the course of the Obama presidency and the tumultuous 2016 election.

POL 4773W. Advocacy Organizations, Social Movements, and the Politics of Identity. (DSJ,WI; 3 cr. ; Student Option; Every Fall & Spring)

This course introduces students to the major theoretical concepts and empirical findings in the study of U.S interest group politics. Students will read books and articles from a wide range of topics that include how interest groups are formed and maintained; various strategies and tactics that groups use to influence Congress, the courts, and executive branch; and whether those strategies result in fair and effective representation for all citizens

in society. Throughout the semester students will be exposed to research using a variety of methodologies and intellectual approaches. Further, the class discussions will emphasize general concepts that reoccur in the readings and in other classes. The goal is to assist students in mastering the key concepts in group politics. This is also a writing intensive course. Effective writing is encouraged through several writing assignments that require you to think clearly and express your thoughts concisely.

POL 4810. Topics in International Politics and Foreign Policy. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) Analysis of selected issues in contemporary international relations. Topics vary, as specified in Class Schedule.

POL 4845. The Laws of War in International Politics. (3 cr. ; Student Option; Periodic Fall & Spring)

Is it possible to wage war and to maintain morality? Do the laws of war maintain morality, or do they justify vigorous wars? Do the laws of war even matter? If so, how do they matter? If not, why do they not? These are some of the broader questions that will guide our collaborative exploration and discussion of the laws of war and, importantly, our assessment of the applicability of the laws of war to contemporary topics. We will trace the codification of the laws of war in the 1949 Geneva Conventions and their 1977 Additional Protocols. We will look at their application in practice through the US led war on terror and specific questions such as protection of humanitarian actors, prisoner exchange, destruction of cities in war, protection of medical personnel, and other topics.

POL 4881W. The Politics of International Law and Global Governance. (GP,WI; 3 cr. ; Student Option; Periodic Fall & Spring)

Why do countries go to war? Are individuals, organizations, and governments driven by their interests or their ideas? What role does power play in international relations and is there any role for justice in global politics? What are the causes and consequences of an increasingly globalized world economy? These questions are central to the study of international relations, yet different theoretical approaches have been developed in an attempt to answer them. Often these approaches disagree with one another, leading to markedly different policy prescriptions and predictions for future events. This course provides the conceptual and theoretical means for analyzing these developments in international politics. By the end of this class, you will be able to understand the assumptions, the logics, and the implications of major theories and concepts of international relations. These include realism, liberalism, institutionalism, constructivism, critical security studies, feminist theory, queer IR theory, post-colonial theory, indigenous approaches to international relations, and neo-Marxism. A special effort is made to relate the course material to world events, developments, or conflicts in the past decade or so.

POL 4885W. International Conflict and Security. (GP,WI; 3 cr. [max 4 cr.] ; Student Option; Fall Odd, Spring Even Year)

Why do states turn to military force and for what purposes? What are the causes of war and peace? What renders the threat to use force credible? Can intervention in civil wars stall bloodshed and bring stability? How effective is military force compared to other tools of statecraft? How can states cope with the threat posed by would-be terrorists? What is counterinsurgency doctrine? What is the future of military force in global politics? This course addresses these questions - and others. The course is organized loosely into three sections or themes. The first section explores the causes and consequences of interstate war and peace. We will examine whether and how the international system, domestic institutions and politics, ideas and culture, ethnic and racial prejudice and inequity, and human psychology shape the path to war. Along the way, we debate whether war has become obsolete and why great power rivalry might be raising its ugly head once again. Attention is also devoted to the impact of war on economy and politics as well as the relations between armed forces and civilian government. The second section of the class explores the possibilities, limits, and challenges of more limited uses of force - such as the threat of force (coercion), peacekeeping and humanitarian intervention, and terrorism and counterterrorism. A third theme explores the strategic and ethical implications of the use of force and especially of innovation in military technologies - nuclear weapons, cyber, drones. Across all three sections, we examine how war and society mutually affect each other, including how racial, ethnic, and other categorical identities affect critical dynamics in security, from threat perception to military mobilization. The course is organized around theoretical arguments, historical cases and data, and policy debates. Sessions are deeply interactive, engaged discussion is a must, and the class often divides into smaller groups for more intensive debate. Class time is also devoted to helping students craft an effective final research paper.

POL 4887. Thinking Strategically in International Politics. (MATH; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

The purpose of this class is threefold: First, to introduce students to the use and value of formal models of strategic interaction (game theoretic models) in international relations. Second, to impart some basic tools of such modeling to students. And third, to examine the contribution of theoretical models to substantive areas in international relations. In keeping with these three goals, the course is divided into three sections. The first two weeks will be devoted to such questions as: What is a theoretical model? What are rational choice and game theory? How are game theoretic models employed in international relations and what have been seminal contributions to the literature? The next portion of the class will introduce students to the basic tools employed in game theoretic analysis. The readings will illustrate the use of the tools introduced in class. And five problem sets will

be administered, requiring students to make use of these tools. The final portion of the class will examine substantive questions in international relations through the lens of game theory. The topics to be presented include: Domestic Politics and War, International Agreements and Treaties, International Finance and Trade, Conditionality, Terrorism, and Human Rights.

POL 4891. The Politics of Nuclear Weapons. (3 cr. ; Student Option; Periodic Fall & Spring)

Nuclear weapons have been a feature of international politics since the development of nuclear weapons by the United States during World War II. But how exactly do nuclear weapons affect international politics? This course tackles this question. In doing so, we examine the history of the nuclear era, the theories we can use to try to understand the ways in which nuclear weapons affect international politics, and key current policy challenges associated with nuclear weapons. For example, we'll ask: how do nuclear weapons work and how are nuclear materials created? Are nuclear weapons a force for peace or for instability and war? How likely is a nuclear war and how close did we come to nuclear war in the Cuban Missile Crisis or other crises? How dangerous is nuclear proliferation and why does the United States go to such lengths to stop other countries acquiring nuclear weapons? Why does the United States have so many nuclear weapons and what drove the nuclear arms race between the United States and the Soviet Union? Why have indigenous populations often borne the brunt of nuclear testing and how have issues of race and gender played into the history of nuclear weapons? What role do nuclear weapons play in India-Pakistan relations and what role will they play in future U.S.-China relations? How likely is nuclear terrorism? Is nuclear disarmament possible? Is it desirable?

POL 4910. Topics in Political Science. (3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring)

Topics courses provide students the opportunity to study key concepts and themes in political science with an interdisciplinary approach. Subject matter will vary course to course.

POL 4991. Political Science Capstone. (3 cr. ; A-F only; Every Fall & Spring)

The Political Science Capstone is a required course that provides students with a unique opportunity to reflect on, articulate, share, and build on their individual experiences in the major. It invites students to reflect on what they have learned as political science majors; to demonstrate their knowledge through the preparation of a portfolio of materials; and to think about how the knowledge, skills, and insights of acquired in their major experience can be used and applied outside of the University. Students double majoring in Political Science and another discipline may choose to take this course or complete the capstone in their other major. Political Science majors who are writing an Honors thesis are exempt from this capstone requirement, as the department

will recognize the senior thesis as the capstone experience.

POL 4993. Honors Thesis: Directed Studies. (; 1-6 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)
Individual research/writing of departmental honors thesis.

POL 4994. Directed Research: Individual. (1-4 cr. ; Student Option; Every Fall, Spring & Summer)
Directed individual reading and research between a student and faculty member. Prerequisite instructor and department consent.

POL 5315. State Governments: Laboratories of Democracy. (3 cr. [max 4 cr.] ; Student Option; Every Fall & Spring)
State governments are rarely at the forefront of the minds of the American public, but in recent years they have made critical decisions about issues like education, health care, climate change, and same-sex marriage. State governments perform a host of vital services, and they regulate and tax a wide array of business activities. Moreover, the states have adopted a very wide range of approaches in addressing these and other policy issues. This course examines the institutional and political changes that sparked the recent resurgence of the states, and it investigates why state policies differ so dramatically from one another. In addition to playing a central and increasingly important role in the U.S. political system, the American states provide an unusually advantageous venue in which to conduct research about political behavior and policymaking. They are broadly similar in many ways, but they also offer significant variation across a range of social, political, economic, and institutional characteristics that are central to theories about politics. As a result, it becomes possible for scholars to evaluate hypotheses about cause-and-effect relationships in a valid way. This course pursues two related objectives. Its first goal is to give students a better understanding of American state governments? substantive significance. Its second goal is to use the states as an analytical venue in which students can hone their research and writing skills. Students will design and complete an original research paper on an aspect of state politics of their choosing. They will develop a research question, gather and critically evaluate appropriate and relevant evidence, and discuss the implications of their research. prereq: grad student or instr consent

POL 5403. Constitutions, Democracy, and Rights: Comparative Perspectives. (; 3 cr. ; Student Option; Fall Even, Spring Odd Year)
Around the world, fundamental political questions are often debated and decided in constitutional terms, and in the United States, the constitution is invoked at almost every turn to endorse or condemn different policies. Is adhering to constitutional terms the best way to safeguard rights and to achieve a successful democracy? When and how do constitutions matter to political outcomes? This course centers on these questions as it moves from debates over how constitutional drafting

processes should be structured and how detailed constitutions should be, to the risks and benefits of different institutional structures (federal v. unitary, and the distribution of powers between the executive, legislature, and judiciary), to which rights (if any) should be constitutionalized and when and why different rights are protected, closing with a discussion of what rules should guide constitutional amendment and rewrite. For each topic, we compare how these issues have been resolved in the U.S. with alternative approaches in a wide variety of other countries around the globe. The goal is not only to expose students to the variety of ways, successful or unsuccessful, that other political communities have addressed these issues, but also to gain a more contextualized and clearer understanding of the pros and cons of the U.S. model, its relevance for other democratic or democratizing countries, whether and how it might be reformed, and, generally speaking, when/how constitutions matter for democratic quality and stability.

POL 5465. Democracy and Dictatorship in Southeast Asia. (GP; 3 cr. ; Student Option; Fall Even Year)
A fundamental question of politics is why some regimes endure for many years while others do not. This course examines the "menu of manipulation" through which dictators and democrats claim and retain power, and the conditions under which average citizens mobilize to challenge their governments, despite the risks and in the face of what may seem to be insurmountable odds. We will explore these political dynamics in Southeast Asia, one of the most culturally and politically diverse regions of the globe. Composed of eleven countries, Southeast Asia covers a wide geographical region stretching from India to China. With a rich endowment of natural resources, a dynamic manufacturing base, and a strategic location on China's southern flank, the region has come to play an increasingly important role in the political and economic affairs of the globe. Culturally and ethnically diverse, hundreds of languages are spoken, and the religions practiced include Buddhism, Catholicism, Hinduism, and Islam. The region is similarly diverse in its political systems, which range from democratic to semi-democratic to fully authoritarian.

POL 5492. Law and (In)Justice in Latin America. (3 cr. ; Student Option; Every Spring)
This course examines, from various angles, how law and justice function in contemporary Latin America, highlighting similarities and differences within and between countries and issue areas. Students reflect on and debate the causes behind the varied outcomes, as well as the effectiveness, actual and potential, of the different institutional and social change efforts that have been underway in the region since the 1980s. Specific topics addressed include accountability for past and present mass violence; origins of and responses to crime, from "mano dura" policies to criminal justice reform and anti-corruption initiatives; and advances and limitations in equal rights

protection. Special attention is paid across the course to issues of indigeneity, race, class, gender, and sexuality. Throughout, students compare situations within Latin America, which is by no means a monolith, as well as consider parallels between Latin America and the United States, where, despite great differences in wealth, history and culture, similar problems of law and justice can be found. The course aims thus not only to teach students about Latin America but also to get students to think about what we might learn from Latin America.

POL 5970. Individual Reading and Research. (1-4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)
Guided individual reading or study. Prereq instr consent, dept consent, college consent.

Portuguese (PORT)

PORT 1022. Intensive Beginning Portuguese. (; 6 cr. ; Student Option; Every Fall)
Intensive course for those with no Portuguese background. Develops novice-intermediate low proficiency in listening, speaking, reading, writing. Based on materials from Portugal, Brazil, and Portuguese-speaking Africa. Pair and small-group communicative activities, focused on interpreting and producing audio(visual) and written texts. This class is partially online.

PORT 1101. Beginning Portuguese. (; 5 cr. ; Student Option; Every Fall & Summer)
Listening, speaking, reading, writing. Cultures of Portugal, Brazil, or Portuguese-speaking Africa. Workbook assignments, paired/small group activities.

PORT 1102. Beginning Portuguese. (; 5 cr. ; Student Option; Every Spring)
Reading, writing, speaking, listening. Cultures of Portugal, Brazil, or Portuguese-speaking Africa. Workbook assignments, paired/small group activities. prereq: 1101 or instr consent

PORT 1103. Intermediate Portuguese. (; 5 cr. ; Student Option; Every Fall)
Emphasizes speaking, comprehension. Reading/writing skills based on Portuguese-language materials. Cultures of Portugal, Brazil, or Lusophone Africa. prereq: 1102 or instr consent

PORT 1104. Intermediate Portuguese. (; 5 cr. ; Student Option; Every Spring)
Emphasizes speaking, comprehension. Reading/writing skills based on Portuguese-language materials. Cultures of Portugal, Brazil, or Lusophone Africa. Grammar review. Compositions, short presentations. prereq: 1103 or instr consent

PORT 1911. Black Brazil: The long road to racial justice. (AH,GP; 3 cr. ; A-F only; Periodic Fall & Spring)
Brazil has long been seen as a place where racial mixtures are celebrated and where racism has been non-existent or assumed a "softer" expression than in the US. Due to this myth, known as "racial democracy," it has been difficult for Brazilian Blacks to identify themselves as such and mobilize for representation and equality of rights. This

course is an introduction to the cultural history of that struggle since the 1930s to the present. We will follow the emergence of Black voices denouncing the official racial ideology that aimed to "whiten," exclude and ultimately do away with the reminders (and remainders) of the 5 million African slaves who landed in Brazil between the 16th and 19th centuries. We will study a variety of materials from literature and the arts, including films, pop music, rap, and graffiti; and will also read short texts from journalism, history, and the social sciences. The course will end with the discussion of how the introduction of affirmative action in Brazilian public universities has encouraged a Black/White form of racial identification that many consider foreign to the dominant ethos (i.e. "we are all mixed?").

PORT 3001. Portuguese for Spanish Speakers. (; 4 cr. ; Student Option; Every Fall, Spring & Summer)
Listening, reading, speaking, writing. Uses communicative approach. prereq: SPAN LPE Pass

PORT 3003. Portuguese Conversation and Composition. (; 4 cr. ; Student Option; Every Fall & Spring)
Development of oral/written skills. Cultural information from Portuguese-speaking world. prereq: 1104 or 3001 or Port LPE

PORT 3501W. Global Portuguese: 1300-1900. (WI; 3 cr. ; Student Option; Every Fall)
Expressions of Portuguese and Brazilian cultures from the sixteenth through the nineteenth centuries from an anti-racist, decolonial perspective. Literary, religious, visual, architectonic, and musical works will be studied. prereq: 3003

PORT 3502W. Global Portuguese: 1900-present. (WI; 3 cr. ; Student Option; Every Spring)
Significant expressions of Brazilian culture, from colonial period to present. Emphasizes 20th/21st centuries. Literature, history, visual/sound culture, architecture. prereq: 3003

PORT 3800. Film Studies in Portuguese. (; 3 cr. [max 9 cr.]; A-F or Audit; Periodic Fall & Spring)
Films from Portuguese-speaking world in their historical, (geo)political, and socioeconomic contexts. Films from Brazil, Portugal, or Lusophone Africa analyzed under interdisciplinary framework, noting aspects related to cinematography/rhetoric. prereq: 3003 or instr consent or dept consent

PORT 3910. Topics in Lusophone Literatures. (; 3 cr. [max 9 cr.]; Student Option; Periodic Fall & Spring)
Issues studied through literature, visual, sound, media culture from one or more Portuguese-speaking countries. Topics may include gender/sexuality, postcolonialism/globalization, transatlantic studies. prereq: 3003

PORT 3920. Topics in Lusophone Cultures. (; 3 cr. [max 9 cr.]; Student Option; Periodic Fall & Spring)
Critical studies of various aspects of Portuguese-speaking cultures (Portugal, Brazil,

or Lusophone Africa). Topics may include popular music, visual/media culture, religion, diaspora, and Amazon. prereq: [1101, 1102, 1103, 1104] or [3001, 3003] or equiv

PORT 3993. Directed Studies. (1-4 cr. [max 9 cr.]; Student Option; Every Fall, Spring & Summer)
Guided individual reading or study. Students enrolling in this directed study/research course will complete the University's common Directed Study/Research contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: - the work proposed is at the appropriate level for the course, academic in nature, and the student will be involved intellectually in the project. - the project scope is reasonable for one semester and the number of credits specified (42 hours of work per credit) - the faculty mentor is qualified to serve in this role - assessment of student learning and grading criteria are clear and appropriate - the student will be working in a respectful, inclusive environment

PORT 4001. Portuguese for Spanish Speakers and Graduate Student Research. (; 4 cr. ; Student Option; Every Fall, Spring & Summer)
Listening, reading, speaking, writing. Uses communicative approach. prereq: [SPAN 1004 or SPAN 1014 or SPAN 1044, SPAN LPE pass] or instr consent

PORT 4003. Portuguese Conversation and Composition. (3 cr. ; Student Option No Audit; Every Fall & Spring)
The goals of this course are twofold. The first goal is to improve your abilities in the four areas of language (speaking, listening, reading, and writing) to the point that you can communicate advanced ideas in written and spoken Portuguese. The second goal is for you to possess a foundational understanding of Lusophone culture from the 1950s onward that will help generate your enthusiasm for Portuguese and help you understand how the arts are entwined in resistance to injustice throughout the Portuguese-speaking world. As a course that bridges the language courses and the content courses, PORT4003 includes both advanced grammar and critical analysis to prepare you for content courses, such as PORT 3501w, and the longer writing assignments that you will have in such courses. The course will be taught in Portuguese, and the reading, writing, and speaking will be done in Portuguese. prereq: 1104 or 3001 or Port LPE

PORT 4101. Beginning Portuguese for Graduate Student Research. (; 5 cr. ; Student Option; Every Fall)
Listening, speaking, reading, writing. Cultures of Portugal, Brazil, or Portuguese-speaking Africa. Workbook assignments, paired/small group activities. Meets concurrently with 1101.

PORT 4102. Beginning Portuguese for Graduate Student Research. (; 5 cr. ; Student Option; Every Spring)
Reading, writing, speaking, listening. Cultures of Portugal, Brazil, or Portuguese-speaking

Africa. Workbook assignments, paired/small group activities.

PORT 4103. Intermediate Portuguese for Graduate Student Research. (; 5 cr. ; Student Option; Every Fall)
Emphasizes speaking, comprehension. Reading/writing skills based on Portuguese-language materials. Cultures of Portugal, Brazil, or Lusophone Africa. Meets concurrently with 1103.

PORT 4104. Intermediate Portuguese for Graduate Student Research. (; 5 cr. ; Student Option; Every Spring)
Emphasizes speaking, comprehension. Reading/writing skills based on Portuguese-language materials. Cultures of Portugal, Brazil, or Lusophone Africa. Grammar review. Compositions, short presentations. Meets concurrently with 1104.

PORT 5910. Topics in Lusophone Cultures and Literatures. (; 3 cr. [max 9 cr.]; Student Option; Periodic Fall & Spring)
Cultural manifestations in Portuguese-speaking world (Portugal, Brazil, Lusophone Africa). Literature, history, film, intellectual thought, critical theory, popular culture. Topics may include writers (e.g. Machado de Assis) groups of writers (e.g. Lusophone women writers), or problematics such as (post-)colonialism or Luso-Brazilian modernities. prereq: Grad student or instr consent

PORT 5993. Directed Studies. (1-4 cr. [max 9 cr.]; Student Option; Every Fall, Spring & Summer)
Lusophone studies (Portuguese-speaking Africa, Brazil, Portugal). Areas not covered in other courses. Students submit reading plans for particular topics, figures, periods, or issues. Prereq MA or PhD candidate, instr consent. Students enrolling in this directed study/research course will complete the University's common Directed Study/Research contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: - the work proposed is at the appropriate level for the course, academic in nature, and the student will be involved intellectually in the project. - the project scope is reasonable for one semester and the number of credits specified (42 hours of work per credit) - the faculty mentor is qualified to serve in this role - assessment of student learning and grading criteria are clear and appropriate - the student will be working in a respectful, inclusive environment

PORT 5994. Directed Research. (1-4 cr. [max 9 cr.]; Student Option; Every Fall, Spring & Summer)
Graduate-level research in literatures and cultures of the Portuguese-speaking world. Topics vary. Prereq Grad student or instr consent. Students enrolling in this directed study/research course will complete the University's common Directed Study/Research contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: - the work proposed is at the appropriate level for the course, academic in nature, and the student will be involved intellectually in the project. - the

project scope is reasonable for one semester and the number of credits specified (42 hours of work per credit) - the faculty mentor is qualified to serve in this role - assessment of student learning and grading criteria are clear and appropriate - the student will be working in a respectful, inclusive environment

Postsecondary Tchg and Lrng (PSTL)

PSTL 1211. Sociological Perspectives: A Multicultural America. (DSJ,SOCS; 4 cr. ; Student Option; Every Fall & Spring)

Introduction to sociological thinking through engaged, active learning, including service in community. Interaction of race, class, gender, age with greater societal institutions. Apply foundational understanding of sociology to real world situations.

Poultry Health (POUL)

POUL 5001. Avian Anatomy and Physiology. (; 1 cr. ; A-F or Audit; Every Fall)

This course provides an abbreviated overview of avian anatomy and physiology at the gross and cellular levels. Basic avian anatomy and physiology will be presented in the context of the commercial broiler chicken and turkey.

POUL 5002. Poultry Nutrition. (; 1 cr. ; A-F only; Every Spring)

The purpose of this course is to provide the principles of poultry nutrient metabolism, feed composition, and chemistry as it applies to commercial broiler chickens and turkeys.

POUL 5003. Poultry Diseases. (; 1 cr. ; A-F only; Every Spring)

The purpose of this course is to provide introduction to common diseases of poultry, focusing on commercial broiler chicken and turkey production in the United States. We will start with an introduction to the principles of disease, and the role of the host in susceptibility to disease. Then, specific diseases will be covered, including viral, bacterial, fungal, and protozoal pathogens. Finally, non-infectious disease associated with nutrition, metabolism, and toxins will be covered. The student will gain understanding of the pathogen and host relative to each disease covered.

POUL 5013. Animal Welfare. (; 1 cr. ; A-F only; Every Spring)

This course will cover the basic principles, history, and application of animal welfare science for poultry. Students will learn to assess the welfare of poultry using science-based methods and reasoning. This course will provide background and application of animal welfare science.

POUL 5015. Broiler/Layer/Turkey Rotation. (1 cr. ; A-F only; Every Summer)

This course will serve as the capstone of the Applied/Production track of the Poultry Health Certificate. This one-week, in-person experience will be catered to the student's interest in one of three areas: commercial broiler chicken, chicken layer, or turkey production. The student will choose one of

these three experiences and will learn core competencies in that area over a 1-week intensive hands-on course.

POUL 5016. Capstone in Molecular Technologies. (1 cr. ; A-F or Audit; Every Summer)

This course will serve as the capstone of the Research/Diagnostics track of the Poultry Health Certificate. This one-week, in-person experience will take place at the MCROC laboratory in Willmar, Minnesota. The student will learn about core molecular techniques and gain hands-on experience with these techniques over a 1-week intensive hands-on course.

POUL 5101. Living in a microbial world and raising animals: the poultry perspective. (; 3 cr. ; A-F only; Every Fall)

It's a microbial world. We are just living in it. This statement by Professor Mark Martin could not be more relevant than it is today. In every aspect of life, microbes play a role. This is particularly true in agricultural practices used to grow food for the human population. Good and bad, microbes are intricately linked to the practice of raising meat, fruits, and vegetables for human consumption. The purpose of this online course is to emphasize the holobiont, which is the host itself plus the assemblage of microbes living inside and outside of it. This is different than your typical microbiology course. Yes, we will cover the basics of microbiology, and the role of the microbiome in the maintenance of health and disease. But we will also put this information in the context of ecology. Using the poultry production environment as an example, you will learn about the basics of poultry production and how microbes contribute to every aspect of the production chain - including the bird itself, the barns that birds are grown in, the ecosystem surrounding these barns, the processing plants that produce our meat, and even us as we interface with live production animals and consume their meat. In practical terms, this course will train you to appreciate and understand how normal microbial microbes in the animal and its surrounding environment are important for everyday life, health, and success. This course is suitable for upper-level undergraduate students, graduate students, and non-traditional industry professionals.

POUL 5102. How safe is your chicken? Food safety from a poultry perspective. (; 3 cr. ; A-F only; Every Fall)

The purpose of this course is to provide introduction to food safety with emphasis on poultry production. An emphasis will be given to understanding the major pathogens transmitted through live poultry and products and how they can be controlled or mitigated in live production and processing steps. After completing this course, you will have understanding of the basic food safety principles, major foodborne pathogens in poultry, principles of hazard analysis and critical control points (HACCP)-approach of food safety, meat and egg safety, and major preharvest and post-harvest approaches to

safety of poultry foods. This course is suitable for upper-level undergraduate students, graduate students, and non-traditional industry professionals.

POUL 5103. Poultry biosecurity: framework for healthy production. (; 3 cr. ; A-F only; Every Fall)

In 2015, an avian influenza virus was introduced to poultry production in the upper Midwestern United States. This outbreak resulted in the destruction of more than 43 million chickens and turkeys raised for meat and egg production, devastating these poultry industries. This changed our view of biosecurity forever as it related to protecting the poultry supply. While this virus has subsided, we do not know where or when the next threat will emerge, and as such we need to be prepared for the unknown. The purpose of this course is to provide the principles of biosecurity, with an emphasis on poultry production. This course will cover the basics of biosecurity, and the role of everyone in the maintenance of biosecurity in commercial broiler chickens, turkeys, and egg layers. You will learn about biosecurity and will learn how to develop an effective biosecurity plan while navigating regulations and other logistical challenges. This online course is suitable for upper-level undergraduate students, graduate students, and non-traditional industry professionals.

Product Design (PDES)

PDES 2701. Creative Design Methods. (3 cr. ; A-F only; Every Fall)

This class is an introduction to a variety of tools and methods used in developing new product concepts. The focus of the class is on the early stage of product development which includes user research, market research, idea generation methods, concept evaluation, concept selection, intellectual property, and idea presentation. Students work individually applying the content taught in lecture to a semester-long design project. Students meet in teams bi-weekly to present and critique their work.

PDES 2702. Concept Sketching. (3 cr. ; A-F only; Every Fall)

This class is an introduction to manual sketching techniques, specifically for the communication of conceptual product ideas. The focus of this class is on free-hand perspective drawing. Students begin with basic principles, simple shapes, light and shadow, and later learn how to combine forms to create conceptual objects with realistic perspective. In this class, there are weekly drawing assignments and presentations.

PDES 2703. Concept Visualization and Presentation 1. (3 cr. ; A-F only; Every Spring)

This class builds upon the fundamentals taught in PDES 2702 Concept Sketching. Students learn to draw complex geometries and organic forms and how to add shading, shadow, text and backgrounds to enhance their drawings. Markers and other physical tools are introduced in this class as a means

of further refining a sketch. In the second half of the semester, students learn to digitally improve their sketches and are introduced to the fundamentals of digital sketching with a drawing tablet and digital sketching software. As this class is taught in smaller sections, there are many opportunities for students to present and critique work. The basics of design portfolios are covered at the end of this class.

PDES 2704. Concept Visualization and Presentation 2. (3 cr. ; A-F only; Every Fall) Building upon the principles taught in PDES 2703 Concept Visualization and Presentation 1, this course covers advanced digital sketching and 2D rendering techniques for product designers. The emphasis of this class is placed on refining sketches for professional presentation. As this class is a co-requisite with PDES 2771 Product Design Studio 1, some assignments will compliment projects assigned in studio.

PDES 2771. Product Design Studio 1. (4 cr. ; A-F only; Every Fall) This is the first design studio for product design majors. It is an introduction to user-centered design using industry-standard practices. Students will apply skills learned in their prior core classes towards a semester-long individual product design challenge. The deliverables focus on user research, market research, concept development, lo-fidelity prototyping, and concept presentation.

PDES 2772. Product Design Studio 2. (4 cr. ; A-F only; Every Spring) This is the second studio course for product design majors. This studio explores physical prototype development using industry-standard practices. Students will apply skills learned in their prior core classes towards several individual product design challenges. The deliverables cover human factors & ergonomics, prototype craftsmanship, aesthetics, form giving, functionality, design for manufacture, and presentation skills.

PDES 2777. Product Form and Model Making. (3 cr. ; A-F only; Every Spring) This class is a hands-on introduction to prototyping tools, materials, and techniques for product design. Students learn the basics of working with foam-board, foam, and wood to create physical models and will be introduced to different surface treatments and finishes. Assignments are designed to build a sense of craftsmanship and attention to detail. There are multiple individual projects focusing on different materials and techniques. Each project involves practicing oral presentation and group critique.

PDES 3196. Product Design Internship. (1-2 cr. ; S-N only; Every Fall, Spring & Summer) Supervised work experience relating activity in business, industry, or government to the student's area of study. Integrative paper or project may be required. prereq: PDes major

PDES 3704. Computer-Aided Design 1: Solid Modeling and Rendering. (3 cr. ; A-F only; Every Fall) This class provides an overview of computer-aided design (CAD) methods for product

designers. The primary software covered in this course include Solidworks and Keyshot. These programs are used to make three-dimensional computer generated models of product concepts and render the models to appear photo-realistic. This class may also cover additional 2D and interaction design software.

PDES 3705. History and Future of Product Design. (3 cr. ; A-F only; Every Spring) This class covers critical milestones in the history, evolution, and trajectory of modern product design as well as the human relationships to consumer goods, including production and consumption. In some assignments, students have the opportunity to apply the topics discussed towards imagining the future of the product design industry.

PDES 3706. Designing for Manufacture. (4 cr. ; A-F only; Every Spring) This class is a hands-on overview of common manufacturing methods, tools, and considerations for product designers. The focus is placed on plastic and metal related processes specifically machining, forming, casting, and molding. Throughout the course students apply the theory of design for manufacturing (DFM) and design for assembly (DFA) to a series of design projects. This course also covers related topics such as material identification, bill of material, cost estimation, part drawings, tolerances, fasteners, part finishing, and sourcing parts.

PDES 3711. Product Innovation Lab. (; 4 cr. ; A-F only; Every Spring) A hands-on experience in integrated product design and development processes. Elements of industrial design, engineering, business, and humanities are applied to a semester-long product design project. Cross-functional teams of students in different majors work together to design and develop new consumer product concepts with guidance from a community of industry mentors. prereq: PDes 2772 OR Junior/Senior (any major) or permission from instructor

PDES 3714. Computer-Aided Design Methods 2: Surface Modeling and Rendering. (3 cr. ; A-F only; Every Spring) This class provides an overview of the digital surface modeling of existing products and conceptual objects with complex curves. Students will learn how to use the 3D surfacing software (e.g., Alias or Rhino) and apply material and texture with the rendering software (e.g., KeyShot). They will also gain a basic understanding of the science and logic behind the software. In addition, students will gain hands-on experience with topics closely related to this field including lighting, background, and render post-processing.

PDES 3715. Design and Food. (4 cr. ; A-F only; Every Fall) This class is a hands-on introduction to principles of design applied to the food industry. Students develop new food concepts working in a kitchen classroom with regular advising from local chefs and food industry experts. The class is structured into four modules: creative design process, flavor and

texture, visual aesthetics, and user experience. In each module students learn different design and food preparation methods and apply them to a design challenge. Several restaurant outings are incorporated into the curriculum.

PDES 3737. Product Design Portfolio. (2 cr. ; A-F only; Every Fall & Spring) Portfolio skills specific to the field of product/industrial design. Development and critique of verbal and visual presentation skills. Overview of the breadth and expectations of the profession.

PDES 3771. Product Design Studio 3. (4 cr. ; A-F only; Every Fall) This is the third studio course for product design majors in which students will further develop skills specific to their selected track/sub-plan. Students will apply skills learned in their prior core classes towards several individual product design challenges. Students in the user experience section may explore topics in service design, immersive environments, IoT, digital/physical integration, or smart products. Students in the integrated product development section may explore topics in furniture, medical devices, electromechanical products, consumer electronics, digital/physical integration, or smart products. Both sections will further develop presentation skills.

PDES 3790. Product Design Experience Abroad. (; 1-10 cr. ; A-F or Audit; Periodic Fall, Spring & Summer) Faculty-led study abroad course. Destinations vary by semester offered.

PDES 4193. Directed Study in Product Design. (; 1-4 cr. [max 8 cr.]; A-F or Audit; Every Fall, Spring & Summer) Independent study in product design under tutorial guidance. prereq: Undergrad, instr consent

PDES 4701W. Capstone Research Studio. (WI; 4 cr. ; A-F only; Every Fall) Students synthesize and apply design and research techniques to a senior capstone project. Projects can be student-directed or client-sponsored and are intended to demonstrate competency in fundamental design skills, communicating and documenting design processes, and the ability to apply design processes to develop new products and services while addressing real-world constraints. The first course of the two-course sequence focuses on problem/opportunity identification, user research methodologies, ideation and conceptual design, and early stage prototyping.

PDES 4702W. Capstone Design Studio. (WI; 4 cr. ; A-F only; Every Spring) Students synthesize and apply design and research techniques to a senior capstone project. Projects can be student-directed or client-sponsored and are intended to demonstrate competency in fundamental design skills, communicating and documenting design processes, and the ability to apply design processes to develop new products and services while addressing real-world constraints. The second course of the

two-course sequence focuses on concept refinement, advanced prototyping, detailed design and engineering, user testing, manufacturing, and business and distribution considerations.

PDES 5193. Directed Study in Product Design. (; 1-4 cr. [max 8 cr.]; A-F or Audit; Every Fall, Spring & Summer)
Independent study in product design under tutorial guidance. prereq: Grad, instr consent

PDES 5701. User-Centered Design Studio. (4 cr. ; A-F only; Every Spring)
This class provides a studio-based overview of user-centered product design and development processes. Students will practice both user and market research, creativity and idea generation tools, concept evaluation/selection techniques, prototyping methods for concept development and communication, and user testing. This class will also cover fundamentals of intellectual property and manufacturing. In this studio, students will apply these skills towards the development of a product concept.

PDES 5702. Visual Communication. (3 cr. ; A-F only; Every Fall)
This class provides an overview of sketching, manual rendering and Adobe Photoshop, Illustrator, and InDesign for communication of conceptual product design. Topics covered will include free-hand perspective drawing of simple/complex geometries, line weight/quality, shading/shadow, design details and annotations, as well as image editing, vector graphics, and multi-page layout design. There will be weekly drawing assignments and critique of work.

PDES 5703. Prototyping Methods. (4 cr. ; A-F only; Every Fall)
This class is a hands-on introduction to traditional and digitally interactive prototyping tools and techniques. Through a series of projects students will gain experience with building product models using different materials and tools related to foam core, foam, wood, Arduino, and digital fabrication. In the process, the course covers design topics related to form and function, ergonomics, visual aesthetics, and design critique.

PDES 5704. Computer-Aided Design Methods. (3 cr. ; A-F only; Every Fall)
This class provides an overview of how to make high-quality digital computer-based models of existing and conceptual products and interactions. Students will learn Adobe Photoshop, Adobe Illustrator, and Axure for two-dimensional design and digital prototyping. Students will also learn SolidWorks and KeyShot for three-dimensional solid modeling and rendering. prereq: Senior or grad student

PDES 5705. History and Future of Product Design. (3 cr. ; A-F only; Every Spring)
This class covers critical milestones in the history, evolution, and trajectory of modern product design as well as the human relationships to consumer goods, including production and consumption. In some assignments, students have the opportunity to apply the topics discussed towards imagining the future of the product design industry.

PDES 5706. Designing for Manufacture. (4 cr. ; A-F only; Every Fall)
Hands-on exposure to a number of common manufacturing methods and the considerations in product design. Students will be able to apply the theory of design for manufacturing (DFM) and design for assembly (DFA) to other methods that may not be taught in this course.

PDES 5711. Product Innovation Lab. (; 4 cr. ; A-F only; Every Spring)
A hands-on experience in integrated product design and development processes. Elements of industrial design, engineering, business, and humanities are applied to a semester-long product design project. Cross-functional teams of students in different majors work together to design and develop new consumer product concepts with guidance from a community of industry mentors

Psychology (PSY)

PSY 1001. Introduction to Psychology. (SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)
Scientific study of human behavior. Problems, methods, findings of modern psychology.

PSY 1001H. Honors Introduction to Psychology. (SOCS; 4 cr. ; A-F only; Every Fall & Spring)
Scientific study of human behavior. Problems, methods, findings of modern psychology. prereq: Honors.

PSY 1010. Topics in Psychology. (; 1-3 cr. ; Student Option; Periodic Fall & Spring)
Introductory topics of current interest in Psychology.

PSY 1916. Race in Everyday Space. (DSJ; 3 cr. ; A-F only; Periodic Fall & Spring)
This seminar examines the nature and meaning of being racial and ethnic minorities in the United States, with a particular focus on immigrant, refugee, second-generation, and adoptee communities that are unique to Minnesota and the Midwest. Students will learn about the unique and common histories, struggles, and successes of Blacks, Asian Americans, Latinx, and American Indians. Drawing upon psychological theory and research, as well as interdisciplinary ethnic studies scholarship, the seminar engages students in a critical analysis of the ways in which race, ethnicity, and migration affect the everyday lives of racial/ethnic minority individuals and families.

PSY 1923. The Freshman 15: Stress and Health Management for College Students. (; 3 cr. ; A-F only; Periodic Spring)
The start of college is a time of significant transition from family home to campus living. The changes across many domains of one's life can disrupt healthy habits and initiate unhealthy ones. Are your stress levels out of control? Are you worried about your college eating habits? Are you planning to catch up on sleep after you graduate? In this seminar we will use a biopsychosocial framework, popular in health psychology, to examine personal health influences and choices. You will gain insight into your own health and learn methods

to improve and sustain health behaviors that will better support your life as a student and your life beyond college.

PSY 1925. Neuroimaging in Psychology: Why Do Psychologists Use Magnets & Electrodes to Look at People's Brains. (; 3 cr. ; A-F only; Periodic Spring)
This seminar explores how people use electricity and magnets to study brains. It seems almost magical that we can use magnets, radio antennae, and electrodes to figure out what people are thinking. But there's no magic about it, and we will spend part of our time together learning about the basic physics and neuroscience that make functional magnetic resonance imaging (fMRI), magnetoencephalography (MEG), and electroencephalography (EEG) possible. We will spend the rest of the time talking about why people want to do this ? and whether or not they should. The central problem is that, once we've collected our data, we have to interpret it. In order to interpret our data, we have to make some assumptions about how things work. The goal of this seminar is to teach students to detect and question those assumptions. Students will use weekly writing assignments to sharpen their thinking on each topic. The midterm exam will be a debate on the topic ?Can we read people's minds??. and the final project will be to explain a popular neuroimaging paper to a stranger.

PSY 1926. Our Innovating Minds: Introducing the Cognitive and Brain Sciences of Individual and Group Creativity. (; 3 cr. ; A-F only; Periodic Fall)
Creativity and innovation are essential to our ability to flexibly and positively make changes in our lives ? both individually and collectively. How do our minds, brains, and environments together enable the generation and shaping of useful and influential novel ideas? This seminar course investigates this question, drawing on research and observations from the cognitive and brain sciences and other disciplines such as design, art, and computer science. Core parts of the course involve reading and discussing original research articles along with active hands-on/minds-on within-class collaborative activities. One integrative theme throughout the course is the ways in which creative thinking/making is boosted when we contextually vary the extent to which we deliberately exert cognitive control in the pursuit of creative goals. A second integrative theme is understanding how we need both concreteness and abstraction to best realize our making/creating endeavors.

PSY 3001V. Honors Introduction to Research Methods. (WI; 4 cr. ; A-F only; Every Spring)
Concepts/procedures used to conduct/evaluate research, especially in social sciences. Benefits/limitations of traditional research methods. Evaluating scientific claims. prereq: [1001, [2081/3801 or equiv]]or dept consent, PSY major, honors student

PSY 3001W. Introduction to Research Methods. (WI; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Concepts/procedures used to conduct/evaluate research, especially in social sciences.

Benefits/limitations of traditional research methods. Evaluating scientific claims. prereq: [1001, [2801 or 3801 or equiv]] or dept consent

PSY 3011. Introduction to Learning and Behavior. (; 3 cr. ; Student Option; Every Fall) Methods/findings of research on learning and behavior change. Twentieth-century theoretical perspectives, including contemporary models. Emphasizes animal learning and behavioral psychology. prereq: 1001

PSY 3031. Introduction to Sensation and Perception. (; 3 cr. ; Student Option; Every Fall & Spring) Psychological, biological, and physical bases of sensory experience in humans and animals. Emphasizes senses of vision/hearing. prereq: PSY 1001

PSY 3051. Introduction to Cognitive Psychology. (; 3 cr. ; Student Option; Every Fall, Spring & Summer) Scientific study of the mind in terms of representation and processing of information. Research and theory on cognitive abilities such as perception, attention, memory, language, and reasoning. Aspects of computational modeling and neural systems. prereq: 1001

PSY 3061. Introduction to Biological Psychology. (; 3 cr. ; Student Option; Every Fall, Spring & Summer) Neurophysiology/neuroanatomy, neural mechanisms of motivation, emotion, sleep-wakefulness cycle, learning/memory in animals/humans. Neural basis of abnormal behavior, drug abuse. prereq: 1001 or BIOL 1009 or NSci 1100 prereq: 1001 or BIOL 1009 or NSci 1100

PSY 3101. Introduction to Personality. (; 3 cr. ; Student Option; Every Fall & Spring) Covers the major issues in personality psychology, including personality traits, their assessment, and their roots in genetic and environmental influences; personality development and the effects of personality on life outcomes; psychological and biological processes related to personality; and the importance of goals, roles, and narrative identity. Various contemporary and historical perspectives are considered, including psychodynamic, humanistic, behaviorist, and evolutionary approaches. prereq: 1001

PSY 3121. History and Systems of Psychology. (; 3 cr. ; Student Option; Every Spring) Survey of the history, methods, and content of modern psychological theory, research, and application. Schools of psychology (e.g., structuralism, functionalism, behaviorism, Gestalt psychology) and central theories of psychology reviewed in their historical and philosophical context. prereq: PSY 1001

PSY 3135. Introduction to Individual Differences. (3 cr. ; Student Option; Every Fall & Spring) Differential methods in studying human behavior. Psychological traits. Influence of age, sex, heredity, environment in individual/group differences in ability, personality, interests,

social attitudes. prereq: [1001, [3801 or equiv]] or instr consent

PSY 3201. Introduction to Social Psychology. (; 3 cr. ; Student Option; Every Fall, Spring & Summer) Overview of theories/research in social psychology. Attitudes/persuasion, social judgment, the self, social influence, aggression, prejudice, helping, and applications. prereq: 1001 or instr consent

PSY 3206. Introduction to Health Psychology. (; 3 cr. ; Student Option; Every Spring) Theories/research in health psychology. Bi-directional relationships between psychological factors and physical health. Stress/coping, adjustment to chronic illness. Psychological factors in etiology/course of disease. Health behavior change. prereq: 1001

PSY 3301. Introduction to Cultural Psychology. (; 3 cr. ; A-F or Audit; Every Fall & Spring) Theories/research on how culture influences basic psychological processes (e.g., emotion, cognition, psychopathology) in domains that span different areas of psychology (e.g., social, clinical, developmental, industrial-organizational) and of other disciplines (e.g., anthropology, public health, sociology). prereq: 1001

PSY 3511. Introduction to Counseling Psychology. (; 3 cr. ; Student Option; Every Fall, Spring & Summer) History, theories, and research related to counseling psychology. Development/application of counseling theories to diverse populations. Psychological research on counseling process. Psychological mechanisms that promote change in people's lives. prereq: 1001

PSY 3604. Introduction to Abnormal Psychology. (; 3 cr. ; Student Option; Every Fall, Spring & Summer) Diagnosis, classification, etiologies of behavioral disorders. prereq: 1001

PSY 3617. Introduction to Clinical Psychology. (; 3 cr. ; Student Option; Every Fall & Spring) Historical developments, contemporary issues. Trends in psychological assessment methods, intervention strategies, and clinical psychology research. Theories behind, empirical evidence for, usefulness of psychological intervention strategies. prereq: 3604 or 5604H

PSY 3621. Japanese Traditions & Psychology of Well-Being. (3 cr. ; Student Option; Periodic Summer) During this class we will travel to the two main regions of Japan, Honshu, and Oki-Shoto. Students will deepen their knowledge of Japanese culture, consider lifespan development within the context of family and examine rituals and traditions within the context of family. To understand these traditions, students will apply their deepening knowledge of the culture. From a lifespan development perspective, we will plan to study some of the common developmental processes that occur, emphasizing individual and family

development. Finally, we will explore family traditions and rituals in Japan including: (a) what function they serve; (b) what factors are associated with tradition adherence; and (c) influences outside (e.g., nuclear war) or inside (e.g., parental mental illness) the family that may promote or interfere with these traditions. No Japanese language knowledge is required.

PSY 3633. Happiness: Integrating Research Across Psychological Sciences. (; 3 cr. ; Student Option; Every Fall) Nature of human happiness/fulfillment. Insights from cognitive, personality, and social psychology, and from biology and economics. Integrative approach to feelings that make life worth living. prereq: 3001W or 3001V or instr consent

PSY 3666. Human Sexuality. (; 3 cr. ; Student Option; Periodic Fall & Spring) Overview of theories, research, and contemporary issues in human sexual behavior from an interdisciplinary perspective. Sexual anatomy/physiology, hormones/sexual differentiation, cross-cultural perspectives on sexual development, social/health issues, and sexual dysfunction/therapy. prereq: 1001

PSY 3711. Psychology in the Workplace. (; 3 cr. ; Student Option; Every Fall & Spring) Application of psychological theory/research to recruitment, personnel selection, training/development, job design, work group design, work motivation, leadership, performance assessment, job satisfaction measurement. prereq: 1001, [2801/3801 or equiv] or SCO 2550 or instr consent

PSY 3801. Introduction to Psychological Measurement and Data Analysis. (MATH; 4 cr. ; Student Option; Every Fall, Spring & Summer) Descriptive/basic inferential statistics used in psychology. Measures of central tendency, variability, t tests, one-way ANOVA, correlation, regression, confidence intervals, effect sizes. Psychological measurement. Graphical data presentation. Statistical software. prereq: High school algebra, [PSY 1001 or equiv]; intended for students who plan to major in psychology

PSY 3801H. Honors Introduction to Psychological Measurement and Data Analysis. (MATH; 4 cr. ; A-F only; Every Fall) Descriptive/basic inferential statistics in psychology. Measures of central tendency, variability, t tests, one-way ANOVA, correlation, regression, confidence intervals, effect sizes. Psychological measurement. Graphical data presentation. Statistical software. prereq: [1001 or equiv], high school algebra, honors; intended for students who plan to major in psychology

PSY 3896. Internship in Psychology. (; 1-4 cr. [max 9 cr.] ; Student Option; Every Fall & Spring) Students first need to secure an internship related to the field of Psychology. Support from Psychology Undergraduate Advising and CLA Career Services is available for this process. Corresponding online coursework includes written goals, journal entries, career development activities, and a culminating paper/project. Credits are variable based on

hours at your site: - 1 credit - 45 hour minimum (average 3-4 hours per week) - 2 credit - 90 hour minimum (average 5-7 hours per week) - 3 credit - 135 hour minimum (average 8-9 hours per week) - 4 credit - 180 hour minimum (average 10-12 hours per week). The classwork (journal entries, final paper, etc.) required is increased relative to your credit registration. Students work with their site supervisors to submit a completed internship contract via Handshake in order to register. <https://handshake.umn.edu/> -- "Request an Experience". Contact the psyadv@umn.edu with any questions. A student may only earn credit for a given internship through one course at a time. prereq: Psychology BA or BS major, Department Permission

PSY 3901W. Capstone in Psychology - Research Laboratory. (WI; 3 cr. ; A-F only; Every Fall, Spring & Summer)

The capstone courses in Psychology synthesize knowledge gained throughout major and create pathways to post-graduation life. Students will reflect on the discipline of psychology and on their experiences in their degree program; class and small group discussions will support this reflection. Students will be provided with access to professionals who are alumni of the psychology program and will have the opportunity to hear these career professionals speak about their varied career paths and to network with them for advice and connections to other professionals. Students will also receive important information regarding graduate school and career preparation from the Psychology Advising Office and CLA Career Services. In this course, you will draw from your experience in a faculty research lab (PSY 4/5993) to help develop the topic of your major project paper. Students complete a research paper based on activities in the lab, or a literature review if the lab did not complete empirical work. Before class begins students must secure a laboratory research experience in a faculty member's lab for PSY 4/5993 credits or enroll in the PSY 5993 class, either the semester prior to or concurrently with your PSY 3901W enrollment. Because research lab positions are not guaranteed, we recommend BA students only select this option if they already have a PSY 4/5993 position secured. prereq: [3801 or equiv], 3001W, completion of five courses from three distribution areas, PSY major, senior

PSY 3902W. Capstone in Psychology - Individual Interests. (WI; 3 cr. ; A-F only; Every Fall, Spring & Summer)

The capstone courses in Psychology synthesize knowledge gained throughout major and create pathways to post-graduation life. Students will reflect on the discipline of psychology and on their experiences in their degree program; class and small group discussions will support this reflection. Students will be provided with access to professionals who are alumni of the psychology program and will have the opportunity to hear these career professionals speak about their varied career paths and to network with them for advice and connections to other

professionals. Students will also receive important information regarding graduate school and career preparation from the Psychology Advising Office and CLA Career Services. In this course, you will develop a project that relates to your personal or occupational interests. It includes extra reading or contact with people working in your area of interest. The most common way to satisfy this requirement is to read a book written by a psychologist for a general audience or to interview at least three professionals working in your area of interest. Other ideas may be discussed with the course instructor. prereq: [3801 or equiv], 3001W, completion of five courses from three distribution areas, PSY major, senior

PSY 3903W. Capstone in Psychology - Community Engagement. (WI; 3 cr. ; A-F only; Every Fall, Spring & Summer)

The capstone courses in Psychology synthesize knowledge gained throughout major and create pathways to post-graduation life. Students will reflect on the discipline of psychology and on their experiences in their degree program; class and small group discussions will support this reflection. Students will be provided with access to professionals who are alumni of the psychology program and will have the opportunity to hear these career professionals speak about their varied career paths and to network with them for advice and connections to other professionals. Students will also receive important information regarding graduate school and career preparation from the Psychology Advising Office and CLA Career Services. In this course, you will have the opportunity to connect your study of psychology to important issues in the local community. The Center for Community-Engaged Learning provides students with the opportunity to work onsite at a nearby community organization for approximately four hours each week throughout the semester. Students draw from this community experience to help identify the topic of their capstone paper. In the first week of classes you will receive instructions from the Center for Community-Engaged Learning regarding community site placement. prereq: [3801 or equiv], 3001W, completion of five courses from three distribution areas, PSY major, senior

PSY 3960. Undergraduate Seminar in Psychology. (; 1-5 cr. [max 45 cr.] ; Student Option; Every Fall, Spring & Summer)

Undergraduate seminars in subjects of current interest in psychology. prereq: 1001

PSY 3993. Directed Study. (1-6 cr. [max 24 cr.] ; Student Option; Every Fall, Spring & Summer)

Independent reading leading to paper or to oral or written exam. Prereq instr consent, dept consent, college consent.

PSY 3996. Undergraduate Fieldwork and Internship in Psychology. (; 1-4 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Supervised fieldwork/internship in community/industry pertinent to formal academic training in

psychology. prereq: 1001, instr consent, dept consent

PSY 4021. Creativity Sciences: Minds, Brains, and Innovation. (3 cr. ; A-F only; Spring Odd Year)

Creativity and innovation play a pivotal role in our individual and collective lives. How do our minds, brains, and environments together enable the generation of useful novel ideas? This course investigates this question, using empirical findings and methods from the cognitive and brain sciences and other disciplines. Both close readings of original empirical research articles and active hands-on/minds-on within-class experiments and collaborative activities are core parts of the course. Two integrative themes throughout the course are the need for dynamically adaptive (contextually sensitive) variation in both levels of cognitive control and goal guidance (deliberate to spontaneous to automatic) and our level of representational specificity (concrete and specific to mid-level to abstract).

PSY 4021. Creativity Sciences: Minds, Brains, and Innovation. (3 cr. ; A-F only; Spring Odd Year)

Creativity and innovation play a pivotal role in our individual and collective lives. How do our minds, brains, and environments together enable the generation of useful novel ideas? This course investigates this question, using empirical findings and methods from the cognitive and brain sciences and other disciplines. Both close readings of original empirical research articles and active hands-on/minds-on within-class experiments and collaborative activities are core parts of the course. Two integrative themes throughout the course are the need for dynamically adaptive (contextually sensitive) variation in both levels of cognitive control and goal guidance (deliberate to spontaneous to automatic) and our level of representational specificity (concrete and specific to mid-level to abstract). prereq: Psy 1001

PSY 4032. Psychology of Music. (; 3 cr. ; Student Option; Every Spring)

Sound, hearing, music perception. Cognitive neuroscience of music appreciation/production. Concepts in perception/production of sound/music. Music psychology topics. Recent primary research. prereq: Grad or [jr or sr], [3011 or 3031 or 3051 or 3061]] or instr consent

PSY 4036. Perceptual Issues in Visual Impairment. (; 3 cr. ; Student Option; Periodic Fall)

Challenges/capabilities of people who are blind or have low vision. Reading, space perception, mobility. Strengths/weaknesses of adaptive technology. prereq: 1001 or instr consent

PSY 4206. Interventions for Health and Wellness. (3 cr. ; Student Option; Every Spring)

This course explores empirically-tested psychological interventions to increase health and happiness. In the first part of the course, the focus will be on interventions to increase happiness, and students will test

different strategies on themselves each week (as well as read the research literature on the strategies) as they attempt to increase happiness. In the second part of the course, students will select a health behavior, and then read about and test interventions (again on themselves) to change health behaviors, aiming to maintain a new health goal. A group project will involve creating an intervention to increase happiness on campus. Course consists of lecture, discussion, group work, and intervention design and testing. PSY 3206 is recommended, but not required.

PSY 4207. Personality and Social Behavior. (3 cr. ; A-F or Audit; Every Fall)

Conceptual/methodological strategies for scientific study of individuals and their social worlds. Applications of theory/research to issues of self, identity, and social interaction. prereq: 3101 or 3201 or honors or grad student or instr consent

PSY 4301. Psychology & Diversity Science. (3 cr. ; A-F only; Periodic Fall & Spring)

This is an advanced course for undergraduate students interested in research, theory, history, and practice related to psychological perspectives in Diversity Science. Diversity Science broadly pertains to understanding causes, consequences, and correlates of human group-based variations, in terms of race, ethnicity, gender, and the like. Students will learn how to adopt a scientific, analytic perspective on current issues and debates related to diversity within both academic research and popular culture. The course consists of lecture, discussion, and a substantial amount of hands-on learning through use and analysis of relevant research data. Prerequisites: Psy 3001W or Psy 3001V and Psy 3801 or Psy 3801H. In addition, completion of Psy 3301 is strongly recommended.

PSY 4501. Psychology of Women and Gender. (3 cr. ; Student Option; Every Spring)

Theory/research regarding psychology of women and psychological sex differences/similarities. Issues unique to women (e.g., pregnancy). Research comparing men/women in terms of personality, abilities, and behavior. prereq: [[Jr or sr], psych major] or instr consent

PSY 4521. Psychology of Stress and Trauma. (3 cr. ; A-F only; Every Spring)

This course covers the major theories and research findings related to stress and trauma, including the effects of stress and trauma on mental and physical health, factors related to more effective coping with stress/trauma and interventions designed to decrease the negative effects of stress and trauma. Course material will highlight research related to stress and coping with the COVID-19 pandemic. The course focuses on both research methods and personal application of research findings. prereq: PSY 1001 and 3001W or PSY 3001V or CPSY 3308W

PSY 4902V. Honors Project. (WI; 1-6 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Critical literature review or empirical study. prereq: instr consent, dept consent

PSY 4960. Seminar in Psychology. (3 cr. ; 1-4 cr. [max 16 cr.] ; Student Option; Periodic Fall & Spring)

Seminars in subjects of current interest in Psychology. prereq: [1001, psych major] or instr consent

PSY 4993. Directed Research: Special Areas of Psychology and Related Sciences. (3 cr. ; 1-6 cr. [max 48 cr.] ; Student Option; Every Fall, Spring & Summer)

Directed research projects in psychology. prereq: instr consent, dept consent

PSY 4994V. Honors Research Practicum. (WI; 4 cr. ; A-F only; Every Spring)

Practical experience conducting psychological research. Preparation for completion of honors thesis. Research ethics, practical aspects of conducting psychological research, writing research reports. Students assist faculty and advanced graduate students in research. prereq: [3001W or 3001V], psych major, honors

PSY 4996H. Honors Internship/Externship. (3 cr. ; 1-6 cr. ; A-F only; Every Fall, Spring & Summer)

Supervised internship/externship experience in a community-service or industrial setting relevant to formal academic training/objectives. prereq: Honors, instr consent, dept consent, college consent

PSY 5014. Psychology of Human Learning and Memory. (3 cr. ; A-F only; Spring Odd Year)

Human memory encoding/retrieval. How we adaptively use memory. Brain systems that support memory. Episodic/semantic memory. Working/short-term memory. Procedural memory. Repetition priming. Prospective remembering. Autobiographical memory. prereq: 3011 or 3051 or honors or grad student

PSY 5015. Cognition, Computation, and Brain. (3 cr. ; Student Option; Spring Even Year)

Human cognitive abilities (perception, memory, attention) from different perspectives (e.g., cognitive psychological approach, cognitive neuroscience approach). prereq: [Honors or grad] or [[jr or sr], [3011 or 3031 or 3051 or 3061]] or instr consent

PSY 5018H. Mathematical Models of Human Behavior. (3 cr. ; A-F only; Periodic Fall)

Mathematical models of complex human behavior, including individual/group decision making, information processing, learning, perception, and overt action. Specific computational techniques drawn from decision theory, information theory, probability theory, machine learning, and elements of data analysis. prereq: Math 1271 or instr consent

PSY 5031W. Perception. (WI; 3 cr. ; Student Option; Fall Odd Year)

Cognitive, computational, and neuroscience perspectives on visual perception. Topics include color vision, pattern vision, image formation in the eye, object recognition, reading, and impaired vision. prereq: 3031 or 3051 or instr consent

PSY 5036W. Computational Vision. (WI; 3 cr. ; Student Option; Fall Even Year)

Applications of psychology, neuroscience, computer science to design principles underlying visual perception, visual cognition, action. Compares biological/physical processing of images with respect to image formation, perceptual organization, object perception, recognition, navigation, motor control. prereq: [[3031 or 3051], [Math 1272 or equiv]] or instr consent

PSY 5037. Psychology of Hearing. (3 cr. ; Student Option; Periodic Fall)

Biological and physical aspects of hearing, auditory psychophysics, theories and models of hearing, recognition of complex sounds including music and speech. Clinical/other applications. Prereq: Instructor permission

PSY 5038W. Introduction to Neural Networks. (WI; 3 cr. ; Student Option; Fall Odd Year)

Parallel distributed processing models in neural/cognitive science. Linear models, Hebbian rules, self-organization, non-linear networks, optimization, representation of information. Applications to sensory processing, perception, learning, memory. prereq: [[3061 or NSC 3102], [MATH 1282 or 2243]] or instr consent

PSY 5052. Psychology of Attention. (3 cr. ; A-F only; Fall Odd Year)

Is attention needed for perception? Are we more likely to attend to locations associated with reward? Does brain training work? Are attention deficits at the root of autism spectrum disorders? This course will introduce students to advanced topics in the psychology of attention. It will combine didactic lecturing, instructor-led discussions, and student-led discussions on core topics of attention and its neural substrates. Students will acquire familiarity with theories, phenomena, and experimental paradigms of attention. prereq: Psy 3051 or equivalent

PSY 5054. Psychology of Language. (3 cr. ; Student Option; Every Fall)

Theories/experimental evidence in past/present conceptions of psychology of language. prereq: Grad or [[jr or sr], [3011 or 3031 or 3051 or 3061]] or instr consent

PSY 5062. Cognitive Neuropsychology. (3 cr. ; Student Option; Every Fall)

Consequences of different types of brain damage on human perception/cognition. Neural mechanisms of normal perceptual/cognitive functions. Vision/attention disorders, split brain, language deficits, memory disorders, central planning deficits. Emphasizes function/phenomenology. Minimal amount of brain anatomy. prereq: Grad or [[jr or sr], [3011 or 3031 or 3051 or 3061]] or instr consent

PSY 5063. Introduction to Functional MRI. (3 cr. ; A-F only; Every Fall)

How to understand and perform a brain imaging experiment. Theory and practice of functional MRI experimental design, execution, and data analysis. Students develop experimental materials/acquire and analyze their own functional MRI data. Lectures/lab exercises. prereq: Jr or sr or grad or instr consent

PSY 5064. Brain and Emotion. (; 3 cr. ; A-F or Audit; Spring Odd Year)

Introduction to affective neuroscience. How brain promotes emotional/motivated behavior in animals/humans. Biological theories of emotion in historical/current theoretical contexts. Fundamental brain motivational systems, including fear, pleasure, attachment, stress, and regulation of motivated behavior. Implications for emotional development, vulnerability to psychiatric disorders. prereq: 3061 or 5061 or instr consent

PSY 5065. Functional Imaging: Hands-on Training. (; 3 cr. ; Student Option; Every Spring)

Basic neuroimaging techniques/functional magnetic resonance imaging (fMRI). First half of semester covers basic physical principles. Second half students design/execute fMRI experiment on Siemens 3 Tesla scanner. prereq: [3801 or equiv], [3061 or NSCI 3101], instr consent

PSY 5066. Neuroscience, Philosophy and Ethics. (3 cr. ; Student Option; Every Spring)

Neuroscience increasingly allows us to explain the human experience in terms of mechanistic, electrochemical processes. The current course explores philosophical issues sparked by these developments in two modules. The first module examines the ways in which human neuroscience may shed new light on age-long philosophical quagmires such as mind-body dualism, free-will, and consciousness. For example, will neuroscience solve the mind-body problem by providing a wholly physical account of human nature? Is the neural view of decision making as a logical consequence of brain states incompatible with free-will? Can all of conscious experience (qualia) be reduced to neurobiology? The second module turns to neuro-ethical questions regarding the potential benefits and harms neuroscience might bring to the moral fabric of society.

PSY 5101H. Honors: Personality: Current Theory and Research. (; 3 cr. ; A-F only; Spring Odd Year)

Current theory and research on personality functioning and personality structure. Descriptive, biological, evolutionary, cognitive, developmental, cultural, and narrative perspectives on personality. prereq: Honors Psychology major OR Psychology PhD student

PSY 5135. Psychology of Individual Differences. (; 3 cr. ; Student Option; Periodic Spring)

Differential methods in study of human behavior. Psychological traits. Influence of age, sex, heredity, and environment in individual/group differences in ability, personality, interests, and social attitudes. prereq: [3001W or equiv] or [5862 or equiv] or instr consent

PSY 5136. Human Abilities. (; 3 cr. ; Student Option; Every Spring)

Theory, methods, and applications of research in human abilities. Intelligence, aptitude, achievement, specific abilities, information processing/learning and intelligence, aptitude/treatment interactions, and quantitative measurement issues. prereq: [3001W or

3001V], [3135 or 5135], [5862 or equiv] or instr consent

PSY 5137. Introduction to Behavioral Genetics. (; 3 cr. ; Student Option; Every Fall)

Genetic methods for studying human/animal behavior. Emphasizes nature/origin of individual differences in behavior. Twin and adoption methods. Cytogenetics, molecular genetics, linkage/association studies. prereq: 3001W or equiv or instr consent

PSY 5202. Attitudes and Social Behavior. (; 3 cr. ; Student Option; Periodic Spring)

Theory/research on social psychology of beliefs/attitudes. Persuasion principles. prereq: 3201 or instr consent

PSY 5204. Psychology of Interpersonal Relationships. (; 3 cr. ; A-F only; Periodic Fall)

Introduction to interpersonal relationship theory/research findings. prereq: Honors or grad student or instr consent

PSY 5205. Applied Social Psychology. (; 3 cr. ; Student Option; Spring Odd Year)

Applications of social psychology research/theory to domains such as physical/mental health, education, the media, desegregation, the legal system, energy conservation, public policy. prereq: 3201 or grad student or instr consent

PSY 5206. Social Psychology and Health Behavior. (3 cr. ; A-F only; Spring Odd Year)

Survey of social psychological theory/research regarding the processes that shape people's beliefs about health and how these beliefs affect and are affected by their health behavior. Consideration of how theory and evidence regarding these processes informs the development and testing of intervention strategies to promote health behavior change. Prerequisite: Psy 3201

PSY 5207. Personality and Social Behavior. (; 3 cr. ; A-F or Audit; Every Fall)

Conceptual/methodological strategies for scientific study of individuals and their social worlds. Applications of theory/research to issues of self, identity, and social interaction. prereq: 3101 or 3201 or honors or grad student or instr consent

PSY 5501. Self, Society and Health - What's Work Got To Do With It?. (; 3 cr. ; Student Option; Every Spring)

Survey of history, concepts, theories, methods, and findings of vocational/occupational health psychology. Burnout, personality, violence, stressors/stress-relations, counter productive behaviors, coping in workplace. Vocational development/assessment, career decision-making/counseling, person-environment fit. prereq: 3001W or equiv or instr consent

PSY 5701. Employee Selection and Staffing. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Application of psychological research/theory to issues in personnel recruitment/selection and to measurement of job performance. Applying principles of individual differences, psychological measurement to decision making in organizations (recruitment, selection, performance appraisal). Prerequisite: Psy 3001W, Psy 3711 or Instructor Permission

PSY 5703. Psychology of Organizational Training and Development. (; 3 cr. ; Student Option; Every Fall)

Theories, methods, research, and practice of improving performance of individuals at work through adult learning and instruction, including needs analysis, learning philosophy, models of program and instructional design, theory of knowledge and training transfer, learning analytics, and training evaluation. Prerequisites: PSY 3801 or equivalent

PSY 5708. Organizational Psychology. (; 3 cr. ; Student Option; Every Spring)

Psychological causes of behavior in work organizations. Consequences for individual fulfillment and organizational effectiveness. Individual differences, social perception, motivation, stress, job design, leadership, job satisfaction, teamwork, organizational culture. Prereq: Psy 3001W or 3001V and 3711 OR Psy grad

PSY 5862. Psychological Measurement: Theory and Methods. (; 3 cr. ; Student Option; Every Fall)

Types of measurements (tests, scales, inventories) and their construction. Theory/measurement of reliability/validity. prereq: 3801H or MATH 1271 or grad student

PSY 5865. Advanced Measurement: Theory and Application. (; 3 cr. ; Student Option; Spring Odd Year)

Topics in test theory. Classical reliability/validity theory/methods, generalizability theory. Linking, scaling, equating. Item response theory, methods for dichotomous/polytomous responses. Comparisons between classical, item response theory methods in instrument construction. prereq: 5862 or instr consent

PSY 5960. Topics in Psychology. (; 1-4 cr. [max 8 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Special course or seminar. Topics listed in Class Schedule. prereq: PSY 1001, [jr or sr or grad student]

PSY 5993. Research Laboratory in Psychology. (; 3 cr. [max 18 cr.] ; Student Option; Every Fall & Spring)

Laboratory instruction and seminars in faculty research areas. prereq: instr consent, dept consent

Public Affairs (PA)

PA 1005. Great Debates of Our Time: U.S. Policy and Politics. (CIV; 3 cr. ; A-F or Audit; Every Spring)

Topical political/policy debates with prominent government officials/experts. Constitutional crisis over authority/roles of legislative/executive branches. Visiting lecturers, in-class simulations, readings.

PA 1401. Public Affairs: Community Organizing Skills for Public Action. (CIV; 3 cr. ; A-F only; Every Fall & Spring)

Public affairs work, roles of citizens in democratic way of life. Community organizing skills, their importance for public affairs. Negotiations among diverse audiences, understanding different interests, mapping

power relationships. Relevant public affairs and governance theory.

PA 3001. Changing the World: Contemporary Public Policy. (; 3 cr. ; A-F only; Every Spring)

Foundation for understanding the what, who, where, and how of public policy making. These components are explored from different perspectives while delving into questions such as: What is public policy good for? Who decides policy priorities? What effect does public policy actually have in solving public problems? How can we improve public policy making? After successfully completing this course, students will understand the process, structure, and context of policymaking; identify who, how, and what influences the policy process; and apply knowledge of public policy and the policymaking process to a specific policy issue. A strong understanding of the American political system is encouraged.

PA 3002. Basic Methods of Policy Analysis. (SOCS; 3 cr. ; A-F or Audit; Every Fall)

Introduction to policy analysis. Theoretical foundations/practical methods of analysis. Tools for problem definition, data collection/analysis, presentation techniques, implementation strategies. Multidisciplinary case-study approach.

PA 3003. Nonprofit and Public Financial Management. (3 cr. ; A-F or Audit; Every Fall)

Concepts/tools for project/budget planning. Program analysis. Interpreting financial reports. Identifying/resolving organizational performance issues. Case studies, real-world exercises. prereq: Jr or sr

PA 3481. Cedar Riverside: Where The World Meets MN. (; 2 cr. ; A-F only; Periodic Spring)

The Cedar Riverside Neighborhood; Where the World Meets Minnesota is an immersion course in our Cedar Riverside neighborhood that parallels the immersion experience of study abroad. The course encourages civic engagement and will provide opportunity to learn and work in the Cedar Riverside community while examining questions of leadership, power, cultural diversity and social change. Students will participate in class-based discussion seminars, neighborhood excursions and community work. Throughout the immersion experience, students are challenged to question, think, and respond thoughtfully to current issues facing the Cedar-Riverside community and cultivate leadership skills. Students can expect to gain new frameworks for understanding leadership and civic engagement in a domestic cultural context, deepened skill in identifying complex problems, strategic questioning, reflection and meaning making, as well as consciousness of relationship between self, world and text/theory.

PA 3852. Social Entrepreneurship & Diplomacy in Ghana. (GP,SOCS; 3 cr. ; A-F only; Every Spring)

This global seminar will take place in Ghana, focusing on visits within the country to the following cities; Accra, Kumasi, Senchi-Ferry, and Elmina/Cape Coast. The course content will focus on social entrepreneurship,

diplomacy, and how public policy and social enterprises are helping shape Ghana as one of the most stable emerging countries in West Africa. During the seminar, students will be engaged in lectures that focus on Ghanaian diplomacy, and the evolving role of social entrepreneurship in Ghana. Academic content will focus on meaningful interactions in the form of lectures, panels, site visits, and excursions with speakers from a variety of institutions in Ghana. Speakers will consist of entrepreneurs, policymakers, faculty from a variety of institutions (the University of Ghana Legon, University of Cape Coast, and Ashesi University) and public servants working in Ghana. Cultural excursion locations will align with the location of the academic content, lectures and site visits, which will enable students to develop a deeper understanding of social life and culture in Ghana. Also, the course will examine private and public sectors of higher education, and youth workforce development in Ghana as an impetus for the emergence of social enterprises. Lastly, students will participate in an educational project that investigates youth development and education within rural and urban communities and the role social entrepreneurs are planning on creating innovative solutions for young people to thrive. The course will have some readings that provide students with background information, history or news related to the lectures, site visits, and excursions that will occur during the seminar. Lecture topics include: Conversational Twi (3-day language course) at the University of Ghana Legon; Diplomacy 101 presented by the State Department at the U.S. Embassy in Ghana; traditional governance role in Ghanaian society; educational policy and workforce development in Ghana; women leadership in Markets: Exploration of a hub of entrepreneurship; impact on social entrepreneurship in Ghana panel of local organizations impacting Ghana. General Outcomes: Upon successful completion, student will be able to: Become familiar with diplomacy from an international context, and the role that they play in practicing diplomacy through their participation in the program and exposure to the role of the State Department; build on the knowledge gained from studying social entrepreneurship and how motivated individuals are developing strategies to address societal challenges; discuss diversity of cultures that exists within a country and how traditional and modern governments work together in order to ensure that the country is thriving, preserving its history and traditions; understand diverse philosophies and cultures within and across societies; and develop skills for effective citizenship and lifelong learning.

PA 3969. Survey of Election Administration. (; 3 cr. ; Student Option No Audit; Every Fall & Spring)

Survey of building blocks of election administration, from voter registration to recounts.

PA 3972. Elections and the Law. (; 2 cr. ; Student Option No Audit; Periodic Fall & Spring)

Theories and basic structure of the American legal system. Experience with basic tools and skills for using the law to understand and analyze issues facing election administrators across the nation. Use of election-related and non-election related materials to prepare election administrators for interacting with counsel, legislators and the courts in carrying out their responsibilities.

PA 3973. Strategic Management of Election Administration. (; 2 cr. ; Student Option No Audit; Every Fall)

Strategic management for election administrators in the political environment. Election official tools and challenges. The role of the lawmaking process in budgeting and organizational planning.

PA 3975. Election Design. (; 2 cr. ; Student Option No Audit; Every Spring)

Election administration design principles, including ballot and polling place design and poll worker training materials. Application of principles of field.

PA 3976. Voter Participation. (; 1 cr. ; Student Option No Audit; Periodic Fall & Spring)

Voter participation issues and challenges including historical survey of voter participation in US and methods to increase voter turnout.

PA 3982. Data Analysis for Election Administration. (; 2 cr. ; Student Option; Periodic Fall & Spring)

Evidence-based election administration. Collection and analysis of quantitative data to solve problems and identify opportunities for improvement. Emphasis on pre-election forecasting for planning purposes and post-election auditing of election results.

PA 3983. Introduction to Election Security. (; 1 cr. ; Student Option No Audit; Every Fall)

This course will examine the history of cyberattacks on the United States and the American election system, with special attention to the 2016 election cycle. Students will explore the types of cybersecurity threats that exist and strategies to protect against them; understand the roles different levels of government can play in the process, and hear from key officials about the issues raised by the official response to election security threats at the federal, state and local levels as well as in related private sector communities.

PA 3984. Elections Security: How to Protect America's Elections. (; 2 cr. ; A-F or Audit; Every Spring)

?Elections Security? uses the Russian efforts to influence the 2016 election as a case study to identify the vulnerabilities of US elections (especially state voter registration databases) as well as catalogue new protections. Readings and discussion will focus on best practices and technology options available to the public (social media) and elections professionals (cybersecurity) in guarding against future influence efforts and assuring public confidence in election outcomes. Special focus will be given to describing how local election officials can protect their election technology, most

notably those vulnerabilities associated with their voting system and voter registration database. ?Elections Security? will draw heavily on concrete cases and challenges facing election professionals, using government and independent reports and an in-depth analysis of new resources created by the US Department of Homeland Security and its collaborations with election professionals.

PA 3985. Physical Election Security. (; 2 cr. ; Student Option No Audit; Periodic Spring & Summer)

U.S. Homeland Security designated election security as a ?critical infrastructure? after threats from foreign governments, and collaborates with states in detecting and responding to foreign interference. This course will provide students with a deeper understanding of the current security context and best practices and processes for physically safeguarding elections based on 2016 and 2020. Students will learn the difference between physical and cyber threats to U.S. systems; tangible steps to protect election offices and their equipment; the use of audits to ensure the accuracy of elections; the integration of security into vendor relationships; and the connection between physical election security and citizen trust in elections. Content will be explored through readings (including government documents and studies), videos, discussions, and writing assignments.

PA 3990. General Topics in Public Policy. (; 1-3 cr. [max 9 cr.]; Student Option; Every Spring & Summer)

General topics in public policy.

PA 3991. Independent Study. (; 1-3 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer)

Independent study. prereq: instr consent

PA 4101. Nonprofit Management and Governance. (; 3 cr. ; Student Option; Every Fall & Spring)

Managing/governing nonprofit/public organizations. Theories, concepts, real-world examples. Governance systems, strategic management practices, effect of different funding environments, management of multiple constituencies.

PA 4200. Urban and Regional Planning. (; 3 cr. ; Student Option; Every Fall & Spring)

Fundamental principles of urban/regional land-use planning. Introduction to planning theory and its applications. Political-economic context of urban/regional planning.

PA 4790. Topics in Science, Technology, and Environmental Policy. (; 1-3 cr. [max 6 cr.]; Student Option; Periodic Fall & Spring)

Selected topics in the field of science, technology, and environmental policy. Topics vary.

PA 4997. Topics in Public Affairs & Politics. (; 1-3 cr. ; Student Option; Periodic Fall & Spring)

Topics in public policy, with emphasis on the politics of public affairs. One topic uses the struggles over national security and liberty to explore core aspects of the politics of public

affairs - power; institutional development; political communications; and democratic accountability. A rigorous understanding of these political dynamics offers a general approach to policy and public affairs that moves beyond superficial impressions to understanding and engaging in the practical work of public affairs. These tools of analysis are indispensable for making sense of America's constitutional crises as well as other issues. Class sessions are organized around interactive discussions of major Supreme Court decisions, debates in Congress, and other original documents that bring students into direct contact with the competing perspectives of each case, and with penetrating studies of politics.

PA 5002. Introduction to Policy Analysis.

(1.5 cr. ; A-F or Audit; Every Fall & Spring)

Process of public policy analysis from problem structuring to communication of findings. Commonly used analytical methods. Alternative models of analytical problem resolution.

PA 5003. Introduction to Financial Analysis and Management. (1.5 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Finance/accounting concepts/tools in public/nonprofit organizations. Fund accounting. Balance sheet/income statement analysis. Cash flow analysis. Public/nonprofit sector budgeting processes. Lectures, discussions. Cases. prereq: Public policy major/minor or major in development practice, public affairs or liberal studies or grad nonprofit mgmt cert or instr consent

PA 5004. Introduction to Planning. (3 cr. ; A-F or Audit; Every Fall)

History/institutional development of urban planning as profession. Intellectual foundations, planning theory. Roles of urban planners in U.S./international settings. Scope, legitimacy, limitations of planning/planning process. Issues in planning ethics/settings of diverse populations/stakeholders. prereq: Major/minor in urban/regional planning or instr consent

PA 5011. Management of Organizations. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Challenges facing higher-level managers in public and nonprofit organizations in mixed economy and democratic republic. Distinctive features of public and nonprofit management, skills necessary for effective management, manager's role as creator of public value. Lectures, case discussions.

PA 5012. The Politics of Public Affairs. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Politics is how we make collective decisions about matters of shared consequence. This course examines politics and introduces students to key concepts and skills needed for effective political analysis. The central themes of the course focus on power; institutions and organizations; discourse; and citizenship.

PA 5013. Law and Urban Land Use. (1.5 cr. ; A-F or Audit; Every Fall)

Role of law in regulating/shaping urban development, land use, environmental quality, local/regional governmental services. Interface

between public/private sector. prereq: Major or minor in urban/regional planning or instr consent

PA 5021. Microeconomics for Policy

Analysis. (3 cr. ; A-F or Audit; Every Fall)

Introduction to tools useful for public policy. Intermediate microeconomics.

PA 5022. Applications of Economics for Policy Analysis. (; 1.5-3 cr. [max 9 cr.]; A-F or Audit; Every Spring)

Application of economic reasoning to a wide range of contemporary public policy issues. The following topically-focused courses also fulfill the MPP economics requirement: PA 5431: Public Policies on Work and Pay, PA 5503: Economics of Development, PA 5521: Development Planning and Policy Analysis, PA 5722: Economics of Natural Resource and Environmental Policy, and PA 5805: Global Economics. prereq: 5021 or equiv

PA 5023. Stratification Economics and Public Policy. (2 cr. ; Student Option No Audit; Every Spring)

Stratification economics differs from conventional neoclassical economics and its related offspring of behavioral economics because it does not assume that the nature of inequality arises solely via rational choices made in competitive markets. Rather, it posits structural and historical processes that impede the ability of marginalized groups to gain access to markets. One of the key insights from stratification economics is that conventional policy mechanisms (e.g. deterrence policies in the criminal justice system) don't work because they fail to take account of the legacy of inequality (e.g. convict lease systems and vagrancy laws). The arguments in favor of reparations, baby bonds, universal health care can be viewed and examined using the methods and techniques of stratification economics. This course introduces students to some new methodologies that complement their training in conventional economic analysis. Topics: ? A review of conventional microeconomic approaches to policy analysis, including the core assumptions and key conclusions ? Summary and critique of the conventional microeconomic approach ? The historical backdrop to the evolution of ?identity economics? and stratification economics for understanding racial disparities ? Core assumptions of stratification economics ? Applications: Housing markets and residential segregation; racial profiling; discrimination in labor markets. ? Policy proposals based on stratification economics ? reparations, baby bonds, universal income and health payments. Advanced undergraduate students may register with permission of the instructor.

PA 5031. Statistics for Public Affairs. (4 cr. ; A-F or Audit; Every Fall)

Basic statistical tools for empirical analysis of public policy alternatives. Frequency distributions, descriptive statistics, elementary probability/probability distributions, statistical inference. Estimation/hypothesis testing. Cross-tabulation/chi-square distribution. Analysis of variance, correlation. Simple/multiple regression analysis.

PA 5032. Applied Regression. (2 cr. ; A-F or Audit; Every Spring)

Bivariate/multivariate models of regression analysis, assumptions behind them. Problems using these models when such assumptions are not met.

PA 5033. Multivariate Techniques. (2 cr. ; A-F or Audit; Every Spring)

Use of bivariate and multivariate statistical approaches for analyzing and evaluating public affairs issues and the assumptions behind the analytical approaches. Designed to help students read, understand, interpret, use, and evaluate empirical work used in social sciences by policy analysts and policy makers. prereq: Students who register for PA 5033 must take PA 5044 and PA 5033 in the same semester. The same grade will be issued for PA 5044 and PA 5033 after PA 5033 is completed.

PA 5035. Survey Research and Data

Collection. (1.5 cr. ; A-F only; Every Spring) Introduction to survey research methods. Emphasizes applications to policy/applied research. Research design choices (e.g., descriptive, experimental, case studies), sampling, variable specification, measurement. Conducting interviews, self-administered questionnaires. Qualitative techniques.

PA 5041. Qualitative Methods for Policy Analysts. (4 cr. ; A-F only; Every Fall)

Qualitative analysis techniques, examples of application. Meet with researcher. Hands-on experience in designing, gathering, analyzing data.

PA 5042. Urban and Regional Economics. (2 cr. ; A-F only; Every Spring)

Evaluation of city existence/growth using economics. Economic forces in development of cities. Economic analysis of urban areas/land market. Economic analysis of planning issues in land use, transportation, housing, environment. prereq: [Major or minor in urban and regional planning, microeconomics course] or instr consent

PA 5043. Economic and Demographic Data Analysis. (2 cr. ; A-F only; Every Spring)

Economic/demographic data analysis techniques for planning. Exposure to most important data sources. Conceptual understanding of range of methods/hands-on experience in applying these methods. prereq: Major or minor in urban/regional planning or instr consent

PA 5044. Applied Regression, Accelerated. (2 cr. ; A-F only; Every Spring)

Bivariate/multivariate models used in regression analysis, including assumptions behind them/problems that arise when assumptions are not met. Course covers similar topics as PA 5032 but delves deeper into theory/application of methods. prereq: Students who register for PA 5044 must take PA 5044 and PA 5033 in the same semester. The same grade will be issued for PA 5044 and PA 5033 after PA 5033 is completed.

PA 5045. Statistics for Public Affairs, Accelerated. (4 cr. ; A-F or Audit; Every Fall)

Introduces a range of quantitative tools that are commonly used to inform issues in public

affairs. The course provides an introduction to descriptive statistics, probability, and statistical inference, with an emphasis on the ways in which quantitative tools are applied to a diverse range of practical policy questions. PA 5045 is an accelerated treatment of applied statistics for public affairs and serves as a more mathematically and conceptually rigorous alternative to PA 5031.

PA 5051. Leadership Foundations. (; 2 cr. ; A-F only; Every Fall)

Leadership concepts, tools, and strategies in a personal, community, and organizational context for mid-career students. prereq: Major in public affairs (cohort) or public affairs certificate (cohort); 5051-5052 must be taken in same academic yr

PA 5052. Public Affairs Leadership. (; 2 cr. ; A-F only; Every Spring)

Continues 5051. Leadership concepts, tools, and strategies in diverse settings for mid-career students. prereq: Major in public affairs (cohort) or public affairs certificate (cohort); 5051-5052 must be taken in same academic yr

PA 5053. Policy Analysis in Public Affairs. (; 2 cr. ; A-F only; Every Fall)

Process of public policy and program analysis, including problem formulation, program design and implementation. Opportunity to draw upon published research and conduct field-based research to understand implementation conditions. Professional communications, including writing of memos, requests for proposals, and implementation briefs, are stressed. prereq: Major in public affairs (cohort) or public affairs certificate (cohort); 5053-5054 must be taken in same academic yr

PA 5054. Program Design and Implementation Analysis. (; 2 cr. ; A-F only; Every Spring)

Continues 5053. Process of public policy and program analysis, including problem formulation, program design and implementation. Opportunity to draw upon published research and conduct field-based research to understand implementation conditions. Professional communications, including writing of memos, requests for proposals, and implementation briefs, are stressed. prereq: Major in public affairs (cohort) or public affairs certificate (cohort); 5053-5054 must be taken in same academic yr

PA 5055. Qualitative Research Methods and Analysis. (2 cr. ; A-F only; Every Fall)

Problem-based learning of analytical reasoning through social science research methods. Systematic review and literature review. Qualitative research including interviews, focus groups, and analysis. Research proposal. prereq: Major in public affairs or public affairs certificate, [5055-5056 must be taken in same academic yr]

PA 5056. Quantitative Research Methods and Analysis. (2 cr. ; A-F only; Every Spring)

Problem-based learning to analytical reasoning through social science research methods. Frequency distributions, descriptive statistics, elementary probability, statistical inference. Hypothesis testing. Cross-tabulation, analysis

of variance, correlation. Simple regression analysis. prereq: Major in public affairs or public affairs certificate, [5055-5056 must be taken in same academic yr]

PA 5080. Capstone Preparation Workshop. (; 1 cr. ; S-N only; Every Fall, Spring & Summer)

Project management, qualitative research, and critical framework to complete Capstone course. Students write draft of client project group norms and client contract.

PA 5081. Understanding Power and Teamwork in Public Affairs Education. (0.5 cr. ; S-N only; Every Fall)

Power and teamwork in public affairs education.

PA 5101. Management and Governance of Nonprofit Organizations. (; 3 cr. ; Student Option; Every Fall)

Theories, concepts, and real world examples of managerial challenges. Governance systems, strategic management practices, effect of funding environments, management of multiple constituencies. Types of nonprofits using economic/behavioral approaches. prereq: Grad student or instr consent

PA 5103. Leadership and Change. (; 1.5-3 cr. ; Student Option; Periodic Spring)

Models of change/leadership. How leaders can promote personal, organizational, and societal change. Case studies, action research. Framework for leadership and change.

PA 5104. Strategic Human Resource Management. (; 3 cr. ; A-F or Audit; Every Fall)

Theory/practice of developing, utilizing, and aligning human resources to improve culture/outcomes of nonprofit/public organizations. HR strategy, individual diversity, leadership, selection, training, compensation, classification, performance appraisal, future HR practices. prereq: Grad student or instr consent

PA 5105. Integrative Leadership: Leading Across Sectors to Address Grand Challenges. (; 3 cr. ; Student Option No Audit; Every Fall)

Are you interested in working across government, business, and the non-profit sector for public good? Are you wondering how you can create sustainable shared leadership on challenges that can best be addressed together? This course explores multi-sector leadership and related governance and management challenges from a variety of perspectives and provides an opportunity for students to work together to apply what they are learning individually and in teams through in-class exercises and a final team project. The course is taught by a team of interdisciplinary faculty and considers different contexts, forms, and specific examples of multisector leadership that can enable transformative action to tackle a significant societal issue and achieve lasting change. Credit will be not be granted if credit has been received for GCC 5023, OLPD 6402, PUBH 6702, MGMT 6402, PA 5130, LAW 6623.

PA 5108. Board leadership development. (; 1 cr. ; S-N only; Every Fall & Spring)

Nonprofit board governance. Governance models, roles/responsibilities, ethics/dynamics. Current research/concepts along with students' current board experiences to illuminate challenges/explore solutions that build board leadership competencies. prereq: Grad student or instr consent

PA 5113. State and Local Public Finance. (; 3 cr. ; Student Option; Every Spring)

Theory/practice of financing. Providing public services at state/local level of government. Emphasizes integrating theory/practice, applying materials to specific policy areas, and documenting wide range of institutional arrangements across/within the 50 states. prereq: Grad or instr consent

PA 5114. Budget Analysis in Public and Nonprofit Orgs. (1.5 cr. [max 3 cr.] ; Student Option; Every Spring)

Techniques, terminology, concepts and skills for developing and analyzing operating and capital budgets in public and nonprofit organizations. Budget analysis using case studies, problem sets, and spreadsheets. Time value of money, cost-benefit analysis, break-even analysis, sensitivity analysis, and fiscal analysis. prereq: PA 5003

PA 5116. Financing Public and Nonprofit Organizations. (1.5 cr. ; Student Option; Every Spring)

Financial resource management for public and nonprofit organizations. Short-term and long-term debt management, retirement financing, and endowment investing. Conceptual frameworks and analytical techniques applied to real-world problems. Financial management in context of national and regional economies. prereq: PA 5003; credit will not be granted if credit already received for: PA 5111

PA 5122. Law and Public Affairs. (; 3 cr. ; Student Option; Every Spring)

Overview of evolution of American legal system. Role of courts, legislatures, and political actors in changing law. How law is used to change public policy. prereq: Grad or instr consent

PA 5123. Philanthropy in America: History, Practice, and Trends. (; 1.5-3 cr. ; Student Option; Every Spring)

Theory/practice of philanthropy. Foundation/corporate/individual giving. History/economic structure/dynamics. Models of philanthropy, components of grant making/seeking. Current debates, career options.

PA 5135. Managing Conflict: Negotiation. (; 3 cr. ; A-F only; Every Fall)

This course teaches the theory and the practice of negotiation strategies with an emphasis on applied, personal skill building constructed on a foundation of research and practice in the field. Students will apply their negotiation skills across interpersonal, public dispute, government, and private sector settings. The course focuses on developing students' personal theory of practice for decision-making, effective communication and impactful leadership through practice of distributive bargaining, value creation, consensus building, facilitation, and mediation exercises and discussions.

PA 5136. Group Process Facilitation for Organizational and Public/Community Engagement. (1 cr. ; Student Option No Audit; Every Summer)

Group process facilitation components, theories, tools, techniques. Facilitator's role in group goals and processes. Facilitation in public policy. Cross-cultural challenges. Topics may include meeting management, group decision-making, conflict, participatory leadership, and other tools.

PA 5137. Project Management in the Public Arena. (1.5 cr. [max 3 cr.] ; Student Option No Audit; Every Spring)

Project management and leadership strategies for implementing public policy, including new or revised government programs, public works, and regulations. Use of project management concepts, principles, and tools, including project definition, scoping, planning, scheduling (using the critical path method), budgeting, monitoring, staffing, and managing project teams. Application of "agile" and "extreme" project management in situations of complexity and uncertainty, including those due to the scrutiny and expectations of elected officials, the media, citizens, and other stakeholders.

PA 5144. Social Entrepreneurship. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Introduction to field of social entrepreneurship. Prepares current/future managers/leaders to create, develop, lead socially entrepreneurial organizations/initiatives. prereq: Grad student or instr consent

PA 5145. Civic Participation in Public Affairs. (; 3 cr. ; A-F only; Every Spring)

Critique/learn various approaches to civic participation in defining/addressing public issues. Readings, cases, classroom discussion, facilitating/experiencing engagement techniques. Examine work of practitioner, design engagement process.

PA 5151. Organizational Perspectives on Global Development & Humanitarian Assistance. (3 cr. ; A-F only; Every Fall)

Organizational analysis of international development and humanitarian assistance, including perspectives from sociology, political science, psychology, public administration, and management. Examines efforts of multiple organizational players, including NGOs, governments, bi-lateral and multi-lateral organizations, corporations, foundations, and international organizations. Critical analysis of aid organizations, especially regarding ways in which they reflect and create power and privilege, the manner in which individuals' needs and desires interact with, support, or challenge the needs of the organization, and how all of this is influenced by forces outside the boundary of the organization. Students practice developing actionable recommendations to improve the effectiveness of international aid organizations in the context of multiple (and often contested) understandings of global development needs and conflicting stakeholder demands. Readings, class discussions, mini-lectures, simulations, case analyses, group projects, oral presentations, memo writing, opinion writing.

PA 5161. Redesigning Human Services. (; 3 cr. ; A-F or Audit; Every Fall)

This course provides an in-depth examination of the history and institutions delivering human services in the United States, with an emphasis on how human-centered design can help improve service provision and outcomes. It explores how public, nonprofit, and philanthropic structures create unique operational realities and cultures that must be navigated to lead change across institutional boundaries. It also systematically investigates contributors to disparities in the human services system, particularly race. The use of frameworks such as human-centered design, human services value curve, and an equity lens will help us on this exploration. Course learning materials take students through a design process to highlight strategies for systems change and improvement grounded in outcomes. Design processes are iterative and involve understanding and engaging the people and context in problem solving. Through project-based learning approach, students will understand the various constraints that need to be navigated in design: feasibility, viability, and desirability. Students gain experience using design to help appreciate these constraints and develop strategies for overcoming them.

PA 5162. Public Service Redesign

Workshop. (; 3 cr. ; A-F only; Every Spring) Public service delivery innovation and redesign in health and human services fields to improve outcomes. Study and application of theories of organizational development, leadership, and system change. Social system dynamics analysis. Engaging diverse stakeholders. Effects and influence of implicit bias on current and redesigned efforts. Models and tools for public service redesign.

PA 5190. Topics in Public and Nonprofit Leadership and Management. (; 1-3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring) Selected topics.

PA 5205. Statistics for Planning. (4 cr. ; A-F only; Every Fall)

Basic statistical tools for empirical analysis in urban and regional planning, including descriptive statistics, frequency distributions, elementary probability theory, research design and sampling, statistical inference, hypothesis testing, cross-tabulation/chi-square distribution, correlation, and simple/multiple regression analysis.

PA 5206. The City of White Supremacy. (3 cr. ; Student Option; Every Fall)

The title of this course is meant to signal the objective of scrutinizing how systems of white supremacy have shaped the American city and how the American city functions in ways that reproduce and reinforce white supremacy. The colonization of the Americas coincided with the fabrication of racial identities that set the terms for membership in what became a white supremacist/racial state wherein all things, including spatial thinking and design, conformed to a racial calculus. As Lipsitz (2007: 12) tells us, "The lived experience of race has a spatial dimension, and the lived experience of space has a racial dimension."

The core of this class will, however, focus on later developments characteristic of the period of rapid urbanization from the Jim Crow era through the New Deal and Civil Rights periods to today. The first section of the course will focus on frameworks for understanding white supremacy generally, and as it relates to urban development specifically. The second section considers specific domains of urban policy and planning using white supremacy as the analytic framework. In these weeks we examine how white supremacy has been expressed across a range of urban development issue areas, including housing, transportation, the urban environment, education, criminal justice, and urban design, and how policies and planning practice have maintained or disrupted systems of white supremacy.

PA 5209. Urban Planning and Health Equity. (3 cr. ; Student Option; Every Spring)

This interdisciplinary course examines the causes and consequences of place-based health disparities in cities, explores how health disparities can be mitigated and exacerbated by urban planning decisions, and introduces best practices in urban planning for achieving community health equity. The course will involve extensive readings, guest lectures, field-based assignments, data-collection activities, and local community involvement. Twin Cities has one of the largest disparities in health outcomes in the nation and local practitioners are pioneering new urban planning solutions to reduce place-based health disparities. The course will utilize this location advantage and use the region as an immersive learning environment. Students are expected to apply knowledge and skills learned in the class locally in the Twin Cities region. At the end of the course, students will be able to: Understand the historical foundations, current trends and challenges, and international perspectives in connecting urban planning to health equity issues; investigate how various planning sectors and urban environment dimensions, including land use, transportation, open space, housing, food systems, and community social capital, interact to affect health disparities in cities; critically evaluate how existing planning processes and decisions respond to the needs of vulnerable populations and contribute to health equity; and develop skills to engage communities and identifying community-sensitive solutions for reducing place-based health disparities. Fulfills a requirement for graduate Health Equity Minor (<http://www.sph.umn.edu/academics/minor/health-equity/>).

PA 5211. Land Use Planning. (3 cr. [max 6 cr.] ; A-F only; Every Fall)

Physical/spatial basis for land use planning at community/regional level. Role of public sector in guiding private development. Land use regulations, comprehensive planning, growth management, innovative land use planning/policies. prereq: Major or minor in urban/regional planning or instr consent

PA 5212. Managing Urban Growth and Change. (3 cr. ; Student Option; Fall Even Year)

Theory/practice of planning, promoting, and controlling economic growth/change in urban areas. Economic development tools available to state/local policymakers, historic context of their use in the United States. legal, social, and economic implementation constraints. Interactions among economic, social, and demographic trends. prereq: Grad student or instr consent

PA 5213. Introduction to Site Planning. (3 cr. ; Student Option; Every Spring)

Analyzing/preparing graphic plans for development or redevelopment of property. Site planning issues, process, opportunities, details, and techniques. Hands-on preparation of a site plan. Site visits, lectures, research, presentations, exam, in-class exercises. prereq: Grad student or instr consent

PA 5214. Planning & Design for the Urban Public Realm. (1.5 cr. ; A-F only; Every Fall)

The Great Inversion, or what former Minneapolis Mayor RT Rybak called "the flight to the city," has been ongoing for two decades, and to preserve and enhance the quality of life in our cities, we must continue to invest in our urban public realm. Cities must maintain and improve older parks, plazas and streets, but they must also provide new public spaces in developing areas that never had them before - waterfronts, industrial sites, rail yards, and acres of surface parking. Perhaps most important yet easily overlooked is the re-envisioning of the public right-of-way "the street" as a place that accommodates not just cars but multiple transportation modes including buses, rail, bicycles, and scooters and other forms of personal transport, all integrated into an accessible, pedestrian-friendly, safe, and green environment. The greening of city streets is critical for the creation of lush and livable places while also producing social, economic, and environmental benefits. Since the start of the Covid 19 pandemic in March 2020, our collective experience of the urban public realm and its meaning and value to us have changed dramatically. Our use of public places has increased as parkways once dominated by cars were closed off and filled with pedestrians, cyclists, skateboarders, roller skaters, roller skiers, and people on all other sorts of wheeled conveyances. Park spaces that were once often largely empty filled with people getting exercise, enjoying nature, visiting playgrounds, meeting friends, social-distance dating, taking walking happy hours, having picnics, playing spike ball, hula-hooping, and in the case of the homeless, camping out to avoid the dangers of shelters, to socially distance themselves, and in some cases, both. Following the May 2020 death of George Floyd in police custody, our experience of the public realm changed again to include protests, marches, riots, property damage, the creation of new public art, the erection of new monuments, and the removal of old ones. Since March 2020, we have been learning to use our public places many new ways, some traditional, some adaptive, and some temporary. And the economic effects of the Coronavirus "the recession, job losses, reduced spending, and a decline in business"

mean that cities and other governments will likely have less tax revenue and therefore less money to invest in the public realm in the coming years. This will mean not only fewer projects for new or revitalized public places, but also less money for maintenance, operations, and programming of existing places. It is possible that our public realm will become a little worn in the coming years. Now more than ever, the work of improving our public realm requires a commitment to multi-disciplinary collaboration and broad and genuine stakeholder engagement processes at an entirely new level. Complicated public realm projects require a form of project team leadership that looks more like representative democracy than the imposition of a wonderfully pure vision by a single brilliant designer. Facilitating this process successfully requires uniquely skilled and open-minded planners and designers who can help us all envision a better way to live together in our cities. Last but not least, 2020 has shown us that social investment and planning for equity and justice in the public realm is as important, if not more important, than capital investment in the actual physical infrastructure. The purpose of this course is to help planners, designers, and other city builders come to understand the opportunities and challenges of project implementation through the lens of a specific project type: The Urban Public Realm Project. The course integrates theory and practice into a framework for understanding the experience of public places and the role of planning and design in the implementation of urban public realm projects "from inception through construction, start-up, and ongoing operations.

PA 5221. Private Sector Development. (3 cr. ; Student Option No Audit; Every Spring)

Roles of various participants in land development. Investment objectives, effects of regulation. Overview of development process from private/public perspective.

PA 5231. Transit Planning and Management. (3 cr. ; Student Option; Every Fall)

Principles/techniques related to implementing transit systems. Historical perspective, characteristics of travel demand, demand management. Evaluating/benchmarking system performance. Transit-oriented development. Analyzing alternative transit modes. System design/finance. Case studies, field projects. prereq: Grad student or instr consent

PA 5232. Transportation Policy, Planning, and Deployment. (3 cr. ; Student Option; Periodic Fall & Spring)

Development of transportation policy, making of transportation plans, deployment of transportation technologies. Lectures, interactive case studies, role playing.

PA 5233. Sustainable Transportation. (3 cr. ; A-F or Audit; Spring Odd Year)

This course emphasizes the theories and practices associated with a sustainable transportation system, especially pedestrian and bicycle transportation. It covers key concepts of sustainable transportation, climate mitigation and adaptation, and planning for pedestrian and bicycle transportation. The

specific topics regarding pedestrian and bicycle transportation include benefits and advocacy, data collection and performance measures, demand forecasting, behavior and its connection with neighborhood design and zoning, safety, planning, design principles of facilities, equity, and innovations.

PA 5234. Urban Transportation Planning and Policy. (3 cr. ; A-F or Audit; Every Spring)

This course will integrate key theories and practices, traditional and emerging policy instruments, and techniques for urban and transportation planning. The goal is to introduce students to essential concepts, influential thinkers, and important debates associated with the land use-transportation connection as a foundation for both professional and academic work. By the end of the course, students will be able to comprehend urban transportation planning process and demand forecasting; the theories and empirical evidence on land use and transportation interactions; land use and transportation policy instruments and their effectiveness; and land use and transportation planning in developing countries.

PA 5242. Environmental Planning, Policy, and Decision Making. (; 3 cr. ; Student Option; Periodic Spring)

Theory and practice. Ethical, legal, and institutional frameworks relative to a range of environmental issues. Innovative environmental decision making informed by collaboration, conflict resolution, adaptive management, and resilience thinking. prereq: Grad or instr consent

PA 5243. Environmental Justice in Urban Planning & Public Policy. (3 cr. ; A-F or Audit; Every Spring)

Environmental racism can be defined as policies and practices that result in communities of Black, Indigenous and other people of color (BIPOC communities) being overexposed to environmental harms and being denied access to environmental goods. The environmental justice (EJ) movement in the United States was birthed in the 1980s with the aim of ending environmental racism. Early EJ activism was led by Black rural communities protesting the disproportionate presence of toxic waste facilities in their neighborhoods and Latinx migrant farmworkers who were overexposed to harmful pesticides. Central to the course is the understanding that structural racism, in the form of social, political, and economic forces, has denied BIPOC individuals and communities their rights to live in clean environments and access natural resources that allow communities to build and maintain their physical, mental, emotion, and fiscal health. Although the course focuses on race and racism, it takes as axiomatic that racism is intertwined with other systems of oppression including, but not limited to, sexism, classism, ableism, homophobia, and transphobia. The course begins by tracing the history of the EJ movement and unpacking the terms "racism" and "justice." The main body of the course will focus on a series of issues that EJ scholars and activists address including pollution, greening, transportation, disasters, and climate

change. The course ends with discussions and reflections on our roles, responsibilities and possibilities as public policy and planning scholars, researchers and practitioners to work towards ending environmental racism and achieving EJ for all. The required readings for the course will include academic journal articles, news stories, governmental policies, podcasts, videos, poetry, and short stories. This will allow us to understand the theoretical and methodological approaches to EJ activism and research and explore popular and creative forms of knowledge about EJ which will add depth to our understanding and analysis of relevant plans and policies. Our time together in the classroom will primarily be a mix of lectures, group discussions, in-class exercises, and occasionally guest speakers. While we will reflect on some international issues and materials, we will largely focus on EJ in the United States.

PA 5251. Strategic Planning and Management. (; 3 cr. ; Student Option No Audit; Periodic Spring)

Theory and practice of strategic planning and management for public and nonprofit organizations and networks. Strategic planning process, management systems; stakeholder analyses. Tools and techniques such as purpose expansions, SWOT analyses, oval mapping, portfolio analyses, and logic models.

PA 5261. Housing Policy. (; 3 cr. ; A-F or Audit; Every Spring)

Institutional/environmental setting for housing policy in the United States. Competing views of solving housing problems through public intervention in the market. Federal/local public sector responses to housing problems. prereq: Grad or instr consent

PA 5262. Neighborhood Revitalization Theories and Strategies. (3 cr. ; Student Option No Audit; Every Fall)

Policy-making/politics of planning in housing, community development, social policy. Connecting policy to local/regional politics. Role of institutional decision-making structures on policy outcomes. Importance of citizens, social movements, interest groups in policymaking process.

PA 5263. Financing Affordable Multi-Family Rental Hsg in US. (3 cr. ; Student Option No Audit; Every Spring)

Financing affordable multifamily housing in the United States is a complicated endeavor that requires more than just a command of financial principles and analysis but also an appreciation for the nuances and fluidity of policy, public-private-partnership, and public discourse. This course will demystify the financial drivers and consequences in our affordable housing delivery system. It will simultaneously build participants' confidence in basic financial modeling of affordable housing using the most common capital structures, while also exploring the relationship of finance with policy and regulation, real estate and urban planning objectives, design, and program limitations. Participants in this course will emerge with:

- An understanding of the roles, risk sharing and influence of public and private actors in the

financing and provision of affordable housing.

- A practical familiarity with the major financing programs and policies that drive investment in this sector.
- Experience in financial modeling specific to multifamily affordable housing which will prepare them for work in the industry, regardless of role.

PA 5271. Geographic Information Systems: Applications in Planning and Policy Analysis. (; 3 cr. ; Student Option; Every Fall)

Introduction to GIS. Applications in public planning and policy analysis. Operational skills in GIS software. Mapping analysis of U.S. Census material. Local/state government management/planning. Spatial statistical analysis for policy/planning. prereq: Major in urban/regional planning or instr consent

PA 5281. Immigrants, Urban Planning and Policymaking in the U.S.. (3 cr. ; A-F or Audit; Every Fall)

Social, political, economic experiences of contemporary U.S. immigrants. Draws from sociology, economics, demography, political science, public affairs. Local government policies/plans. Cities/suburbs as contexts for immigrants. Interactions between immigrant communities/urban planners/policymakers. prereq: Grad student or instr consent

PA 5290. Topics in Planning. (; 0.5-4 cr. [max 12 cr.] ; Student Option; Periodic Fall & Spring)

Selected topics.

PA 5301. Population Methods & Issues for the United States & Global South. (3 cr. ; Student Option; Every Fall)

Basic demographic measures/methodology. Demographic transition, mortality, fertility. Perspectives on nonmarital fertility, marriage, divorce, cohabitation. Cultural differences in family structure, aging, migration, refugee movements, population policies. Discussion of readings. prereq: Grad student or instr consent

PA 5311. Program Evaluation. (; 3 cr. ; A-F only; Periodic Fall & Spring)

This course covers the core principals, methods, and implementation of evaluation research. Students will learn through an applied partnership with a nonprofit or state/local government clients. The course is designed for both students interested in a potential career in evaluation and those that want to be better consumers of research. Past programmatic/policy areas included health and human services, education, environment science, economic development, transportation, and evidence-based policymaking.

PA 5312. Cost-Benefit Analysis for Program Evaluation. (2 cr. ; Student Option No Audit; Every Fall & Spring)

This class introduces students to cost-benefit analysis, the leading evidenced-based method for determining whether a government program or policy improves the well-being of society. Starting with the foundations of welfare economics, students learn how to monetize important benefits and costs associated with government activities. Topics include discounting future benefits and costs, the roles of standing and risk, ways of valuing human

lives and other benefits that may be hard to value in dollar terms. Students will acquire skills needed to perform relevant calculations needed for the economic assessment of benefits relative to costs and the ability to critique the use of these methods regarding how they may advantage or disadvantage some members of society or particular types of policies. Policy areas include preventive interventions in social, health and education as well as applications in transportation and environmental policy. Prerequisite: PA 5021 or other prior course in microeconomics.

PA 5390. Topics in Advanced Policy Analysis Methods. (; 1-4 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)
Topics in advanced policy analysis methods.

PA 5401. Poverty, Inequality, and Public Policy. (; 3 cr. ; Student Option; Every Fall)
Nature/extent of poverty/inequality in the United States, causes/consequences, impact of government programs/policies. Extent/causes of poverty/inequality in other developed/developing countries. prereq: Grad or instr consent

PA 5405. Public Policy Implementation. (; 3 cr. ; A-F or Audit; Every Fall)
Theory, tools, and practice of the implementation of public policy, particularly in areas involving public, private, and nonprofit organizations. Analytical approach focuses on multiple levels in policy fields to pinpoint and assess implementation challenges and levers for improvement.

PA 5413. Early Childhood and Public Policy. (; 1.5-3 cr. ; Student Option; Every Fall)
State/federal/int'l policies/legislation touching first 5 years of child's life. Family, community, institutional roles in promoting children's social/cognitive/emotional development. Health, mental health, poverty, special needs, economic/social justice. Part of Early Childhood Pol cert. prereq: Grad or instr consent

PA 5415. Effective Policies for Children in the First Decade. (1.5-3 cr. [max 6 cr.] ; Student Option No Audit; Periodic Spring)
Policies to improve the wellbeing of children through the first decade of life are examined using examples from economics and other disciplines. The course focuses on the role of government in helping to promote early childhood development. Readings and projects focus on policies or programs that affect child outcomes from the prenatal period to third grade. Students will become familiar with the importance of rigorous impact evaluations and the use of cost-effectiveness and cost-benefit analysis as a tool for efficient resource allocation. Some familiarity with regression analysis would be helpful.

PA 5416. Economics of U.S. Social Insurance Programs. (3 cr. ; A-F only; Every Spring)
This class will introduce you to the Economics of Social Insurance Programs. It begins by introducing a framework to evaluate the efficiency and equity of social insurance programs, drawing on theory from the economics of insurance programs and behavioral economics. It then applies this

framework to social insurance programs such as workers' compensation, unemployment insurance, health insurance, social security, TANF and Supplemental Nutritional Assistance, and the Earned Income Tax Credit. Prerequisite: PA 5021 or other prior course in microeconomics.

PA 5421. Racial Inequality and Public Policy. (; 3 cr. ; Student Option No Audit; Periodic Fall & Spring)
Historical roots of racial inequality in American society. Contemporary economic consequences. Public policy responses to racial inequality. Emphasizes thinking/analysis that is critical of strategies offered for reducing racism and racial economic inequality. prereq: Grad or instr consent

PA 5422. Diversity and Public Policy. (; 3 cr. ; A-F only; Periodic Fall)
What is diversity? What role does it play in public policy? What role should it play? Whom does diversity include or exclude? In this highly participatory class, we will apply a policy analysis lens to explore how diversity interacts with, contributes to, and is impacted by policy. The interdisciplinary course readings draw from topics such as gender identity, intersectionality, socio-economic class, race and ethnicity, indigenous ways of knowing, sexual orientation, and disability. Students examine the evolution of difference and diversity, explore various domains of diversity (gender, race, ethnicity, sexuality, disability, class), and synthesize and apply this knowledge to the development of a policy brief that focuses on a particular policy or organizational problem.

PA 5426. Community-Engaged Research and Policy with Marginalized Groups. (; 3 cr. ; Student Option; Every Spring)
Marginalized populations tend to be viewed as objects of social policy, passive victims, or a cause of social problems. Processes of marginalization we will explore in this class include: structural racism, colonization, economic exclusion and exploitation, gender bias, and more. Policy and research are typically driven by mainstream/dominant society members with little direct knowledge about the real lives of people on the margins. This can lead to misguided actions, misunderstandings, paternalism, unintended negative consequences, and further marginalization and/or stigmatization. In this course, we will learn about community-engaged research methodologies such as participatory action research (PAR) and community-based participatory research (CPBR). We will use case studies to explore the challenges, rewards, and ethical implications of these community-engaged approaches to research and policy-making. Possible topics include, but are not limited to, sex trafficking, housing, and youth work. Instructors and students in the course will work together on a real-world research and policy challenge so that students contribute to ongoing work in the field in real-time.

PA 5431. Public Policies on Work and Pay. (; 3 cr. ; Student Option; Every Fall)

Public policies affecting employment, hours of work, and institutions in labor markets. Public programs impacting wages, unemployment, training, collective bargaining, job security, and workplace governance. Policy implications of the changing nature of work. prereq: [[PA 5031 or equiv], grad student] or instr consent

PA 5442. Education Law and Policy. (3 cr. ; Student Option No Audit; Periodic Fall)
Education law and policy with focus on elementary/secondary. Topics include governance; interplay of federal, state and local law and policy; education redesign; intersection with workforce development; reform efforts; desegregation; achievement gap; role of teacher unions; and finance. Early childhood education discussed in connection with K-12 issues. Case studies include recently enacted legislation in multiple states.

PA 5480. Topics in Race, Ethnicity, and Public Policy. (; 1-3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)
Link between race/ethnicity and public policy. How to identify/measure racial/ethnic disparities and their historical/cultural origins and policy impacts and to craft politically feasible remedies. Topics may include criminal justice, housing, child welfare, and education. prereq: Jr or sr or grad student or instr consent

PA 5490. Topics in Social Policy. (; 1-4 cr. [max 12 cr.] ; Student Option; Periodic Fall & Spring)
Selected topics.

PA 5501. Theories and Policies of Development. (; 3 cr. ; Student Option; Every Fall)
What makes some countries wealthier than others, one group of people healthier and more educated than another? How does the behavior of rich nations affect poor nations? Origins of development thought, contemporary frameworks and policy debates. Economic, human, and sustainable development. prereq: Grad student or instr consent

PA 5503. Economics of Development. (; 3 cr. ; A-F or Audit; Every Fall)
Economic growth, inequality, poverty, rural/urban labor markets, risk/insurance. Investments in human capital, credit markets, gender/household economics, governance/institutional issues. Microfinance, conditional cash transfers, labor/education policies. prereq: PA 5501 or concurrent registration is required (or allowed) in PA 5501

PA 5504. Transforming Development. (3 cr. ; Student Option; Every Spring)
Emerging infectious diseases such as COVID-19, antimicrobial resistance, climate change, loss of species, and habitats are driven by our dominant definition of development and pose existential challenges to humankind. COVID-19 has laid bare the ethnic, racial, class, and gender inequalities in the ways societies across the globe lead material life (economy). Current social and environmental challenges are global and local in scale and challenge us to consider poverty alleviation not as an international issue and only of concern for low resourced communities

and developing countries, but one in need of attention in every country in the world, including peoples in the wealthy West. This course examines the emerging pluriverse paradigm and some of the models intending to transform development: nature rights movement, community economy, solidarity movement, degrowth, transition design, and ontologies and epistemologies of First Nations in North and South America. We will contrast these development models to sustainable development goals and the green growth approach.

PA 5511. Community Economic Development. (; 3 cr. ; Student Option; Every Fall)

Contexts/motivations behind community economic development activities. Alternative strategies for organizing/initiating economic development projects. Tools/techniques for economic development analysis/planning (market analysis, feasibility studies, development plans). Implementation at local level. prereq: Grad or instr consent

PA 5512. Workforce and Economic Development. (3 cr. ; A-F or Audit; Spring Even Year)

Economic and workforce development examined from a U.S. context, exploring how rural and urban regional economies grow, why industries/employers locate where they do, and how workers decide where to live and work. Government and economic development practices related to businesses and innovation will also be addressed. prereq: Grad or instructor consent

PA 5521. Development Planning and Policy Analysis. (; 4 cr. ; Student Option; Every Spring)

Techniques of development planning/policy analysis at national, regional, and project levels. Effects of external shocks and government interventions on national/regional economies. Macroeconomic modeling, input-output analysis, social accounting matrices/multipliers, project evaluation. prereq: 5031 or equiv recommended or instr consent

PA 5522. International Development Policy, Families, and Health. (; 3 cr. ; Student Option; Periodic Fall)

Implications of paid/unpaid labor for development policy, using household as prism. Legal/cultural use of property rights. Financial effects of ill health. Caregiving. Work-family conflict, policies that alleviate it. Role of gender. Qualitative/quantitative methods. Readings, lectures, discussions. prereq: Grad student or instr consent

PA 5561. Gender and International Development. (; 3 cr. ; Student Option; Periodic Spring)

Women and men are affected differently by development and participate differently in policy formulation and implementation. Gender-sensitive perspective. Historical, political context. Global South. Policy, practice, and experience (theory and measurement; international, national, local stakeholders; effects of policy and practice on development). prereq: Grad or instr consent

PA 5590. Topics in Economic and Community Development. (; 1-3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Selected topics.

PA 5601. Global Survey of Gender and Public Policy. (3 cr. ; Student Option; Periodic Fall)

Introduction to the key concepts and tools necessary for gender policy analysis. Survey of the major findings in the field of gender and public policy in policy areas such as poverty alleviation, health, international security, environment and work-family reconciliation. Scope includes local, national, and global policy arenas as well as exploration of gender and the politics of policy formulation.

PA 5622. GAINS: Gender and Intersectional Network Series, Leadership Workshop I. (0.5-1 cr. ; S-N only; Fall Odd Year)

GAINS: Gender and Intersectional Network Series, Leadership Workshop prepares students with the skills to lead effectively and challenge institutional norms and practices that perpetuate disparities based on gender, race and other structural inequalities. Women, racially marginalized individuals, and LGBTI-identified individuals are still disproportionately underrepresented in leadership roles in public, private, and nonprofit institutions in spite of high rates of educational attainment and equal opportunity legislation. Women of color and indigenous women face even greater obstacles to advancement compared to white women. Barriers to diverse leadership today stem less from overt discrimination and more from "second generation" forms of bias often invisible but still powerful cultural beliefs as well as workplace structures and practices. Achieving leadership parity thus entails individual, collective and institutional change. Course pedagogy includes case studies, group discussions, self-reflection and simulations that have been proven to have a lasting impact on individual leaders in developing their own leadership capacity. Guest speakers offer potential role models and share their leadership perspectives.

The workshop and two-semester format of the course allows students to benefit from a cohort model of learning and develop their own network of practice. Moreover, GAINS focuses not just on individual leadership development, but also organizational and systems level change. Students of all genders interested in addressing personal and institutional barriers to advancement that are rooted in gender inequalities and their intersections with race and other forms of inequality are welcome to enroll. To get the most out of the network and cohort development aspects of this course, students are encouraged to participate for two semesters.

PA 5623. GAINS: Gender and Intersectional Network Series, Leadership Workshop II. (0.5-1 cr. ; S-N only; Spring Odd Year)

GAINS: Gender and Intersectional Network Series, Leadership Workshop prepares students with the skills to lead effectively and challenge institutional norms and practices that perpetuate disparities based on gender,

race and other structural inequalities. Women, racially marginalized individuals, and LGBTI-identified individuals are still disproportionately underrepresented in leadership roles in public, private, and nonprofit institutions in spite of high rates of educational attainment and equal opportunity legislation. Women of color and indigenous women face even greater obstacles to advancement compared to white women. Barriers to diverse leadership today stem less from overt discrimination and more from "second generation" forms of bias often invisible but still powerful cultural beliefs as well as workplace structures and practices. Achieving leadership parity thus entails individual, collective and institutional change. Course pedagogy includes case studies, group discussions, self-reflection and simulations that have been proven to have a lasting impact on individual leaders in developing their own leadership capacity. Guest speakers offer potential role models and share their leadership perspectives. The workshop and two-semester format of the course allows students to benefit from a cohort model of learning and develop their own network of practice. Moreover, GAINS focuses not just on individual leadership development, but also organizational and systems level change. Students of all genders interested in addressing personal and institutional barriers to advancement that are rooted in gender inequalities and their intersections with race and other forms of inequality are welcome to enroll. To get the most out of the network and cohort development aspects of this course, students are encouraged to participate for two semesters.

PA 5631. LGBTQ Politics & Policy. (1.5 cr. ; A-F only; Every Spring)

The advancement of LGBTQ rights in the United States has experienced unprecedented success over the last twenty years, shifting both public attitude towards and legal protection for LGBTQ Americans. This course will provide an in-depth analysis of current LGBTQ policy achievements in the United States, including the recognition of marriage equality in all 50 states, the repeal of Don't Ask, Don't Tell, increased anti-discrimination protections, and rights for people who are transgender or gender non-conforming. Emphasis will be placed on how these victories were achieved, including background on the strategies and tactics used to generate policy results. We will also take a critical look at such milestones and examine what they mean for the entire LGBTQ population, including queer people of color, transgender and gender nonconforming individuals, the disabled, and economically disadvantaged. Intersectionality will be a key aspect of the course, in particular, analysis on how the differential effects of policy among segments of the population that may not experience the benefits of policy passage as quickly or as broadly. Incorporated into this analysis will be readings from queer liberation scholars to help us evaluate the pros and cons of existing LGBTQ policy gains. The course will explore what full equality might look like for LGBTQ people in the United States with an examination of what can and cannot be

achieved through policy. Practical application on how policy is made will be intertwined throughout the course. Topics to be covered include the meaning and measurement of LGBTQ identity; estimates of those who identify as LGBTQ; the measurement of Americans' attitudes on LGBTQ issues and how these attitudes have changed over the past few decades; assessment of changes in law and policies at the national, state and local levels; and the implications of these changes for the lived experience of LGBTQ people and their families, including health, well-being, stigma and discrimination.

PA 5683. Gender, Race and Political Representation. (3 cr. ; A-F only; Spring Even Year)

Explores intersection of gender, race and political issues to identify best practices for strengthening roles of under-represented groups in governance. Individual, structural and institutional factors attributed to increasing the election and appointment of under-represented groups. Theories of citizen representation. Global approach with cross-national evidence and comparative country studies.

PA 5690. Topics in Women, Gender and Public Policy. (; 0.5-3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Selected topics. prereq: Grad student or instr consent

PA 5711. Science, Technology & Environmental Policy. (; 3 cr. ; Student Option; Every Fall)

Interplay of science, technology, the environment, and society. Approaches from across the social sciences will cover how science and technology can create new environmental pressures as well as policy challenges in a range of spheres from climate change to systems of intellectual property and international development.

PA 5715. Deliberating Science, Technology, and Environmental Policy. (; 1.5 cr. [max 6 cr.] ; A-F only; Periodic Fall & Spring)

Exploration of the conceptual and ethical dimensions of science, technology, and environmental policy. Discussion-based course with rotating topics.

PA 5721. Energy Systems and Policy. (; 3 cr. ; Student Option; Every Fall)

Impact of energy production/consumption choices on environmental quality, sustainable development, and other economic/social goals. Emphasizes public policy choices for energy/environment, linkages between them.

PA 5722. Economics of Environmental Policy. (; 3 cr. ; Student Option; Every Fall)

Introduction to economic principles and methods as they apply to environmental issues such as climate change, biodiversity conservation, and water quality. Course will cover benefit-cost analysis, methods of environmental valuation, as well as critiques of market-based solutions to environmental challenges.

PA 5723. Water Policy. (; 3 cr. ; Student Option; Every Spring)

Sociocultural, legal, economic, and environmental forces affecting supply/use of water by individuals, sectors, and governance institutions. Historical trends; water laws in United States and internationally. Institutional structures for managing water at federal, state, and local levels. Current water-related issues/policies. prereq: Grad student or instr consent

PA 5724. Climate Change Policy. (3 cr. ; Student Option; Every Fall)

Existing and proposed approaches to mitigate and adapt to climate change through policies that cross scales of governance (from local to global) and impact a wide range of sectors. Exploration of climate change policy from a variety of disciplinary approaches and perspectives, emphasizing economic logic, ethical principles, and institutional feasibility. How policy can be shaped in the face of a variety of competing interests to achieve commonly desired outcomes. Students develop a deep knowledge of climate change in particular countries through a team final project. prereq: Intro microecon (such as Econ 1101 or equiv)

PA 5731. Emerging Sciences and Technologies: Policy, Ethics and Law. (; 3 cr. ; Student Option; Periodic Fall & Spring)

This interdisciplinary course will examine issues at the nexus of public policy, ethics, law, and emerging sciences and technologies (ES&T) including nanotechnology, genetic and biomedical engineering, synthetic biology, and artificial intelligence. Topics we will explore include the role of science and technology as both a tool for and the subject of policy and law; the policy, ethical, economic, and legal implications of ES&T research and development; environmental and human health risk analysis and regulation (e.g., EPA, FDA, OSHA, and state and local regulatory mechanisms); intellectual property issues; liability issues; and global impacts. Topics will be approached from the perspective of different stakeholders (e.g., federal agencies, industry, academic researchers, the environment, international organizations, and the public) and in the context of different application areas (e.g., drugs, devices, food, agriculture, energy, environmental remediation) using a variety of interdisciplinary approaches. Students with a broad range of interests are encouraged to enroll.

PA 5741. Risk, Resilience and Decision Making. (; 1.5 cr. [max 3 cr.] ; Student Option No Audit; Every Spring)

Interplay between risk analysis, decision making, and policy in the context of new and emerging technologies, environmental and human well-being, risk and resilience. Assessment methods; risk management processes, issues and methods; role/treatment of uncertainty; factors in decision making; risk-based rule making; public values; risk communication and perception. Scientific, technical, social, political, and ethical issues. prereq: Grad student or instr consent

PA 5751. Addressing Climate and Energy Challenges at the Local Scale. (3 cr. ; A-F or Audit; Every Spring)

Examine energy and climate innovations at local and community scales. Understand how to implement local policies, projects, and programs with a diverse set of perspectives on energy issues. Develop professional and analytical skills that support solutions to energy and climate challenges.

PA 5761. Environmental Systems Analysis at the Food-Energy-Water Nexus. (3 cr. ; Student Option; Every Spring)

Agricultural lands, water resources, and energy production and transport are interconnected systems with implications for policy and management at local to global scales. This course will explore contemporary issues at the nexus of food, energy, and water with a focus on Midwestern landscapes. Specific topics include farm policy, permitting of pipelines and energy production, mitigation of air and water pollution, and strategies to incentivize the conservation and restoration of landscapes. Students will develop professional skills in systems thinking, scenario analysis, science communication, facilitation, and collective leadership.

PA 5771. Change Leadership for Environmental, Social and Governance Action. (; 3 cr. ; Student Option No Audit; Every Fall)

Sustainability is increasingly being defined broadly to include the environmental, social and governance (ESG) actions, and effects of organizations. ESG concepts integrate environmental sustainability with diversity, equity, and inclusion. Individuals working within organizations or seeking to join those organizations have expressed desires to affect the actions of an organization. This course aims to give students hands-on experience with a project investigating, designing, advocating for and implementing an ESG improvement in an existing or new organization. We imagine students in this course as future intrapreneurs (an employee of an organization who creates new opportunities or products in the style of an entrepreneur) transforming practices in existing organizations or as entrepreneurs seeking to create new sustainable organizations, or both. Non-degree-seeking students possessing a bachelor's degree are encouraged to contact the instructor for permission to register.

PA 5790. Topics in Science, Technology, and Environmental Policy. (; 1-3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring)

Selected topics.

PA 5801. Global Public Policy. (3 cr. ; Student Option; Every Spring)

Creation of rules, norms, institutions to regulate global activities. Policy making. How global policy making regulates interstate, national, transnational activities. Creation/enforcement of global rules. Applications to international security, political economy. prereq: Grad or instr consent

PA 5805. Global Economics. (3 cr. ; A-F only; Every Fall)

Global trade, exchange rates, finance, international business, and migration in context of theories and evidence that inform the

policies pursued at national level. Operation of main international organizations dealing with these issues will also be examined. prereq: [5021 or equivalent] or instr consent

PA 5813. US Foreign Policy: Issues and Institutions. (3 cr. ; Student Option No Audit; Every Fall)

Taught by the Humphrey School diplomat in residence, this course helps students develop a deep understanding of how US foreign policy institutions function, how that is being challenged, and the broader global implications of those changes. Through readings, class discussions, and guest lectures, we look at the institutions and processes involved in developing and managing US foreign policy, and use case studies to advance students' knowledge, including of how the Department of State works, and the expanding role of the Department of Defense, the National Security Council, and intelligence agencies. We examine how economic instruments like sanctions are used to advance policy; and how American citizens, lobbyists, and foreign governments influence policy. We incorporate discussions of current events into each class. Students develop writing and presentation skills critical to foreign policy careers.

PA 5814. Global Diplomacy in a Time of Change. (3 cr. ; Student Option No Audit; Every Spring)

Taught by the Humphrey School's diplomat in residence, this course examines the changing world of twenty-first century global diplomacy and how state and nonstate actors are challenging the status quo. We look at the dynamics behind major international developments with case studies including BREXIT, the Iran Agreement, climate negotiations, and China's global initiatives? placed in the context of an examination of how states operate in the international diplomatic sphere and how multilateral organizations enhance or challenge the concept of state sovereignty. Students gain knowledge about the complexities of diplomacy and negotiation through readings, classroom discussions, and guest speakers and develop professional skills through writing and presentation assignments.

PA 5823. Human Rights and Humanitarian Crises: Policy Challenges. (3 cr. ; Student Option No Audit; Periodic Fall & Spring) Examines response of governments, international organizations, NGOs, and others to global humanitarian and human rights challenges posed by civil conflict and other complex emergencies in places such as Syria, Ukraine, South Sudan, Somalia, Burma, and elsewhere. Course will also consider and assess UN and other institutions established to address these issues (like UNOCHA and UNHCR). In addition, course will examine US policy toward humanitarian issues and refugees (including US refugee admissions).

PA 5825. Crisis Management in Foreign Affairs. (1.5 cr. [max 3 cr.] ; Student Option; Every Spring) Crisis decision making in foreign policy. Examination of the organization and structure of crisis decision-making within U.S. national

security apparatus. Analysis of in-depth four foreign policy crises (Cuban Missile Crisis, Vietnam ? Tet, Iraq, and a current crisis). Crisis simulation with students in the role of national security leaders.

PA 5826. National Security Policy. (3 cr. ; Student Option; Every Fall)

This course will analyze U.S. national security policy and process from the viewpoint of the National Security Council staff. Students will examine the organization and structure of the U.S. national security apparatus and the national security decision-making process, including individual and political factors; assess central threats to U.S. and international security and develop and discuss policy options to deal with those threats; undertake a major policy review on a specific national security challenge facing the United States, including analysis and recommendations; produce products, both written and oral, crucial to national security policy making (e.g., concise information and action memorandum), and put themselves in the position of national security leaders as part of a policy simulation. Grades will be based on oral participation, papers, and class reports.

PA 5880. Exploring Global Cities. (; 1-3 cr. [max 6 cr.] ; Student Option; Every Spring) Study abroad offered in cities across globe. Opportunities to study policy/planning issues in varied contexts from comparative/inter-cultural perspective. Study/work with practitioners/peers in field. Tanzania odd years/Austria even years. Additional countries may be added in future.

PA 5885. Human Rights Policy: Issues and Actors. (3 cr. ; Student Option; Every Fall) Politics of human rights issue emergence; relevant international, regional, and domestic norms; correlates of state repression; measurement of human rights abuse and remedies; human rights promotion by states, political parties, international organizations, NGOs, social movements, faith-based organizations, and providers of international development assistance.

PA 5886. Master of Human Rights Cohort Seminar I. (1 cr. ; S-N only; Every Fall)

The Master of Human Rights Cohort Seminar is a required course for all first-year MHR students. The course is intended to create a cohort group and ensure that all MHR students have an opportunity to work together to explore current issues related to human rights practice, focusing on emerging events or crises, and debates over policy, practice, or theory and for direct contact with and networking particularly with counterparts in the Global South. This course is in a series with, and taken before, PA 5887. prereq: First-year MHR

PA 5887. Master of Human Rights Cohort Seminar II. (1 cr. ; S-N only; Every Spring)

The Master of Human Rights Cohort Seminar is a required course for all first-year MHR students. The course is intended to create a cohort group and ensure that all MHR students have an opportunity to work together to explore current issues related to human rights practice, focusing on emerging events or crises, and

debates over policy, practice, or theory and for direct contact with and networking particularly with counterparts in the Global South. This course is in a series with, and taken after, PA 5886.

PA 5890. Topics in Foreign Policy and International Affairs. (; 0.5-5 cr. [max 15 cr.] ; Student Option; Periodic Fall & Spring) Selected topics.

PA 5910. Developing Your Public Service Career. (; 1 cr. ; S-N or Audit; Every Fall) Students investigate/analyze interests, skills, and abilities and combine them in a career plan. Develop tools to demonstrate abilities, document experiences/knowledge, and explore public service career options.

PA 5920. Skills Workshop. (; 0.5-4 cr. [max 48 cr.] ; Student Option; Every Fall & Spring) Topics on public policy or planning skills. Topics specified in Class Schedule.

PA 5926. Presentation Skills: How to Inspire Your Audience and Change the World. (1 cr. [max 2 cr.] ; Student Option No Audit; Every Fall)

Learn techniques for making effective, persuasive presentations to different kinds of audiences. Practice is essential to improve speaking skills and reduce anxiety. Students practice by recording brief weekly presentations and making class presentations in a supportive environment. Techniques for using Powerpoint to create effective slides are practiced. Course components include presentation assignments; peer reviews; readings/videos and reflections; and class participation. May be repeated once.

PA 5927. Effective Grantwriting for Nonprofit Organizations. (; 1.5 cr. ; Student Option No Audit; Every Spring)

Grantwriting skills, processes, problems, and resources for nonprofit organizations. Researching and seeking grants. Communication with potential funders and generating financial support. Collaborating effectively with the organization and clients to create substantive, fundable proposals.

PA 5928. Data Management and Visualization with R. (1 cr. ; Student Option; Every Fall)

Introduction to R Studio software. Use of R Studio to carry out R file and related database management functions. Tools and techniques for data analysis and statistical programming in quantitative research or related applied areas. Topics include data selection, data manipulation, and data and spatial visualization (including charts, plots, histograms, maps, and other graphs). Prerequisite knowledge: Introductory statistics; ability to create bar graphs, line graphs, and scatter plots in MS Excel; and familiarity with principles of data visualization.

PA 5929. Data Visualization: Telling Stories with Numbers. (; 2 cr. ; Student Option; Every Fall & Spring)

Tools for communicating quantitative information in an intelligent, effective and persuasive way. Topics covered include 1)

writing and speaking about data; 2) data management in Excel in order to prepare data for charting; 3) understanding and ability to deploy core concepts in of design, layout, typography and color to maximize the impact of their data visualizations 4) determining which types of statistical measures are most effective for each type of data and message; 5) determining which types of design to use for communicating quantitative information; and 6) designing graphs and tables that are intelligent and compelling for communicating quantitative information.

PA 5932. Working with Data: Finding, Managing, and Using Data. (1.5 cr. ; Student Option; Every Spring)

Hands-on experience with common issues that arise when using secondary data sets. After successful completion of the course, students should be able to: 1. Determine where to find data and information about data (metadata) for policy-related topics. 2. Repurpose, manipulate, and/or clean data collected by someone else or for a different purpose in order to answer questions. 3. Determine appropriate units of analysis, weights, data structure, and variables of interest in order to answer policy-related questions. 4. Document workflow to allow reproducibility and protect the confidentiality of the data. 5. Conduct basic data manipulation tasks (making tables) using existing software including Excel and Stata. 6. Learn how to find answers for questions through online support. This course will focus on Excel and Stata equally. Previous experience in Stata is preferred, but the course will include a brief introduction to relevant skills.

PA 5933. Survey Methods: Designing Effective Questionnaires. (2 cr. [max 3 cr.] ; A-F only; Periodic Fall & Spring)

Applied (hands-on) introduction to survey questionnaire design. Student teams design a questionnaire for a client. For example, students may draft and revise questions about respondents' demographics and employment; life histories; knowledge, use, and opinions about services; and/or anxiety and well-being. The syllabus evolves depending on the needs of the client and the class' decisions about how to build the survey; a complete syllabus will not be available at the beginning of class for this reason. Readings include a textbook and articles related to the client's survey. Students actively engage in class and in groups about draft questions, thus learning how to improve them, with regular feedback from the instructor. Questions are tested on volunteers. Students learn: the process of questionnaire design in a team; pitfalls of survey design; and how to track questions, coded responses, and prompts for interviewers. This class is not a substitute for a comprehensive survey research class or a statistical course on sampling and weighting. Students will learn: - The process of questionnaire design in a team - Basic pitfalls of survey design ? names, definitions, examples. - How to use Excel to track questions, coded responses, and prompts for interviewers - How to use interviewing software SurveyToGo This class is not a substitute for a comprehensive survey research

class or a statistical course on sampling and weighting.

PA 5934. HPAR - Humphrey Public Affairs Review Board Seminar. (1.5 cr. [max 3 cr.] ; S-N only; Every Fall)

This course provides a seminar context for the work of members of the editorial board for the Humphrey Public Affairs Review (HPAR). It meets seven times over the course of Fall semester to provide logistical and technical guidance for the Board as it produces the online journal. Students engage in the various activities required to publish the journal. In the beginning of the semester, students conduct outreach to solicit submissions and discuss the selection criteria for submissions. They work closely with the conventions of APA style and citations, while developing their copyediting abilities. Central to journal production is engaging with the peer-review process, through providing feedback to authors and discussing critiques with editing teams. Finally, students submit their own pieces of writing to the journal for publication. As a result, students participate in peer-review as both an editor and an author.

PA 5951. Humphrey International Fellows Seminar. (; 1 cr. ; S-N only; Every Fall)

This seminar introduces Humphrey International Fellows to the public policy landscape of Minnesota and the US, and provides opportunities for professional growth. Through a series of discussions, trainings, and site visits, fellows will be exposed to professional development, skills building, and networking opportunities. The seminar provides a forum for fellows to exchange views with one another and with guest speakers.

PA 5962. State Governing and Legislating: Working the Process. (3 cr. ; A-F only; Every Spring)

The Minnesota Capitol and rules and reality of state governance and legislating. Classroom discussions, high-profile guest speakers (including legislators, lobbyists and potentially the governor), and an extensive State Capitol practicum to explore state politics and policies.

PA 5971. Survey of Election Administration. (; 3 cr. ; Student Option No Audit; Every Fall & Spring)

Survey of building blocks of election administration, from voter registration to recounts.

PA 5972. Elections and the Law. (; 2 cr. [max 3 cr.] ; Student Option No Audit; Periodic Fall & Spring)

Theories and basic structure of the American legal system. Experience with basic tools and skills for using the law to understand and analyze issues facing election administrators across the nation. Use of election-related and non-election related materials to prepare election administrators for interacting with counsel, legislators and the courts in carrying out their responsibilities.

PA 5973. Strategic Management of Election Administration. (; 2 cr. ; Student Option No Audit; Every Fall)

Strategic management for election administrators in the political environment.

Election official tools and challenges. The role of the lawmaking process in budgeting and organizational planning.

PA 5975. Election Design. (; 2 cr. ; Student Option No Audit; Every Spring)

Election administration design principles, including ballot and polling place design and poll worker training materials. Application of principles of field.

PA 5976. Voter Participation. (; 1 cr. ; Student Option No Audit; Periodic Fall & Spring)

Voter participation issues and challenges including historical survey of voter participation in US and methods to increase voter turnout.

PA 5982. Data Analysis for Election Administration. (; 2 cr. ; Student Option No Audit; Periodic Fall & Spring)

Evidence-based election administration. Collection and analysis of quantitative data to solve problems and identify opportunities for improvement. Emphasis on pre-election forecasting for planning purposes and post-election auditing of election results.

PA 5983. Introduction to Election Security. (; 1 cr. ; Student Option No Audit; Every Fall)

This course will examine the history of cyberattacks on the United States and the American election system, with special attention to the 2016 election cycle. Students will explore the types of cybersecurity threats that exist and strategies to protect against them; understand the roles different levels of government can play in the process, and hear from key officials about the issues raised by the official response to election security threats at the federal, state and local levels as well as in related private sector communities.

PA 5984. Elections Security: How to Protect America's Elections. (; 2 cr. ; A-F or Audit; Every Spring)

?Elections Security? uses the Russian efforts to influence the 2016 election as a case study to identify the vulnerabilities of US elections (especially state voter registration databases) as well as catalogue new protections. Readings and discussion will focus on best practices and technology options available to the public (social media) and elections professionals (cybersecurity) in guarding against future influence efforts and assuring public confidence in election outcomes. Special focus will be given to describing how local election officials can protect their election technology, most notably those vulnerabilities associated with their voting system and voter registration database. ?Elections Security? will draw heavily on concrete cases and challenges facing election professionals, using government and independent reports and an indepth analysis of new resources created by the US Department of Homeland Security and its collaborations with election professionals.

PA 5985. Physical Election Security. (; 2 cr. ; Student Option No Audit; Periodic Spring & Summer)

U.S. Homeland Security designated election security as a ?critical infrastructure? after threats from foreign governments, and

collaborates with states in detecting and responding to foreign interference. This course will provide students with a deeper understanding of the current security context and best practices and processes for physically safeguarding elections based on 2016 and 2020. Students will learn the difference between physical and cyber threats to U.S. systems; tangible steps to protect election offices and their equipment; the use of audits to ensure the accuracy of elections; the integration of security into vendor relationships; and the connection between physical election security and citizen trust in elections. Content will be explored through readings (including government documents and studies), videos, discussions, and writing assignments.

PA 5990. Topics: Public Affairs - General Topics. (; 0-3 cr. [max 18 cr.]; Student Option; Periodic Fall & Spring)
General topics in public policy.

PA 5993. Directed Study in Public Affairs. (1-3 cr. ; Student Option; Periodic Fall, Spring & Summer)
Self-directed study, with faculty advice.

Public Health (PUBH)

PUBH 1001. Success Over Stress (SOS). (; 1 cr. ; Student Option; Every Fall, Spring & Summer)

Success Over Stress (SOS) covers the stress process, the physical signs and symptoms of stress, and long-term outcomes of chronic stress. Students will learn various strategies to cope with stress associated with time management, academic pressures, interpersonal relationships, financial strain, grief, and college transitions. Assignments ask students to reflect about their current stressors as well as the effectiveness of the coping strategies they most frequently use. SOS leverages trained peer educators as TAs who provide personalized feedback on each reflection to encourage experimentation with new, adaptive coping strategies. SOS is offered as a 15-week full term version and 7-week B-term version. prereq: Undergrad or PSEO student

PUBH 1002. Personal Technology and Wellbeing. (; 1 cr. ; Student Option; Every Fall, Spring & Summer)

Our devices are important tools. They provide connection, allow us to complete academic and career-based work and engage in hobbies, and provide a way to find answers and generate ideas, to name a few. Use of technology can also negatively impact overall wellbeing psychologically, physically, socially, and academically. This course addresses the ways in which technology can detract from and contribute to a person's overall wellbeing and strategies for engaging with technology in ways that are safe, private, productive, and helpful. Public health and psychology frameworks will help students explore society's ties to technology and empower students to examine their own relationship with technology and the ways in which it influences wellbeing. Prerequisite: Undergraduate or PSEO student.

PUBH 1003. Alcohol and College Life (ACL). (; 1 cr. ; Student Option; Every Fall & Spring)
Alcohol and College Life was developed to address some of the issues many students face in college and reinforce personal prevention strategies to maximize student and campus safety. The course provides college students with factual information about how alcohol and other substances affect college life and counters dangerous myths regarding substance use. We want to present students with unbiased information to help them make responsible decisions. Course content highlights stories and information pertinent to all students, regardless of whether or not they choose to drink or use substances. In addition, the course incorporates strategies to enhance academics, time management, self-care, financial wellness, and interpersonal communication. Students are encouraged to think about how the modules apply to their own experiences. prereq: Undergrad or PSEO student.

PUBH 1004. Sexuality Matters. (; 1 cr. ; Student Option; Every Fall, Spring & Summer)
Sexuality Matters takes a comprehensive and inclusive approach to equip students with the knowledge and skills necessary to lead healthy sexual lives. Using unbiased, medically accurate, and evidence-based information, the course meets students where they are at to clarify personal values, increase self-efficacy, and make decisions that are in alignment with their values. Course topics include: socio-ecological influences on sexuality; sex, gender, attraction, and identity; positive embodiment; sexual expression; communication and decision-making skills; healthy relationships; safer sex; reproductive life planning; sexual assault; harassment, and stalking; and advocacy and strategies for intervention. Prereq: Undergrad or PSEO student

PUBH 1005. Sleep, Eat, and Exercise. (; 1 cr. ; Student Option; Every Fall, Spring & Summer)
Sleep, Eat, and Exercises covers basic concepts in nutrition, sleep, and physical activity and incorporates a variety of techniques to promote self-awareness and reflection, goal setting, and action toward wellness. Inactivity, poor nutrition, and inadequate sleep are common problems among college students and are leading contributors to a variety of short- and long-term consequences. Research indicates that, in addition to improving physical health, healthy habits can reduce stress and improve academic performance. Sleep, Eat, and Exercise is an introductory level course designed to provide you with the knowledge and skills you need to live a balanced life while in college. prereq: [Undergrad or PSEO] student

PUBH 3001. Personal and Community Health. (2 cr. ; Student Option; Every Fall & Spring)
Fundamental principles of health conservation and disease prevention.

PUBH 3003. Fundamentals of Alcohol and Drug Abuse. (2 cr. ; Student Option; Every Fall & Spring)

Scientific, sociocultural, and attitudinal aspects of alcohol and other drug abuse problems. Emphasizes incidence, high-risk populations, prevention, and intervention.

PUBH 3004. Basic Concepts in Personal and Community Health. (; 4 cr. ; Student Option; Every Fall & Spring)
Scientific, sociocultural, and attitudinal aspects of communicable and degenerative diseases, environmental and occupational health hazards, and alcohol and drug problems. Role of education in health conservation, disease control, and drug abuse.

PUBH 3011. Public Health Approaches to HIV/AIDS. (; 2 cr. ; Student Option; Every Fall)
Primary, secondary, and tertiary prevention. Community responses to HIV/AIDS in Minnesota. Medical, social service, and political responses.

PUBH 3051. Practicum in Peer Education I. (; 2 cr. ; A-F or Audit; Every Fall)
Multiple factors that influence health. Through various health promotion strategies, students build upon or gain skills such as public speaking, needs assessments, program planning, interpersonal communication, and program evaluation. prereq: Selected to serve as a hlth advocate, instr consent

PUBH 3052. Practicum in Peer Education II. (; 2 cr. ; A-F or Audit; Every Spring)
Multiple factors that influence health. Through health promotion strategies, students gain/build skills such as public speaking, needs assessments, program planning, interpersonal communication, and program evaluation. prereq: Undergrad student, demonstrated hlth sci or hlth ed interest, selected to serve as a hlth advocate, instr consent

PUBH 3093. Directed Study: Public Health. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)
Directed study in selected public health problems or current issues. prereq: instr consent

PUBH 3100. Topics: Environmental Health. (; 1-3 cr. [max 40 cr.]; Student Option No Audit; Every Fall & Spring)
Topics of interest in environmental health.

PUBH 3102. Issues in Environmental and Occupational Health. (; 3 cr. ; Student Option; Every Fall & Spring)
This course is an introduction to the field of Environmental and Occupational Health (EOH), the impact of environmental and occupational hazards on individuals and communities, the approaches taken to address EOH issues at the community level, and the challenges that must be overcome to ensure success in dealing with EOH issues. Students will review scientific literature to learn about interventions for environmental health problems, and practice identifying environmental health problems and interventions in their communities. The focus of this course will be on the interaction between humans and the environment and how this interaction affects human health. Online Course.

PUBH 3104. Environmental Health Effects: Introduction to Toxicology. (2 cr. ; Student Option; Every Spring)

This course is designed for students who are interested in public health and environmental issues. Toxicology is a multidisciplinary experimental science that combines chemistry, biology, and physiology to determine whether substances we are exposed to in the environment are likely to harm our health. Students will learn how toxicology is used to understand how humans respond to chemicals in the environment. In addition, students will learn how toxicology is applied to protect human health through safety evaluation. prereq: Previous coursework in biology and chemistry; biochemistry is recommended. Ability to analyze data, and understand the basic functions of DNA, enzymes and other proteins, and lipids.

PUBH 3106. Making Sense of Health Studies. (2 cr. ; Student Option; Every Fall & Spring)

How to critically evaluate health news (and the health research reports on which they are based) to make good, well informed decisions about your health and well-being.

PUBH 3107. Global Public Health and the Environment. (2 cr. ; A-F only; Every Fall)

Environmental determinants of health and of well-being of populations. Role of environment in public health. Population burden of disease. Variation of environmental public health determinants across globe. Interconnectedness of activities and actions of people in different countries. prereq: public health minor, instr consent

PUBH 3120. Injury Prevention in the Workplace, Community, and Home. (2 cr. ; Student Option; Every Spring)

Injury Epidemiology: Analyses of major injury problems, affecting the public in the workplace, community, and home, using the epidemiologic model and conceptual framework; emphasis on strategies/program development for prevention and control. For students involved in the field of Occupational Health and Safety, this course provides a foundation essential to the development of programs for Occupational Injury Prevention and Control. prereq: Basic epidemiology course preferred but not required

PUBH 3123. Violence Prevention and Control: Theory, Research and Application. (2 cr. ; Student Option No Audit; Every Spring)

The course will cover a range of topics including: definitions and characteristics of various forms of violence, prevalence and risk factors, health effects, and prevention initiatives. Sources and limitations of existing epidemiologic data, analytic challenges, research quality and ethics will be examined throughout the course. prereq: None

PUBH 3193. Environmental Health: Directed Studies. (1-3 cr. ; S-N only; Every Fall, Spring & Summer)

Directed study, directed readings, and directed research offers opportunities for students to work individually with a faculty member and to earn credit for individually designed content. The instructor and the student

must have a written contract in place that specifies the student's responsibilities for the courses and the name of the instructor who is responsible for turning in the student's grade for the course, as part of the enrollment in the course. Instructors must provide a copy of the contract to the academic department in which the registration for the course occurs. Expected student academic work per credit: at least 3 hours of work per week per credit for undergraduate students; Only one Directed Study, Directed Readings, or Directed Research is allowed per semester.

PUBH 3202. What is Public Health?. (; 2 cr. ; Student Option No Audit; Every Fall)

Overview of public health: what it is, its origins, evolution, how it is structured/administered in the U.S. Mission, concepts, principles, and practices of population-based public health. Case studies. Career opportunities.

PUBH 3210. Topics: Public Health Practice. (; 1-3 cr. ; Student Option No Audit; Periodic Fall, Spring & Summer)

New courses or topics of interest in Public Health

PUBH 3212. Infectious Disease Outbreaks: Review of Public Health Investigation, Response, & Prevention Strategy. (2 cr. ; A-F only; Every Spring)

We share the planet with a myriad of living things. The smallest of those are the ones that may impact our lives the most. These creatures are in the news nearly every day: Ebola virus in Africa, measles outbreaks in large cities, norovirus outbreaks on cruise ships, Zika virus precautions for pregnant women. This course will focus on the principles of outbreak investigation and response at the local, state, and national public health level through lectures and interactive experiences led by former public health leaders from the Minnesota Department of Health, editors and reporters from Center for Infectious Disease Research and Policy (CIDRAP) News, and current leaders of the University of Minnesota public health response system. Students will explore the many facets of infectious disease outbreak investigation, response, and prevention operations and decision-making which are often behind the scenes and not well understood by the general public. prereq: BIOL 1xxx or equivalent Honor students who have completed HSEM 2707H are NOT eligible to register for this course.

PUBH 3351. Epidemiology: People, Places, and Disease. (; 2 cr. ; Student Option; Every Fall & Spring)

How diseases are distributed among us. Epidemiology terminology, methods, critical thinking, and analysis. Intended for students interested in a health science career or in a career that may need to evaluate epidemiologic evidence such as health journalism or public policy or litigation. prereq: Undergrad statistics course is recommended

PUBH 3365. Modeling and Mapping for Infectious Disease Epidemiology. (2 cr. ; Student Option; Every Fall)

Infectious disease epidemiology is a topic within the field of epidemiology that covers:

1) Principles and concepts of infectious disease transmission dynamics necessary to understand how and why diseases spread, and 2) Epidemiologic methods, including study designs, needed to quantify key aspects of an infectious disease. This course will also discuss: 1) How to use modeling to gain insight into the spread and control of infectious disease, and 2) The role that geography and GIS plays in gaining insights into the emergence and spread of an infectious disease. Students will learn key epidemiologic concepts that determine who is at risk for acquiring an infectious disease, how infectious diseases spread and what measures can be taken to prevent or control the spread of an infectious disease. We will also learn how simulation models can provide insights into the spread and control of an infectious disease as well as learn about the use of geographic information systems software for identifying in whom and where a disease occurs. This course will focus on principles, concepts, and methods in epidemiology with an application to infectious diseases. In addition, students will learn how to read and critically review peer-reviewed publications on infectious disease epidemiology, and understand how models and geographic information systems software are used to identify populations. This course will include examples that are from the local, national, and international literature.

PUBH 3415. Introduction to Clinical Trials - Online. (; 3 cr. ; A-F only; Every Fall & Summer)

Phases of trials, hypotheses/endpoints, choice of intervention/control, ethical considerations, blinding/randomization, data collection/monitoring, sample size, analysis strategies. Protocol development/implementation, interactive discussion boards. prereq: PUBH 3415 enrollees must have one semester of undergraduate level introductory biostatistics or statistics (STAT 3011, EPSY 3264, SOC 3811, BIOL 3272, or instr consent) AND junior or senior standing or instr consent.

PUBH 3601. Global Public Health Issues. (; 2 cr. ; A-F only; Every Fall & Spring)

This is a global impact course designed for public health minors providing an introduction to key global health history, concepts, structures, and stakeholders. The course content articulates a myriad of population health determinants and explores risk and protective factors shaping global health. Students will explore global health equity and engage with inequity and disparity in health access and outcomes as well as relevant research, policy, and programmatic solutions. Evidence, perspectives, and application opportunities related to critical issues and solutions in the organization and delivery of global public health are examined and offered. prereq: Public Health minor requirements or instr consent, [3202 or 3001 or 3004], [3351 or 3106]

PUBH 3801. Health Economics and Policy. (; 3 cr. ; Student Option; Every Spring)

Economics of health care markets. Problems faced by consumers/health care services. Builds on principles of supply/demand

for health, health care/insurance, and role of government. Theoretical/empirical models/applications. prereq: Course on microeconomics, course on basic statistics

PUBH 3893. Directed Study: Health Services Research and Policy. (1-4 cr. [max 16 cr.]; Student Option; Periodic Fall, Spring & Summer)
tbd prereq: instr consent

PUBH 3954. Personal, Social, and Environmental Influences on the Weight-Related Health of Pediatric Populations. (; 2 cr. ; Student Option; Every Fall)
Public health strategies for prevention of pediatric obesity. Includes overview of epidemiology of child/adolescent obesity focusing on social-ecological risk factors. Discussion of implications of risk factors for developing environmentally-focused interventions/programs. prereq: Students should have completed one basic, introductory nutrition course or equivalent or permission by instructor

PUBH 3955. Using Policy to Address the Weight-Related Health of Child and Adolescent Populations. (; 1 cr. ; Student Option; Every Spring)
Overview of federal, state, local policy approaches. National initiatives for prevention of child/adolescent obesity. Specific policies will be discussed at local, state, federal levels. Extensive discussion on evidence of impact of policies on child/adolescent weight.

PUBH 3956. Public Health Approaches to Addressing Food Insecurity in U.S. Populations and Developing Nations. (; 2 cr. ; Student Option; Every Spring)
The course Public Health Approaches to Addressing Food Insecurity in U.S. Populations and Developing Nations provides an introduction to the burden of food insecurity and its impact on health disparities. Assumptions of the course include (1) having a dignified manner to access adequate food to support one's health is a basic human right and (2) improving access to nutritionally-dense foods and potable water will lead to reduced rates of pediatric health problems as well as chronic diseases of adulthood. With this perspective, there is a need to support, evaluate, and strengthen existing strategies and policies to prevent food insecurity. There will be extensive discussion of social-ecological factors risk factors for food insecurity and implications for the development of interventions and policies.

PUBH 5231. Emergency Preparedness: A Public Health Perspective. (; 2 cr. ; A-F only; Every Spring)
Public health emergency preparedness, response, recovery. Introduction to field's core competencies. Various components of course, including online modules, intended to stimulate interactions among learners. Purpose, history, organization, functions, tools, activities used in field. prereq: Upper-level undergraduate students and grad/professional students in academic health sciences and fields related to public health emergency preparedness,

response, and recovery. Credit will be not granted if student has completed the PubH 5230 topic course with same title.

Rehabilitation Science (RSC)

RSC 5058. Anatomy for Rehabilitation Science. (6 cr. ; Student Option; Every Summer)
Study of gross human anatomy through lecture/laboratory experiences that include cadaver dissection of extremities, head, neck, back, abdomen, thoracic, pelvic regions with correlation to clinical conditions. prereq: Student enrolled in Rehabilitation Science Program, instr consent, dept consent

RSC 5060. Lower Extremity Anatomy Intensive. (2 cr. ; Student Option; Every Summer)
Intensive and focused study of lower extremity gross human anatomy for graduate students. The content is presented through lecture and laboratory experiences that include cadaver dissection of human lower extremities with correlation to clinical conditions.

RSC 5065. Upper Extremity Anatomy Intensive. (2 cr. ; Student Option; Every Summer)
Intensive and focused study of upper extremity gross human anatomy for graduate students. The content is presented through lecture and laboratory experiences that include cadaver dissection of human upper extremities with correlation to clinical conditions.

RSC 5101. Mathematical Tools for Research Applications in Health, Rehab, and Human Movement Sciences. (; 1 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Quantitative research approaches in health, rehabilitation, human movement sciences. Application examples/practice problems focus of the course. Basic algebra/geometry, solving equations for unknowns, logarithmic transforms, derivatives/integrals, matrix methods, use of macros in research applications. prereq: Basic algebra, trigonometry, and geometry. Pre-calculus or calculus is helpful but not required.

RSC 5106. Introduction to Rehabilitation Science. (1 cr. ; Student Option; Periodic Fall)
This is one of a series of seminar courses that prepares students to think critically in reading and discussing the literature in rehabilitation science and to speak and write persuasively on scientific topics. This semester, the seminar will focus on the past, present, and future of rehabilitation science. This course will include lecture presentations from rehabilitation science faculty for the first 50 minutes of the weekly class time, as well as discussion/interaction sessions planned jointly by assigned students and faculty for the second 50 minute session each week.

RSC 5135. Advanced Biomechanics I: Kinematics. (3 cr. ; A-F or Audit; Fall Odd Year)
How to describe/measure movement. Basic/applied biomechanics, pathokinesiology, and rehabilitation literature. Lecture, lab, seminar

discussion. Meets with RSC 8135. prereq: instr consent

RSC 5200. Introduction to Neuromodulation. (1-3 cr. ; A-F or Audit; Fall Even Year)
This course will provide training in the theory, biophysics and evidence-based application of non-invasive magnetic and electric brain stimulation in humans. Course content will be delivered in three modules: (1) safety and administration of non-invasive brain stimulation, (2) neuromodulation methods, and (3) advanced assessment and modeling techniques. All registered students must take module #1. Testing methods will include various methods to assess intracortical, transcallosal and interhemispheric excitability. Neuromodulation methods presented will include non-invasive and invasive forms of brain stimulation. Hands-on instruction and laboratory applications will be provided for cortical excitability testing using transcranial magnetic stimulation (TMS) as well as for other non-invasive forms of brain stimulation. Those enrolled will both administer and receive non-invasive brain stimulation and will be asked to sign a consent form. Specific safety exclusion criteria for receiving non-invasive brain stimulation exist and enrollees who have questions should contact the Division of Rehabilitation Science.

RSC 5206. Academic Ethos. (1 cr. ; A-F or Audit; Periodic Spring)
Explicit/implicit culture unique to academia. Early understanding within/beyond rehabilitation science. Role of higher education in society, academic freedom, tenure, corporatization of education, accreditation, globalization of education, regulatory monitoring of research, faculty scholarship/governance.

RSC 5231. Clinical Biomechanics. (2-5 cr. ; A-F only; Every Fall)
Biomechanics. Internal/external forces/structures responsible for normal/abnormal human movement. Joint and tissue mechanics, muscle function, task analysis, and gait mechanics. Lecture and lab practice. prereq: concurrent registration is required (or allowed) in PT 6231, general physics, [intro or short] calculus, anatomy; intensive anatomy course in human cadaver dissection recommended

RSC 5235. Advanced Biomechanics II: Kinetics. (3 cr. ; A-F or Audit; Spring Even Year)
Forces that create human motion and are produced within body as a result. Measuring human motion. Clinical movement assessment, Exercise, sport, and activities of daily living. Two-dimensional rigid body dynamics models, forward/inverse dynamics solutions, hypotheses to describe whole body/joint kinetics. Lectures, lab, discussion. prereq: 5135 or equiv or instr consent

RSC 5281. Physiology for Physical Rehabilitation. (2-4 cr. ; A-F or Audit; Every Fall)
This course provides an in-depth presentation of fundamental concepts in tissue and organ system physiology as it relate to general health,

aging, and physical exercise. Emphasis is on the following systems: muscle, bone & connective tissue, endocrine, immune, renal, gi, and hematology. Influence of aging on these systems will be addressed as well. prereq: Rehabilitation Science grad student

RSC 5294. Independent Study in

Rehabilitation Science. (1-3 cr. [max 9 cr.] ; Student Option; Every Fall, Spring & Summer) Independent exploration into topics related to rehabilitation science. prereq: Rehabilitation science student or program approval

RSC 5300. Autonomic Nervous System

(ANS) Function. (; 2 cr. ; A-F or Audit; Every Fall)

This course is designed to advance the student's knowledge on how the autonomic nervous system (ANS) functions to maintain homeostasis. The student will have a strong understanding of the components of the ANS and how the ANS contributes to blood pressure regulation and control of circulation. Students will read book chapters, journal reviews, and original articles and engage in weekly discussions on topics related to the listed course objectives. In addition, students will have the opportunity to present on specific topics that will be related to their current work.

RSC 5306. Scientific and Professional

Presentation. (1 cr. ; A-F or Audit; Periodic Spring)

This course will focus on the process and practice of oral presentation of scientific inquiry and discoveries. These skills are essential for scientists in all disciplines, yet often guidelines for optimal scientific presentation are not taught or practiced in an educational setting. Specific areas to be covered in this course include presentation intent, audience analysis, timing, content, keys to effective communication, vocal behavior, and important things to avoid. Context will include conference-style platform or podium presentations, poster presentations, and seminar presentation. The course will involve opportunities to prepare and practice presentation skills and receive constructive feedback in a safe, supportive environment. It is appropriate for students from all disciplines and levels of PhD study.

RSC 5310. Cardiopulmonary Physiology

and Rehabilitation. (2-4 cr. ; A-F or Audit; Every Spring)

This course conveys foundational information regarding human basic physiology cardiovascular and pulmonary physiology. In addition, fundamental principles of cardiac and pulmonary systems as it relates to physical therapy and will be known in the clinic to the physical therapist as Cardiac and Pulmonary Rehabilitation will be addressed. A focus of this course is on normal and abnormal responses to exercise and the pathophysiology, assessment, evaluation, and rehabilitation of patients with cardiopulmonary disorders.

RSC 5402. The Shoulder in Sports

Rehabilitation Science. (; 3 cr. ; A-F or Audit; Every Spring & Summer)

A three-credit online course for students who are interested in investigating the

biomechanical and epidemiological aspects of the shoulder in athletics. The course will explore the unique demands placed on the shoulder in sports that involve throwing, swimming, swinging, and bodily impacts.

The course begins with an investigation into sport-specific biomechanics, pathomechanics, and epidemiology and progresses to applied problem solving for rehabilitation and research scenarios. prereq: (1) an undergraduate or graduate human anatomy course and (2) an undergraduate or graduate biomechanics course. It is recommended, but not required, you have an anatomy course including a detailed shoulder anatomy section and a biomechanics course including a detailed shoulder biomechanics section. Consent from course instructor or Rehabilitation Science graduate program is required.

RSC 5404. Applied Shoulder Anatomy and

Biomechanics. (; 1 cr. ; A-F or Audit; Every Fall)

The shoulder is capable of more range of motion than any other joint in the human body. It is involved in virtually any motion that places the hand in space. Subsequently, the shoulder is prone to injury. There are many mechanisms of shoulder injury, and many are related to the anatomy of the shoulder joint and the anatomical relationship to movement. This course will serve as an overview of the anatomy and biomechanics of the shoulder joint complex. Students taking this course will have the opportunity to explore the intricate anatomy of the shoulder complex. In doing so, students will create their own anatomical-reference-guide that they will use beyond this class. We will build upon this anatomical knowledge and apply the purpose of these structures in the context of functional movement. Lastly, we will examine how these relationships may be altered during several common surgical techniques.

RSC 5814. Age, Exercise, and

Rehabilitation. (2 cr. ; Student Option; Every Fall)

Overview of normal physiological responses to exercise in the elderly. Comparison of exercise-induced responses of physiological systems throughout aging process. Focuses on importance of exercise from rehabilitation perspective. Offered Fall semesters of even-numbered years. prereq: Rehabilitation science student or program permission

RSC 5841. Applied Data Acquisition and

Processing. (3 cr. [max 4 cr.] ; A-F or Audit; Spring Odd Year)

This course will introduce students to collecting and processing biomedical time series data. Students will gain experience using data acquisition hardware common in many laboratories, as well as related software for acquisition of the data and digital signal processing. Data sources will include electromyography (EMG), wearable sensors, motion capture, and data from other systems based on the background and interests of students in the class. The overall goal of this course is to provide students with the necessary, fundamental skills to run a

successful experiment, troubleshoot errors, and produce high quality data sets. prereq: prefer students to have completed general physics, introductory of short calculus

RSC 5842. Teaching and Learning in

Rehabilitation Science. (; 1 cr. ; Student Option; Every Spring & Summer)

Introduction to the roles of an academic educator and the basic principles of adult education, active learning, course design, and teaching in academic environments.

RSC 5901. Scholarly Inquiry in Health

Sciences. (4 cr. ; A-F or Audit; Every Spring)

How research evidence is developed, disseminated, utilized in health sciences. Qualitative/quantitative scholarly project proposal. Critique studies/peer proposals. Explore conduct of research. prereq: Three credits of undergraduate statistics. instr consent, dept consent.

Religious Studies (RELS)

RELS 1001. Introduction to the Religions of

the World. (GP; 3 cr. ; Student Option; Every Fall & Spring)

Introduction to major religions of world/ academic study of religion. Hinduism, Buddhism, Judaism, Christianity, Islam, some pre-Christian religions of Antiquity.

RELS 1002. Contemporary Issues in

Religion, Culture, and Society: An Introduction to Religion. (AH; 3 cr. ; Student Option; Every Fall)

Through examination of several contemporary issues this course introduces students to the complex ways in which religion functions in everyday life. The course will examine the intersection of religion with several cultural and social contexts and issues, such as gender, the environment, politics, power, race, ethnicity, health, medicine, food, art, and entertainment. It will draw upon the practices, texts, communities, and institutions of several religious traditions and familiarize students with interdisciplinary, humanistic methods for studying religion.

RELS 1034. Introduction to Jewish History

and Culture. (HIS; 3 cr. ; Student Option; Every Fall)

This course traces the development of Judaism and Jewish civilizations from their beginnings to the present. With over three millennia as its subject, the course must of necessity be a general survey. Together we will explore the mythic structures, significant documents, historical experiences, narratives, practices, beliefs, and worldviews of the Jewish people. The course begins by examining the roots of Judaism in the Hebrew Bible and the history of ancient Israel but quickly focuses on the creative forces that developed within Judaism as a national narrative confronted the forces of history, especially in the forms of the Persian, Greek, and Roman empires. Rabbinic Judaism becomes the most dominant creative force and will receive our greatest attention, both in its formative years and as it encounters the rise of Christianity and Islam.

After studying the Jewish experience in the medieval world, we will turn to Judaism's encounter with the enlightenment and modernity. The historical survey concludes by attending to the transformations within Judaism and Jewish life of the last 150 years, including a confrontation with the experience of the Holocaust. Woven throughout this historical survey will be repeated engagements with core questions: ?Who is a Jew?? ?What do Jews believe?? ?What do Jews do?? ?What do we mean by ?religion??? ?How do Jews read texts within their tradition?? And perhaps most importantly, ?How many answers are there to a Jewish question?? Students in this course can expect to come away with some knowledge of the Bible in Judaism, rabbinic literature and law, Jewish mysticism and philosophy, Jewish nationalism and Zionism, Jewish culture, ritual, and worship in the synagogue, the home, and the community, and Jewish celebrations of life cycle events and the festivals.

RELS 1082. Jesus in History, Art & Culture. (HIS; 3 cr. ; Student Option; Every Spring)

Who was Jesus? While there has been some basic consistency in the depictions of Jesus throughout history, there has also been lots of variety. We will look at the stories and writings of the New Testament. We will look at ancient and medieval art and music. We will look at modern literature, film, and music. We will learn about how cultures and social groups from around the world have portrayed Jesus in their own contexts and for their own purposes. Students will leave the course with a sense of the diversity of depictions of Jesus and how this diversity correlates with the peoples that portray him and with the cultural and historical moments in which he is portrayed. Come and grapple with the question of who Jesus really was for ancient peoples and who he is for many today. Intended as a course of interest to undergraduates in all colleges of the TC campus. Students of any, all, or no religious background are welcome.

RELS 1201. The Bible: Context and Interpretation, World of the Hebrew Bible. (LITR; 3 cr. ; Student Option; Every Fall)

The Hebrew Bible and Old Testament are literary collections that modern Jewish and Christian traditions maintain as important, but these collections were initially produced by ancient Israelite scribes who composed and/or compiled the biblical texts at particular time periods in the ancient Near East. This course will introduce the academic study of biblical texts, which demands critical analysis of the literature and an openness to reading the literature from the perspective of ancient Israelite writers (who lived in a world far different from today). The course will spend considerable time on the literary (and scribal) composition of biblical prose texts; time will also be spent on the historical circumstances of biblical prophets and other writers of the biblical texts. This course will only address the ancient setting of the biblical texts and not re-interpretations in Jewish or Christian traditions. Given the scope of the course, modern interpretations of the biblical literature will not be discussed; we will only focus on

this literature in its ancient setting. prereq: Knowledge of Hebrew not required

RELS 1544W. Martyrs, Monks, Crusaders: World Christianity, 100-1400. (GP,WI,HIS; 4 cr. ; Student Option; Fall Odd, Spring Even Year)

This course surveys the history of Christianity from its status as a persecuted minority religion of the Roman Empire to its dominant role in medieval Europe and Byzantium. We study Christian traditions in Asia and Africa as well as Europe with special attention to the relationship between Christianity and culture in the ancient and medieval world.

RELS 3001W. Theory and Method in Religion: Critical Approaches to the Study of Religion. (WI; 3 cr. ; Student Option; Every Spring)

Theoretical/methodological issues in academic study of religion. Theories of origin, character, and function of religion as a human phenomenon. Psychological, sociological, anthropological, and phenomenological perspectives.

RELS 3013W. Biblical Law and Jewish Ethics. (WI; 3 cr. ; Student Option; Periodic Fall & Spring)

This course introduces students to the original meaning and significance of religious law and ethics within Judaism. Law is the single most important part of Jewish history and identity. At the same time, law is also the least understood part of Judaism and has often been the source of criticism and hatred. We shall therefore confront one of the most important parts of Jewish civilization and seek to understand it on its own terms. In demonstrating how law becomes a fundamental religious and ethical ideal, the course will focus on the biblical and Rabbinic periods but spans the entire history of Judaism. Consistent with the First Amendment, the approach taken is secular. There are no prerequisites: the course is open to all qualified students. The course begins with ideas of law in ancient Babylon and then studies the ongoing history of those ideas. The biblical idea that a covenant binds Israel to God, along with its implications for human worth - including the view of woman as person - will be examined. Comparative cultural issues include the reinterpretations of covenant within Christianity and Islam. The course investigates the rabbinic concept of oral law, the use of law to maintain the civil and religious stability of the Jewish people, and the kabbalistic transformation of law. The course concludes with contemporary Jewish thinkers who return to the Bible while seeking to establish a modern system of universal ethics. The premise of the course is the discipline of academic religious studies. The assumptions of the course are therefore academic and secular, as required by the First Amendment. All texts and all religious traditions will be examined analytically and critically. Students are expected to understand and master this approach, which includes questioning conventional cultural assumptions about the composition and authorship of the Bible. Willingness to ask such questions and openness to new ways of thinking are essential

to success in the course. Old: Significance of religious law in Judaism. Babylonian background of biblical law. Biblical creation of the person as a legal category. Rabbinic transformations of biblical norms. Covenant in Christianity/Islam. Contemporary Jewish literature/philosophy.

RELS 3034. Introduction to Jewish History and Cultures. (HIS; 3 cr. ; Student Option; Every Fall)

This course traces the development of Judaism and Jewish civilizations from their beginnings to the present. With over three millennia as its subject, the course must of necessity be a general survey. Together we will explore the mythic structures, significant documents, historical experiences, narratives, practices, beliefs, and worldviews of the Jewish people. The course begins by examining the roots of Judaism in the Hebrew Bible and the history of ancient Israel but quickly focuses on the creative forces that developed within Judaism as a national narrative confronted the forces of history, especially in the forms of the Persian, Greek, and Roman empires. Rabbinic Judaism becomes the most dominant creative force and will receive our greatest attention, both in its formative years and as it encounters the rise of Christianity and Islam. After studying the Jewish experience in the medieval world, we will turn to Judaism's encounter with the enlightenment and modernity. The historical survey concludes by attending to the transformations within Judaism and Jewish life of the last 150 years, including a confrontation with the experience of the Holocaust. Woven throughout this historical survey will be repeated engagements with core questions: ?Who is a Jew?? ?What do Jews believe?? ?What do Jews do?? ?What do we mean by ?religion??? ?How do Jews read texts within their tradition?? And perhaps most importantly, ?How many answers are there to a Jewish question?? Students in this course can expect to come away with some knowledge of the Bible in Judaism, rabbinic literature and law, Jewish mysticism and philosophy, Jewish nationalism and Zionism, Jewish culture, ritual, and worship in the synagogue, the home, and the community, and Jewish celebrations of life cycle events and the festivals.

RELS 3070. Topics in Religious Studies. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Diverse topics in Religious Studies. Please see below for this semester's selection title.

RELS 3071. Greek and Hellenistic Religions. (HIS; 3 cr. ; Student Option; Fall Even Year)

Greek religion from the Bronze Age to Hellenistic times. Literature, art, archaeology. Homer/Olympian deities. Ritual performance, prayer, sacrifice. Temple architecture. Death/afterlife. Mystery cults. Philosophical religion. Near Eastern salvation religions. Meets with 3171.

RELS 3072. The Birth of Christianity. (AH; 3 cr. ; Student Option; Periodic Fall & Spring)

Early Jesus movement in cultural/historical setting. Origins in Judaism. Traditions about Jesus. Apostle Paul, controversies/interpreters.

Authority, religious practice, structure. Emergence of canon. Contemporary methods of New Testament study. Biblical writings as history/narrative. CNES 3072/CNES 5072/RELS 3072/RELS 5072 meet together.

RELS 3076. The Apostle Paul: Life, Letters, and Legacy. (3 cr. ; Student Option; Fall Odd, Spring Even Year)

How/what can we know about Paul. What his message was. What he was fighting. How he was later understood by friends/foes.

RELS 3079. Muslims and Jews: Conflict and Co-existence in the Middle East and North Africa since 1700. (GP,HIS; 3 cr. ; Student Option; Fall Odd Year)

Diversity of social/cultural interactions between Muslims and Jews and between Islam and Judaism since 1700. What enabled the two religious communities to peacefully coexist? What were causes of conflict? Why is history of Muslim-Jewish relations such a contested issue?

RELS 3092. Jesus in History, Art & Culture. (HIS; 3 cr. ; Student Option; Every Spring)

Who was Jesus? While there has been some basic consistency in the depictions of Jesus throughout history, there has also been lots of variety. We will look at the stories and writings of the New Testament. We will look at ancient and medieval art and music. We will look at modern literature, film, and music. We will learn about how cultures and social groups from around the world have portrayed Jesus in their own contexts and for their own purposes. Students will leave the course with a sense of the diversity of depictions of Jesus and how this diversity correlates with the peoples that portray him and with the cultural and historical moments in which he is portrayed. Come and grapple with the question of who Jesus really was for ancient peoples and who he is for many today. Intended as a course of interest to undergraduates in all colleges of the TC campus. Students of any, all, or no religious background are welcome.

RELS 3113. History of Modern Israel/Palestine: Society, Culture, and Politics. (GP; 3 cr. ; Student Option; Fall Odd Year)

History of Zionism/Israel. Arab-Jewish conflict, tensions between religious/secular Jews. Relationships between Mizrahi, Ashkenazi, Russian, Ethiopian, Arab citizens. Israeli cultural imagery. Newsreels, political posters, television shows, films, popular music.

RELS 3115. Midrash: Reading and Retelling the Hebrew Bible. (3 cr. ; Student Option; Periodic Fall & Spring)

How did the Jews of the first seven centuries of the common era read and understand the Hebrew Bible? What were the problems they faced -- interpretive, historical, theological -- in trying to apply their holy scriptures? This course explores key issues that led to the development of a new form of Judaism in late antiquity, rabbinic Judaism, and its methods of scriptural interpretation. The course's study will focus on the forms and practices of rabbinic scriptural interpretation (midrash) as it developed in Roman Palestine and Sasanian Babylonia, focusing on key narrative and legal

passages in the Five Books of Moses (Torah). A main focus of the course will be on the ways the rabbis adapted the Hebrew Bible to express their own core concerns.

RELS 3121. Gender and Body in Early Christianity. (AH; 3 cr. [max 30 cr.] ; Student Option; Fall Odd Year)

Ancient Christians, like any other social group in the ancient world, represented themselves through images, stories, and discourses using the cultural tools available to them in their own contexts. In this course, we will explore two key texts of early Christianity (1 Corinthians and the Gospel of Mark) with special attention to how representations of the body and gender served to communicate the nature of what it meant to be Christian for these authors. The study of ancient material offers a space to acquire the skills of critical analysis of body and gender dynamics so that we can better understand the roles that the body and gender play in shaping our self-identity, social interaction, and societal structures.

RELS 3182. Egypt and Western Asia: Art and Archaeology of Ancient Egypt and Western Asia. (AH,GP; 3 cr. ; Student Option; Every Fall & Spring)

This course will provide students with foundational knowledge in the art, architecture and archaeology of Egypt, East Africa, Asia Minor, Mesopotamia, Iran and Central Asia from the Neolithic through Late Antiquity (ca. 7,000 B.C.E. - 650 C.E.). Students will gain an understanding of the relationship between the visual material and the social, intellectual, political and religious contexts in which it developed and functioned. In this regard, students will also gain an understanding of the evolution of, and exchanges and differences among, the visual cultures of these time periods and regions. It will also expose them to the preconditions for contemporary geopolitics in the region.

RELS 3201. The Bible: Context and Interpretation, World of the Hebrew Bible. (LITR; 3 cr. ; Student Option; Every Fall)

The Hebrew Bible and Old Testament are literary collections that modern Jewish and Christian traditions maintain as important, but these collections were initially produced by ancient Israelite scribes who composed and/or compiled the biblical texts at particular time periods in the ancient Near East. This course will introduce the academic study of biblical texts, which demands critical analysis of the literature and an openness to reading the literature from the perspective of ancient Israelite writers (who lived in a world far different from today). The course will spend considerable time on the literary (and scribal) composition of biblical prose texts; time will also be spent on the historical circumstances of biblical prophets and other writers of the biblical texts. This course will only address the ancient setting of the biblical texts and not re-interpretations in Jewish or Christian traditions. Given the scope of the course, modern interpretations of the biblical literature will not be discussed; we will only focus on this literature in its ancient setting. prereq: Knowledge of Hebrew not required

RELS 3202. Bible: Prophecy in Ancient Israel. (3 cr. ; Student Option; Every Spring)

Survey of Israelite prophets. Emphasizes Amos, Hosea, Isaiah, Jeremiah, Ezekiel, Second Isaiah. Prophetic contributions to Israelite religion. Personality of prophets. Politics, prophetic reaction. Textual analysis, Biblical scholarship. Prophecy viewed cross-culturally. prereq: [RELS 1001] or [CNES 1201 or JWST 1201 or RELS 1201 or CNES 3201 or JWST 3201 or RELS 3201]

RELS 3205. Women, Gender, and the Hebrew Bible. (AH; 3 cr. ; Student Option; Spring Odd Year)

How men, women, gender, sexuality is portrayed in Hebrew Bible. Social/religious roles/status of women in ancient Israel. Read biblical texts from academic point of view.

RELS 3206. Sex, Murder, and Bodily Discharges: Purity and Pollution in the Ancient World. (3 cr. ; Student Option; Every Spring)

"Dirt is dangerous" wrote Mary Douglas more than 50 years ago in her groundbreaking study, *Purity and Danger: An Analysis of Concept of Pollution and Taboo*. Her work has been influential in ancient Near Eastern and Mediterranean studies when dealing with issues of sacred/profane, purity/pollution, and ritual sacrifice and purification. Douglas' work provides a framework within which to understand ancients' thinking about these concepts that range from the sacredness of space and of bodies to perceived pollutions caused by bodily leakage or liminal stages of life and death. In this course, we will examine Douglas' theory in light of ancient evidence, with special attention to ancient Israelite literature (the Tanakh or Old Testament) and ancient Jewish literature (the Dead Sea Scrolls), but we will also analyze other ancient Near Eastern and Mediterranean examples of purity and pollution (from epigraphical and documentary evidence).

RELS 3254. Archaeology of Ritual and Religion. (3 cr. ; Student Option; Fall Even Year)

The course discusses evidence for the origins of religion and its diverse roles in human societies over millennia. It focuses on how artifacts and architecture are essential to religious experience. It asks: What constitutes religion for different cultures? Why is religion at the heart of politics, social life, and cultural imagination?

RELS 3321. American Indian Philosophies. (AH,DSJ; 3 cr. ; Student Option; Every Fall, Spring & Summer)

World views of indigenous people of Americas. Topics include native medicines/healing practices, ceremonies/ritual, governance, ecology, humor, tribal histories, status of contemporary native people.

RELS 3371. Buddhism. (GP; 3 cr. ; Student Option; Periodic Summer)

Historical and contemporary account of the Buddhist religion in Asia/world in terms of its rise, development, various schools, practices, philosophical concepts, and ethics. Current

trends in the modern faith and the rise of "socially engaged" Buddhism.

RELS 3373. Religion and Society in Imperial China. (HIS; 3 cr. ; Student Option; Periodic Fall & Spring)

Varieties of religious experience in imperial China. Religion as lived practices. Textual traditions. Buddhism, Daoism, Confucianism, relations among them. Western missionary enterprise in China.

RELS 3374. Introduction to Japanese Religions. (3 cr. ; Student Option; Periodic Fall)

An introduction to the development of different forms of religious practice in Japan over the past fourteen hundred years. A survey of the Japanese religions and their development will be combined with specific examples (past and present) that demonstrate the way that religious belief has manifested itself in various forms of cultural practice.

RELS 3377. A Thousand Years of Buddhism in China: Beliefs, Practices, and Culture. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Buddhism in China, 4th-15th centuries. Introduction of Buddhism to China. Relevance of Buddhist teaching to indigenous thought (e.g., Taoism, Confucianism). Major "schools": Tiantai, Huayan, Chan/Zen, etc.. Cultural activities of monks, nuns, and lay believers.

RELS 3415W. Art of India. (AH,WI,GP; 3 cr. [max 4 cr.] ; Student Option; Every Spring)

Indian sculpture, architecture, and paintings from the prehistoric Indus Valley civilization to the present day.

RELS 3502W. Ancient Israel: From Conquest to Exile. (WI; 3 cr. ; Student Option; Periodic Spring)

Israel and Judah were not states of great importance in the ancient Near East. Their population and territory were small, and they could not resist conquest by larger, more powerful states like Assyria and Rome. Yet their ancient history matters greatly today, out of proportion to its insignificance during the periods in which it transpired. The historical experiences of the people of Israel and Judah were accorded religious meaning and literary articulation in the Hebrew Bible (the Old Testament), which became a foundational text for Judaism, Christianity, and Islam. Essential features of Western as well as Islamic civilization are predicated on some element of Israel's ancient past, as mediated through the Bible; therefore it behooves us to understand that past. But the Bible is a religious work, not a transcript of events, and the history of ancient Israel is not derived merely from reading the biblical accounts of it. Archaeological excavations have revealed the physical remains of the cultures of Israel and neighboring lands, as well as bringing to light inscriptions, documents, and literary works produced by those cultures. These sources, which complement and sometimes contradict the accounts conveyed in the Bible, provide the basis for reconstructing a comprehensive history of ancient Israel. This course covers the history of Israel and Judah from the Late

Bronze Age (c. 1550-1200 BCE), by the end of which Israel had emerged as a distinct ethnic entity, to the period of Roman rule (63 BCE-330 CE), which saw the final extinction of ancient Israel, represented by the kingdom of Judea, as a political entity. Knowledge of this history is based on archaeological, epigraphic, and literary sources, including the Hebrew Bible. N.B.: Students should be aware that the study of history, like all the human and natural sciences, is predicated on inquiry, not a priori judgments. Accordingly, the Bible is not privileged as an intrinsically true or authoritative record. No text is presumed inerrant, and all sources are subject to scrutiny, in the context of scholarly discourse. Biblical texts are treated just like all other texts, as the products of human beings embedded in a historical context, and as the subject of analysis and interpretation. Persons of all faiths and of no faith are equally welcome to participate in such scholarly discourse. However, students who feel that their own religious beliefs require an understanding of the Bible that is antithetical to the foregoing statements are cautioned that they may find themselves uncomfortable with this course.

RELS 3504. Apocalypticism, Cosmic Warfare, and the Maccabees: Jewish Strategies of Resistance in Antiquity. (3 cr. ; Student Option; Periodic Spring)

The rise of Hellenistic kingdoms in the ancient Mediterranean and Near East created a variety of responses from local, subjugated peoples, and some of the most documented cases are those of Jewish populations in Koel-Syria/Palestine. The main objective of this course is to analyze Jewish responses to imperial rule and military conflict during the Hellenistic and early Roman periods (c. 300 B.C.E. - 150 C.E.), but we will also spend time examining the broader picture of how local, ancestral groups fared under foreign rule. Along with discussing pertinent archaeological evidence, we will discuss Jewish literature and documentary material from this period, including, the sectarian documents of the Dead Sea Scrolls, the Book of Judith (a Jewish "novel"), the Books of Daniel and the Maccabees (all of which provide historical information about the Maccabean revolt and rise of the Hasmoneans), and the writings of Josephus (a Jewish writer who witnessed the Roman takeover of Palestine in the first century C.E.). This course will stay within the confines of the ancient evidence and not examine later interpretations when analyzing each historical period; it will begin with Ptolemaic control of the region and conclude with the Bar Kokhba revolt, its aftermath, and the resilience of Jewish populations in northern Palestine. Topics that will be examined in depth are messianism and apocalypticism, the Jerusalem Temple, Jewish ancestral traditions (which include "biblical" literature), and theoretical models used by scholars to analyze power relationships in antiquity.

RELS 3520. History of the Holocaust. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Study of 1933-1945 extermination of six million Jews and others by Nazi Germany on basis of

race. European anti-Semitism. Implications of social Darwinism and race theory. Perpetrators, victims, onlookers, resistance. Theological responses of Jews and Christians.

RELS 3535. Death and the Afterlife in the Ancient World. (AH; 3 cr. ; Student Option; Fall Odd Year)

Beliefs, attitudes, and behaviors related to death and afterlife found in cultures of ancient Mediterranean and Near East. Literature, funerary art/epitaphs. Archaeological evidence for burial practices and care of dead.

RELS 3543. Pagans, Christians, Barbarians: The World of Late Antiquity. (GP,HIS; 3 cr. ; A-F or Audit; Fall Odd Year)

Between classical and medieval, pagan and Christian, Roman and barbarian, the late antique world was a dynamic age. This course focuses on the Mediterranean region from the 2nd to the mid-7th century exploring such topics as the conversion of Constantine, the fall of Rome, barbarian invasions, the spread of Christianity, and the rise of Islam.

RELS 3544W. Martyrs, Monks, Crusaders: World Christianity, 100-1400. (GP,WI,HIS; 4 cr. ; Student Option; Fall Odd, Spring Even Year)

This course surveys the history of Christianity from its status as a persecuted minority religion of the Roman Empire to its dominant role in medieval Europe and Byzantium. We study Christian traditions in Asia and Africa as well as Europe with special attention to the relationship between Christianity and culture in the ancient and medieval world.

RELS 3609. Medieval Art. (AH; 3 cr. ; Student Option; Every Fall & Spring)

Medieval art in Western Europe, from around 1000 to the mid-14th century. Works from France, Spain, Germany, Italy, and England examined in their historical context. Cross cultural relations, development of completely new forms of art and techniques, and the processes of realization.

RELS 3611. Eastern Orthodoxy: History and Culture. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Development of orthodox church in Byzantium, Islamic Near East, Slavic world, and diaspora. Impact of orthodoxy on political/cultural institutions. Interaction with other Christian/non-Christian communities. Orthodox spirituality/aesthetics.

RELS 3612. Baroque Rome: Art and Politics in the Papal Capital. (HIS; 3 cr. ; Student Option; Fall Even Year)

Center of baroque culture--Rome--as city of spectacle and pageantry. Urban development. Major works in painting, sculpture, and architecture. Ecclesiastical/private patrons who transformed Rome into one of the world's great capitals.

RELS 3622. Religious Encounters in Early America. (; 3 cr. ; Student Option; Periodic Fall & Spring)

The United States is home to an astonishing array of religious beliefs and institutions, yet mutual toleration has historically been harder

to achieve. This upper-level course, which is run as a discussion seminar, uses case studies to investigate how people of differing faiths perceived, reacted to, and changed each other, between the arrival of Jesuits and Puritans in the early 17th century and the US-Dakota War of 1862. People who hailed from North America, Europe, and Africa had divergent ideas about the divine and its presence on Earth, about life and life after death, about religious rituals and relations of authority. Their struggles with one another were partly struggles over religiously inflected ways of being in the world. The course explores how religion shaped people's responses to European colonization, the growing slave-labor system, industrialization, immigration, and westward expansion. A religious lens onto American history reveals religion as an element of struggle and shows that freedom of conscience has been continually contested rather than easily assured. prereq: Non-fr or instr consent

RELS 3623. Religion and the American Culture Wars. (HIS; 3 cr. ; Student Option; Every Fall)

Thomas Jefferson, Benjamin Franklin, James Madison, Thomas Paine, George Washington, and John Adams on religion, faith, and religion in politics. Deism. Enlightenment-era discussions about rational religion. Rise of evangelicalism. Separation of church/state, framers' original intent for first amendment. Religious Right.

RELS 3623H. Religion and the American Culture Wars. (; 3 cr. ; A-F only; Every Fall)

Thomas Jefferson, Benjamin Franklin, James Madison, Thomas Paine, George Washington, and John Adams on religion, faith, and religion in politics. Deism. Enlightenment-era discussions about rational religion. Rise of evangelicalism. Separation of church/state, framers' original intent for first amendment. Religious Right.

RELS 3624. Atheists as "Other": Religious and Nonreligious Outsiders in the US. (DSJ; 3 cr. ; Student Option; Periodic Spring)

What does it mean to be an atheist in the United States today? Atheists comprise a small percentage of the American population, but one with an increasingly visible presence in popular culture, political discourse, & everyday life. How do atheists organize into groups oriented toward identity-formation, social connection, and political action? prereq: 1001 recommended

RELS 3625. Magic and Medicine. (3 cr. ; Student Option; Spring Odd Year)

Course examines how the line between magic and medicine has changed over time. From accusations of witchcraft to proclamations of scientific breakthrough, we will examine the relationship between the supernatural and the natural from the early modern period to today. Specific topics include the practice of exorcism, the concept of the "four humors," the persecution of witches, the development of "voodoo," the effectiveness of placebos, and the professionalization of medicine. Throughout, we will ask how gender, class, and

race have affected the construction of "magic" and "medicine."

RELS 3626W. Witches, Seers, and Saints: Women, Gender, and Religion in the U.S.. (WI; 3 cr. ; Student Option; Periodic Fall & Spring)

This course examines the development and ramifications of gender ideologies within several religious groups in North America from the colonial period to the present and explores women's strategies that have contributed to and resisted these ideologies.

RELS 3627. The End of the World in Literature and History. (HIS; 3 cr. ; Student Option; Periodic Fall & Spring)

For at least two and a half millennia, prophets, politicians, and poets have crafted terrifying accounts about the end of the world. This comparatist seminar examines the way different cultures have imagined a final apocalypse with particular attention to the political and social consequences of their visions. Students will read texts that focus on pandemic, extraterrestrial attack, nuclear holocaust, prophecy, cybernetic revolt, divine judgment, resource depletion, meteoric impact, or one of the many other ways in which humans write of their demise. They will use literary analysis to explore the many historical and contemporary wastelands they will encounter. They will write short papers and give in-class presentations on different kinds of apocalypse.

RELS 3628. Jewish American Literature: Religion, Culture, and the Immigrant Experience. (DSJ,HIS; 3 cr. ; Student Option; Every Spring)

Immigrant? Jewish? American? What do these labels mean, why are they applied, and do they ever cease to be applicable? Can we distinguish religion from culture, and what are the implications when we try? Why is it frequently asked whether Saul Bellow was really? a Jewish writer, but it is impossible to read Philip Roth as anything other than that? How does Grace Paley's Jewishness? come through even when she is writing about non-Jewish characters? We will address these issues and others as we explore the literature growing out of the Jewish immigrant experience in America, as well as the literature by Jewish writers more firmly, though still sometimes anxiously, rooted in American soil. In this course we will engage in a highly contextualized and historicized study of Jewish American literature from the 19th century to today. We will discover in these texts how inherited Jewish culture and literary imaginings, developed over centuries of interaction between Jewish communities and the "outside world," get reexamined, questioned, rejected, reimagined, reintegrated, and transformed within the crucible of American experience. The discussions that ensue will also provide a framework for engaging with the creative energies and cultural productivity of more recent immigrant communities in the United States and beyond. Immigration and the experience of immigrant communities continues to be at the forefront of American consciousness, as immigrants work to create

new meanings and new narratives for their lives, and as those who immigrated before them provide contested meanings for the impact of immigration on their own narratives. This course, though grounded in Jewish narratives, will therefore provide students with an expanded vocabulary and perspective for engaging in this central and very current debate within the American experience.

RELS 3631. Islam in America: A History of the Present. (3 cr. ; A-F or Audit; Periodic Fall & Summer)

From the "Age of Discovery" and the African slave trade, to Malcolm X and the War on Terror, Islam has long been an integral part of the American landscape. In this course students will examine the history of Islam and social formation of Muslim communities in the United States. We will approach this history in the plural: as histories of Islam in America, paying particular attention to the different local and global dynamics that led to the migration of this racially, ethnically, and class variegated community. This course will explore how racial, national, cultural, and sectarian differences within and between Muslim communities shape and challenge the notion of a singular Islam or Muslim community. We will ask how and why Islam and Muslims have been characterized - both historically and today - as a "problem" in/for America. What does the emergence of terminology like "American Muslim" and "American Islam" tell us about these historical tensions, conceptions of good/bad citizenship, and identity politics more broadly, in the United States today?

RELS 3671. Hinduism. (3 cr. ; Student Option; Periodic Fall & Spring)

Development of Hinduism focusing on sectarian trends, modern religious practices, myths/rituals, pilgrimage patterns/ religious festivals. Interrelationship between Indian social structure/Hinduism.

RELS 3679. Religion and Society in Modern South Asia. (AH,GP; 3 cr. ; A-F only; Periodic Fall & Spring)

Survey of religious formations in premodern India (Hindu, Islamic, Sikh). Transformation of religious practice/thought. Religion and nationalism. Geopolitical dimensions of religious transformation in South Asia.

RELS 3704. Exploring the Quran: An intellectual odyssey with Islam's holy scripture. (AH; 3 cr. ; A-F or Audit; Every Spring)

This course explores the contents of the Quran and probes its place in the history of human civilization. Students will learn about, and critically reflect on, the following subjects: 1) the Quran's core ideas, stories, laws, parables, and arguments, 2) the historical context in which the Quran was first promulgated and codified, 3) the relationship between the Quran and the preceding literary traditions of the ancient world, in particular, the Bible and post-biblical Jewish and Christian writings, 4) Muslim utilization of the Quran towards intellectual, social, religious, cultural, and political ends, and 5) the pre-modern and modern scholarly traditions of interpreting the Quran.

RELS 3706W. Art of Islam. (AH,WI,GP; 3 cr. ; Student Option; Every Fall)

Architecture, painting, and other arts from Islam's origins to the 20th century. Cultural and political settings as well as themes that unify the diverse artistic styles of Islamic art will be considered.

RELS 3707W. Anthropology of the Middle East. (GP,WI,SOCS; 3 cr. ; Student Option; Fall Even Year)

Anthropological field methods of analyzing/interpreting Middle Eastern cultures/societies.

RELS 3708. The Cultures of the Silk Road.

(3 cr. ; Student Option; Every Fall & Spring) Past/present state of cultures that flourished in Central Asia (present-day CA republics, Iran, Afghanistan) after Alexander the Great. Decline with opening of sea routes.

RELS 3711. The Islamic World. (GP,SOCS; 3 cr. ; Student Option; Every Fall)

Foundation of Islam in Arabian Peninsula, its spread to Asia and Africa. Islamic civilization, influence on Europe. Rise of capitalism, colonization. Islamic resurgence. State-society and development. Culture/conflict in Moslem societies. Gender and Islam. Islam and the West. Case studies.

RELS 3712. Islam: Religion and Culture. (; 3 cr. ; Student Option; Every Fall)

This course is a brief survey of the religion and civilization of Islam. It introduces students to 1) Islamic history from its inception in the seventh century CE to the present, with emphasis on the life of the Prophet Muhammad and the early Caliphate; 2) The authoritative texts of Islam, i.e. the Quran and Prophetic traditions (Hadith); 3) The institutions and discourses characteristic of Islamic civilization; and 4) The transformation of Muslim life and thought in the modern period. By taking this course, students become familiar with the chief ideas, characters, narratives, rites, localities, and movements associated with Islam. prereq: Soph or jr or sr

RELS 3714. Islam and the West. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Cultural/intellectual trends that have defined differences between Islam and the West. Development of historical, philosophical, and intellectual mindset of both spheres. Factors in tension, anxiety, and hatred between Muslim world and Europe and the United States.

RELS 3715. History of the Crusades.

(GP,HIS; 3 cr. ; Student Option; Every Fall, Spring & Summer) Crusading spirit in Europe. Results of classic medieval crusades ca 1095-1285. States established by crusaders in Near East. Internal European crusades. Chronological prolongation of crusading phenomenon.

RELS 3716. Gender and the Family in the Islamic World. (; 3 cr. ; A-F only; Periodic Spring)

This course explores the experiences of Muslim women and Muslim families from a historical and comparative perspective. Expanding the discussion on Muslim women's lives and experiences beyond the Middle East, by also centralizing on the experiences

of Muslim women and families outside of this geographical area highlights the complex and diverse everyday experiences of Muslim women around the world. This wider lens exposes the limitations intrinsic in the stereotypical representation of Muslims in general and Muslim women in particular. We will explore the intricate web of gender and family power relations, and how these are contested and negotiated in these societies. Some of the themes the course explores include the debates on Muslim women and colonial representations, sexual politics, family, education and health, women and paid work, gender and human rights, and Islamic feminisms debates. prereq: At least soph; 1001 recommended

RELS 3717. Christians, Muslims, and Jews in the Middle Ages. (GP,HIS; 3 cr. ; Student Option; Fall Even, Spring Odd Year)

A Pew Research survey of the global religious landscape in 2010 found 2.2 billion Christians (31.5% of the world's population), 1.6 billion Muslims (23.2%), and 14 million Jews (.2%). In this class, we explore how the histories of these religious communities became deeply entangled in an age of diplomacy, trade, jihad, and crusade.

RELS 3718W. Christ in Islamic Thought.

(WI; 3 cr. ; Student Option; Periodic Spring) Course examines the history of the figure of Christ in Islamic thought, from the beginnings of Islam in the Qur'an and the Hadith to the recent 2013 book by Reza Aslan, *Zealot*. The course is based on close reading of primary sources from regions extending from Spain to Iran, and in various languages (in translation): Arabic, Greek, French, Farsi, and Italian. Course demonstrates how much the interpretation of the figure of Christ in Islamic thought belonged to specific historical contexts.

RELS 3721. North Africa since 1500: Islam, Colonialism, and Independence. (3 cr. ; Student Option; Spring Odd Year)

History of Maghrib (Morocco, Algeria, Tunisia, Libya, disputed territories of Western Sahara) from time of Ottoman expansion/Sharifian dynasties (Sa'dian/Alawid) in 16th/17th Centuries to end of 20th century. Focus on encounter of Islamic cultures/societies of Maghrib with Africa/Europe.

RELS 3722. The Ottoman Empire. (GP,HIS; 3 cr. ; Student Option; Every Fall & Spring)

Survey of Islam's most successful empire, from its founding circa 1300 to its demise in 1923. Lands, institutions, peoples, historical legacy.

RELS 3777. The Diversity of Traditions: Indian Empires after 1200. (3 cr. ; Student Option; Periodic Fall & Spring)

This class considers the development of Indian and Pakistani art and architecture from the introduction of Islam as a major political power at the end of the 12th century to the colonial empires of the 18th century. We will study how South Asia's diverse ethnic and religious communities interacted, observing how visual and material cultures reflect differences, adaptations, and shared aesthetic practices within this diversity of

traditions. Students in this class will have mastered a body of knowledge about Indian art and probed multiple modes of inquiry. We will explore how Muslim rulers brought new traditions yet maintained many older ones making, for example, the first mosque in India that combines Muslim and Indic visual idioms. We will study the developments leading to magnificent structures, such as the Taj Mahal, asking why such a structure could be built when Islam discourages monumental mausolea. In what ways the schools of painting that are the products of both Muslim and Hindu rulers different and similar? The course will also consider artistic production in the important Hindu kingdoms that ruled India concurrently with the great Muslim powers. In the 18th century, colonialist forces enter the subcontinent, resulting in significant innovative artistic trends. Among questions we will ask is how did these kingdoms influence one another? Throughout we will probe which forms and ideas seem to be inherently Indian, asking which ones transcend dynastic, geographic and religious differences and which forms and ideas are consistent throughout these periods of political and ideological change. To do all this we must constantly consider how South Asia's diverse ethnic and religious communities interact. There are no prerequisites for this course.

RELS 3779. Visions of Paradise: The Indian Temple. (3 cr. ; Student Option; Periodic Fall & Spring)

This course traces the development and diversity of the Indian temple, focusing the ways in which people interact with sacred space and how religious art addresses its viewers. We primarily focus on Hinduism, but also include Buddhism and Jainism. We will discuss the role of sculpture, painting, textiles, dance, and food within the temple. We will also examine how the legacy of colonial and orientalist scholarship inflects our study of these traditions and monuments. Although the architecture of both structural and rock-cut temples will be our main object of study, we will also discuss the role of sculpture, painting, textiles, and food within the temple. Our consideration of the structures will be attentive to the ways in which people interact with the space and how objects of sacred art address their viewers. In classroom discussions, we will work together to create an interpretive model that is synthetic, critical, and appreciative of the enormously diverse field that is South Asian Art. Lectures will move from explanatory descriptions of objects and histories that are covered in the textbook to critical interpretations of the historiographies that shape their contemporary reception. Class discussions and assignments are intended to encourage students to bring their own ways of looking at this art, to read critically in light of what they see, and to consider new approaches to the material. No prior experience in the history of art or religions of South Asia is required for this course.

RELS 3896. Internship in Religion, Society, and Culture. (; 1-4 cr. [max 20 cr.] ; Student Option; Every Fall & Spring)

Guided academic and vocational reflection on an internship supervised by a religious studies faculty member. Intended to support an applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals which are related to the academic study of religion, society, and culture. A student may only earn credit for a given internship through one course at a time.

RELS 3993. Directed Studies. (; 1-4 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)

Student works with faculty on a subject decided upon by both.

RELS 4309. Religion in American Public Life: Culture, Politics, and Communities. (CIV; 3 cr.; A-F or Audit; Periodic Fall & Spring)

How diversity/vitality of American religion shape public life. How religious groups engage in political action, foster understandings of democracy/styles of civic participation. Volunteering/service activities. Race, poverty, the family, sexuality. prereq: Soc majors/minors must register A-F

RELS 4993. Capstone: Directed Study. (1-4 cr.; Student Option; Every Fall & Spring)

This Directed Study is an independent research project developed and completed by the student in consultation with a faculty member of their choice who serves as the capstone project advisor and project evaluator. The Capstone should be a culminating project of the student's learning in Religious Studies, focused on a topic related to the Area Concentration section of the student's individual major program. Students enrolling in this directed study/research course will complete the University's Directed Study/Research contract with the faculty mentor/evaluator. The mentor/evaluator should have expertise in the chosen topic area and will ensure that academic standards are upheld, that the research proposed is at the appropriate level for the course and academic in nature, that the project is developed and executed by the student, and that the project scope is reasonable for one semester. Students should expect to devote 42 hours of work per credit to the project. The faculty mentor/evaluator will consult regularly with the student and

RELS 5001. Theory and Method in the Study of Religion: Critical Approaches to the Study of Religion. (; 3 cr.; Student Option; Every Spring)

Theoretical/methodological issues in academic study of religion. Theories of origin, character, and function of religion as a human phenomenon. Psychological, sociological, anthropological, and phenomenological perspectives. prereq: Sr or grad student or instr consent

RELS 5013W. Biblical Law and Jewish Ethics. (WI; 3 cr.; Student Option; Periodic Fall & Spring)

This course introduces students to the original meaning and significance of religious law and ethics within Judaism. Law is the single most important part of Jewish history and identity. At

the same time, law is also the least understood part of Judaism and has often been the source of criticism and hatred. We shall therefore confront one of the most important parts of Jewish civilization and seek to understand it on its own terms. In demonstrating how law becomes a fundamental religious and ethical ideal, the course will focus on the biblical and Rabbinic periods but spans the entire history of Judaism. Consistent with the First Amendment, the approach taken is secular. There are no prerequisites: the course is open to all qualified students. The course begins with ideas of law in ancient Babylon and then studies the ongoing history of those ideas. The biblical idea that a covenant binds Israel to God, along with its implications for human worth - including the view of woman as person - will be examined. Comparative cultural issues include the reinterpretations of covenant within Christianity and Islam. The course investigates the rabbinic concept of oral law, the use of law to maintain the civil and religious stability of the Jewish people, and the kabbalistic transformation of law. The course concludes with contemporary Jewish thinkers who return to the Bible while seeking to establish a modern system of universal ethics. The premise of the course is the discipline of academic religious studies. The assumptions of the course are therefore academic and secular, as required by the First Amendment. All texts and all religious traditions will be examined analytically and critically. Students are expected to understand and master this approach, which includes questioning conventional cultural assumptions about the composition and authorship of the Bible. Willingness to ask such questions and openness to new ways of thinking are essential to success in the course.

RELS 5071. Greek and Hellenistic Religions. (; 3 cr.; Student Option; Periodic Spring)

Greek religion from Bronze Age to Hellenistic times. Literature, art, archaeology. Homer/Olympian deities. Ritual performance, prayer, sacrifice. Temple architecture. Death/afterlife. Mystery cults. Philosophical religion. Near Eastern salvation religions. Meets with 3071.

RELS 5072. The Birth of Christianity. (AH; 3 cr.; Student Option; Periodic Fall & Spring)

Early Jesus movement in cultural/historical setting. Origins in Judaism. Traditions about Jesus. Apostle Paul, controversies/interpreters. Authority, religious practice, structure. Emergence of canon. Contemporary methods of New Testament study. Biblical writings as history/narrative. CNES 3072/CNES 5072/RELS 3072/RELS 5072 meet together.

RELS 5115. Midrash: Reading and Retelling the Hebrew Bible. (; 3 cr.; Student Option; Periodic Fall & Spring)

How did the Jews of the first seven centuries of the common era read and understand the Hebrew Bible? What were the problems they faced -- interpretive, historical, theological -- in trying to apply their holy scriptures? This course explores key issues that led to the development of a new form of Judaism in late antiquity, rabbinic Judaism, and its methods of scriptural interpretation. The course's

study will focus on the forms and practices of rabbinic scriptural interpretation (midrash) as it developed in Roman Palestine and Sasanian Babylonia, focusing on key narrative and legal passages in the Five Books of Moses (Torah). A main focus of the course will be on the ways the rabbis adapted the Hebrew Bible to express their own core concerns.

RELS 5121. Gender and Body in Early Christianity. (AH; 3 cr.; Student Option; Fall Odd Year)

Ancient Christians, like any other social group in the ancient world, represented themselves through images, stories, and discourses using the cultural tools available to them in their own contexts. In this course, we will explore two key texts of early Christianity (1 Corinthians and the Gospel of Mark) with special attention to how representations of the body and gender served to communicate the nature of what it meant to be Christian for these authors. The study of ancient material offers a space to acquire the skills of critical analysis of body and gender dynamics so that we can better understand the roles that the body and gender play in shaping our self-identity, social interaction, and societal structures.

RELS 5204. The Dead Sea Scrolls. (; 3 cr.; Student Option; Periodic Fall & Spring)

Introduction to Dead Sea Scrolls and Qumran. Contents of Dead Sea Scrolls, significance for development of Bible. Background of Judaism and Christianity. Archaeological site of Qumran. The course will focus on the material in translation and academic scholarship on the literature and archaeological site. Open to graduate students across the college; knowledge of classical Hebrew will not be required. The course is open to upper level undergraduate students with permission of the instructor.

RELS 5254. Archaeology of Ritual and Religion. (3 cr.; Student Option; Fall Even Year)

The course discusses evidence for the origins of religion and its diverse roles in human societies over millennia. It focuses on how artifacts and architecture are essential to religious experience. It asks: What constitutes religion for different cultures? Why is religion at the heart of politics, social life, and cultural imagination?

RELS 5612. Baroque Rome: Art and Politics in the Papal Capital. (; 3 cr.; Student Option; Fall Even Year)

Center of baroque culture--Rome--as city of spectacle and pageantry. Urban development. Major works in painting, sculpture, and architecture. Ecclesiastical/private patrons who transformed Rome into one of the world's great capitals.

RELS 5707W. Anthropology of the Middle East. (GP,WI,SOCS; 3 cr.; Student Option; Fall Even Year)

Anthropological field methods of analyzing/interpreting Middle Eastern cultures/societies.

RELS 5777. The Diversity of Traditions: Indian Empires after 1200. (3 cr.; Student Option; Periodic Fall & Spring)

This class considers the development of Indian and Pakistani art and architecture from the introduction of Islam as a major political power at the end of the 12th century to the colonial empires of the 18th century. We will study how South Asia's diverse ethnic and religious communities interacted, observing how visual and material cultures reflect differences, adaptations, and shared aesthetic practices within this diversity of traditions. Students in this class will have mastered a body of knowledge about Indian art and probed multiple modes of inquiry. We will explore how Muslim rulers brought new traditions yet maintained many older ones making, for example, the first mosque in India that combines Muslim and Indic visual idioms. We will study the developments leading to magnificent structures, such as the Taj Mahal, asking why such a structure could be built when Islam discourages monumental mausolea. In what ways the schools of painting that are the products of both Muslim and Hindu rulers different and similar? The course will also consider artistic production in the important Hindu kingdoms that ruled India concurrently with the great Muslim powers. In the 18th century, colonialist forces enter the subcontinent, resulting in significant innovative artistic trends. Among questions we will ask is how did these kingdoms influence one another? Throughout we will probe which forms and ideas seem to be inherently Indian, asking which ones transcend dynastic, geographic and religious differences and which forms and ideas are consistent throughout these periods of political and ideological change. To do all this we must constantly consider how South Asia's diverse ethnic and religious communities interact.

RELS 5781. Age of Empire: The Mughals, Safavids, and Ottomans. (3 cr. ; Student Option; Periodic Fall)

Artistic developments under the three most powerful Islamic empires of the 16th through 19th centuries: Ottomans of Turkey; Safavids of Iran; Mughals of India. Roles of religion and state will be considered to understand their artistic production.

RELS 5993. Directed Studies. (; 1-4 cr. [max 24 cr.] ; Student Option; Every Fall & Spring) TBD prereq: instr consent

Retail Merchandising (RM)

RM 1201. Fashion, Ethics, and Consumption. (CIV; 3 cr. ; Student Option; Every Fall & Spring)

Apparel business. Overview of steps in the process of creating, merchandising, selling, and consuming apparel. Various ethical positions reflected in manufacturer, retailer, and consumer decision making are considered.

RM 2196. Work Experience in Retail Merchandising. (; 1-4 cr. [max 8 cr.] ; S-N only; Every Fall, Spring & Summer)

Supervised work experience in business, industry, or government, related to student's area of study. Integrative paper or project. prereq: Plan submitted/approved by [adviser,

internship supervisor], written approval of supervisor, instr consent

RM 2215. Introduction to Retail Merchandising. (; 3 cr. ; A-F or Audit; Every Spring)

Overview of retailing management. Aspects of retailing management in global, multi-channel retail environment. Strategies/tactics to make decisions to operate retail business. Retail management principles covered.

RM 2234. Retailing in a Digital Age. (TS; 3 cr. ; A-F only; Every Spring)

Students will explore and evaluate the impact of emergence of retail technology on the retail industry and consumers as well as on the society at large. Changes in the retail business and consumer behaviors will be examined in relation to emerging technologies. Both benefits and concerns related to digital retailing will be discussed.

RM 3124. Consumers of Design. (3 cr. ; A-F only; Every Fall & Spring)

Contemporary approaches to consumer behavior. prereq: retail merchandising major or minor

RM 3170. Topics in Retail Merchandising. (; 1-4 cr. [max 16 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

In-depth investigation of specific topic.

RM 3196. Field Study: National or International. (; 1-4 cr. [max 10 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Faculty-directed field study in national or international setting. prereq: instr consent

RM 3201. Career and Internship Preparation for Retail Merchandising. (; 1 cr. ; A-F only; Every Fall & Spring)

Research career opportunities related to retail industry, set career objectives based on an assessment of individual skills/interests, and identify job search skills to implement a transition from college to employment. prereq: Retail merchandising major

RM 3242. Retail Buying. (; 3 cr. ; A-F or Audit; Every Fall)

Principles/mathematics of merchandise inventory control, merchandise selection. prereq: [2215 or DHA 2215], [MATH 1031 or MATH 1051 or MATH 1142 or MATH 1151 or MATH 1155 or MATH 1271 or CALG student group], [jr or sr], retail merchandising [major or minor] or instr consent

RM 3243. Visual Merchandising. (2 cr. [max 3 cr.] ; A-F or Audit; Every Spring)

Retail store environment. Physical/psychological effects that initiate/motivate consumer behavior. Merchandise display: creativity, department layout, fixturing, lighting, cross merchandising, visual resources, signing, maintenance. prereq: 2215, [DHA major or minor or instr consent]

RM 3244. Virtual Reality Retailing. (; 2 cr. ; A-F only; Every Fall & Spring)

Students will use a virtual 3D store modeling software package, to conceptualize and design store interior, layout, fixtures, lighting, signs, merchandising planograms based on

an understanding of visual merchandising foundational knowledge.

RM 4117W. Retail Environments and Human Behavior. (WI; 3 cr. ; A-F only; Every Spring)

Theory/research related to designed environments across retail channels. prereq: 2215 or DHA 2215, [jr or sr or grad student], [design major or minor or instr consent]

RM 4123. Living in a Consumer Society. (; 3 cr. ; A-F only; Fall Odd Year)

Consumerism within U.S. society. Commodification of health care, education, and production of news. Commercialization of public space/culture. What drives consumer society. How meaning is manufactured. What the lived experiences are of consumers today. Postmodern market. Alternatives to consumer society. prereq: Sr, retail merchandising major or minor

RM 4193. Directed Study in Retail Merchandising. (; 1-4 cr. [max 8 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Independent study in retail merchandising under tutorial guidance. prereq: Undergrad, instr consent

RM 4196. Internship in Retail Merchandising. (1-2 cr. ; S-N only; Every Fall, Spring & Summer)

Supervised work experience relating activity in business, industry, or government to student's area of study. Integrative paper or project may be required. prereq: Completion of at least one-half of professional sequence, plan submitted/approved in advance by [adviser, internship supervisor], written consent of faculty supervisor, instr consent

RM 4212W. Dress, Society, and Culture. (WI; 3 cr. ; A-F or Audit; Every Fall)

Contemporary dress from diverse cultures within/outside USA analyzed using social science concepts. Dress as nonverbal communication system. prereq: [Jr or sr or grad student], [design major or minor or instr consent]

RM 4216. Retail Promotions. (3 cr. [max 4 cr.] ; A-F or Audit; Every Fall)

Role of integrated marketing communications in retail businesses. Promotion techniques/media characteristics. Application of theories behind consumer decision making. prereq: 2215, [jr or sr or grad student], [DHA major or minor or instr consent]

RM 4217. International Retail Markets. (GP; 3 cr. ; A-F or Audit; Every Spring)

Operating a retail business in foreign countries. How international markets differ from U.S. market. Effects of sociocultural systems within foreign countries. Theories of international trade. Interface between countries and firms. Strategic alternatives. prereq: 2215 or DHA 2215, [jr or sr or grad student], [DHA major or minor or instr consent]

RM 4234. Digital Retail Analytics and Social Media. (3 cr. ; A-F only; Every Fall)

In this digital era, a large volume of digital footprints of users is being generated. The characteristics of users and their behaviors are

tracked through various digital media such as websites, social media, and mobile platforms. Using quantitative methods to measure and analyze this "big data" has become crucial as it allows retailers and marketers to make informed decisions concerning consumer behavior. This course is designed to prepare students to become leaders in the digital retail world by leveraging various digital metrics and insights related to sales, reach, customers, and other important aspects of the retailer's decision-making process. The course will consist of lectures, hands-on exercises, discussion, and quizzes.

RM 4247. Advanced Buying and Sourcing. (3 cr. ; A-F or Audit; Every Spring)

Technology application for buying/sourcing. Six-month dollar merchandise planning, assortment planning, market purchase and sales promotions planning, inventory management, costing, markdowns, timing, and sourcing. prereq: RM 2215, RM 3242, [DHA major or minor or instr consent]

RM 4248. Creative Leadership in Retailing. (3 cr. ; A-F only; Every Fall)

Theory/research on creative leadership. Opportunities to apply knowledge to contemporary issues facing practicing retail leaders.

Robotics (ROB)

ROB 5994. Directed Research. (1-3 cr. [max 9 cr.] ; A-F only; Every Fall, Spring & Summer) Directed research arranged with faculty member.

ROB 5996. Curricular Practical Training. (1-2 cr. [max 3 cr.] ; S-N only; Every Fall, Spring & Summer)

Industrial work assignment involving advanced computer technology. Reviewed by a faculty member. Grade based on a final report covering work assignment. prereq: robotics major, instr consent

Russian (RUSS)

RUSS 1101. Beginning Russian I. (5 cr. ; Student Option; Every Fall) Listening, speaking, reading, writing.

RUSS 1102. Beginning Russian II. (5 cr. ; Student Option; Every Spring) Listening, speaking, reading, writing. prereq: 1101 or equiv

RUSS 3001. Intermediate Russian I. (5 cr. ; Student Option; Every Fall) Conversation, composition, grammar review, translation, readings in literature. prereq: 1102 or instr consent

RUSS 3002. Intermediate Russian II. (5 cr. ; Student Option; Every Spring) Expansion of experience in speaking, reading, and understanding Russian. Reading contemporary texts. prereq: 3001 or instr consent

RUSS 3101. Advanced Russian I. (4 cr. ; Student Option; Every Fall)

Advanced grammar, conversation, composition, reading. prereq: 3002 or 4104 or instr consent

RUSS 3102. Advanced Russian II. (4 cr. ; Student Option; Every Spring) Advanced grammar, conversation, composition, reading. prereq: 3101 or 4111 or instr consent

RUSS 3105. Russian Poetry and Prose. (3 cr. ; Student Option; Periodic Fall) Appreciation of literary values through stylistic analysis and literary interpretation; analysis of humanistic elements. Readings in Russian. prereq: Russ 3102 or concurrent enrollment in Russ 3102 or permission

RUSS 3311V. Honors Major Project in Russian. (WI; 3-4 cr. ; A-F only; Every Fall & Spring)

Directed research/writing in student's chosen field. prereq: Advanced Russian major

RUSS 3311W. Russian Major Project. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring) Directed research and writing in student's chosen field. prereq: Advanced Russian major

RUSS 3404. Tolstoy in Translation. (GP,LITR; 3 cr. ; Student Option; Spring Odd Year) Novels, stories, and philosophical writings of Leo Tolstoy.

RUSS 3411. Dostoevsky in Translation. (GP,LITR; 3 cr. ; Student Option; Spring Even Year) Novels, stories, and miscellaneous writings of Fyodor Dostoevsky.

RUSS 3421. Literature: Middle Ages to Dostoevsky in Translation. (LITR; 3 cr. ; Student Option; Every Fall) Russian literature from about 1000 A.D. to mid-19th century; emphasizing writers of the first half of the 19th century.

RUSS 3422. Literature: Tolstoy to the Present in Translation. (LITR; 3 cr. ; Student Option; Every Spring) Survey of Russian literature from mid-19th century to the present: realism, modernism, feminism and other trends.

RUSS 3512. Russian Art and Culture. (AH,GP; 3 cr. ; Student Option; Fall Odd Year) Major trends in Russian visual arts in context of social, political, and ideological questions.

RUSS 3604. Russia At The Movies: A Survey Of The History Of Russian Cinema. (AH; 3 cr. ; Student Option; Every Spring) This course is designed to provide a chronological overview of major developments, trends, experiments, searches, traditions, and conventions of Russian cinematic art examined in the context of the historical and cultural background of the 20th and early 21st centuries. The history of cinema is intrinsically connected to political, historical, cultural and social developments. For each epoch of development we will first outline the historical and cultural context before investigating the major films and themes of the period. We will elaborate on those films that have made

an important contribution to cinematic or cultural history, both in Russia and the world. RUSS 3604/5604 meets the Liberal Education core requirement in Arts and Humanities. Through a close study of film we learn about how this art medium reflects and expresses human experience and engages us through the exploration of the formal and aesthetic dimensions of film, as well as the study of cultural, social, and historical background in which it is deeply steeped.

RUSS 3900. Topics in Russian Language, Literature, and Culture. (1-4 cr. [max 16 cr.] ; Student Option; Periodic Fall & Spring) Variable topics in Russian language, literature, and culture. Consult department for details. prereq: 1102 for language topics

RUSS 3993. Directed Studies. (1-4 cr. [max 16 cr.] ; Student Option; Every Fall & Spring) Guided individual study. Prereq instr consent, dept consent, college consent.

RUSS 4101. Beginning Russian for Graduate Research I. (5 cr. ; Student Option; Every Fall) Listening, speaking, reading, writing.

RUSS 4102. Beginning Russian for Graduate Research II. (5 cr. ; Student Option; Every Spring) Listening, speaking, reading, writing. prereq: 4101

RUSS 4103. Intermediate Russian for Graduate Research I. (5 cr. ; Student Option; Every Fall) Conversation, composition, grammar review, translation, readings in literature. prereq: 4102

RUSS 4104. Intermediate Russian II. (5 cr. ; Student Option; Every Spring) Speaking, reading, and understanding Russian. Reading contemporary texts. prereq: 4103

RUSS 4111. Advanced Russian for Graduate Research I. (4 cr. ; Student Option; Every Fall) Advanced grammar, conversation, composition, reading. prereq: 3002 or 4104 or instr consent

RUSS 4112. Advanced Russian for Graduate Research II. (4 cr. ; Student Option; Every Spring) Advanced grammar, conversation, composition, reading. prereq: 3101 or 4111 or instr consent

RUSS 5404. Tolstoy in Translation. (GP,LITR; 3 cr. ; Student Option; Spring Even Year) Novels, stories, and philosophical writings of Leo Tolstoy.

RUSS 5411. Dostoevsky in Translation. (GP,LITR; 3 cr. ; Student Option; Spring Even Year) Novels, stories, and other writings of Fyodor Dostoevsky.

RUSS 5421. Literature: Middle Ages to Dostoevsky in Translation. (LITR; 3 cr. ; Student Option; Every Fall) Russian literature from about 1000 A.D. to mid-19th century; emphasizing writers of the first half of the 19th century.

RUSS 5422. Literature: Tolstoy to the Present in Translation. (LITR; 3 cr. ; Student Option; Every Spring)
Survey of Russian literature from mid-19th century to the present: realism, modernism, feminism and other trends.

RUSS 5604. Russia At The Movies: A Survey Of The History Of Russian Cinema. (AH; 3 cr. ; Student Option; Every Spring)
This course is designed to provide a chronological overview of major developments, trends, experiments, searches, traditions, and conventions of Russian cinematic art examined in the context of the historical and cultural background of the 20th and early 21st centuries. The history of cinema is intrinsically connected to political, historical, cultural and social developments. For each epoch of development we will first outline the historical and cultural context before investigating the major films and themes of the period. We will elaborate on those films that have made an important contribution to cinematic or cultural history, both in Russia and the world. RUSS 3604/5604 meets the Liberal Education core requirement in Arts and Humanities. Through a close study of film we learn about how this art medium reflects and expresses human experience and engages us through the exploration of the formal and aesthetic dimensions of film, as well as the study of cultural, social, and historical background in which it is deeply steeped.

RUSS 5900. Topics in Russian Language, Literature, and Culture. (; 1-4 cr. [max 3 cr.] ; Student Option; Periodic Fall)
Variable topics in Russian language, literature, and culture. prereq: 1102 for language topics

RUSS 5993. Directed Studies. (1-4 cr. [max 16 cr.] ; Student Option; Every Fall & Spring)
Guided individual study. Prereq instr consent, dept consent, college consent.

Scandinavian (SCAN)

SCAN 3011W. Readings in Scandinavian Languages. (WI; 4 cr. ; Student Option; Every Fall)
Reading/composition in Danish, Norwegian, and Swedish for advanced proficiency. Introduction to differences between the three languages. prereq: [Dan or Nor or Swed][1004 or 4004] or instr consent

SCAN 3013. Advanced Scandinavian Languages: Contemporary Scandinavia in Prose, Poetry, and Film. (3 cr. ; Student Option; Every Spring)
Scandinavia of today is a progressive and multi-cultural society as opposed to a hundred years ago. Through prose, poetry, and film, we will explore Scandinavia of today and the changes it has gone through. The purpose of Scan 3013W is to help you gain more advanced knowledge of speaking, reading, and writing skills in your primary Scandinavian language and to build a more advanced reading knowledge of the other Scandinavian languages. The course build on Scan 3011W, through the reading, screening, and analysis

of various texts in Swedish, Norwegian and Danish, both as a whole class and in smaller groups. The class explores multi-ethnic and multicultural identity, childhood, globalization, crime fiction, news events of the moment, culture and society in contemporary Scandinavia through a variety of media. Students will actively take part in discussion and give oral presentations in addition to writing papers.

SCAN 3501W. Scandinavian Culture Past and Present. (GP,WI; 3 cr. ; Student Option; Fall Even, Spring Odd Year)
Cultural, social, and political developments; principal views and core values; major cultural figures; Scandinavian mentality. Readings in translation for nonmajors. Invited lectures on central topics within selected areas of study.

SCAN 3502. Scandinavian Myths. (GP,LITR; 3 cr. ; Student Option; Fall Odd, Spring Even Year)
Literary and cultural investigation of the popular beliefs, myths, and religion of the medieval Scandinavians; the interaction of paganism and Christianity; the reflection of myths in Old Scandinavian literature and art. All readings in English.

SCAN 3503. Scandinavian Folklore. (GP,LITR; 3 cr. ; Student Option; Fall Odd, Spring Even Year)
Literary and folkloric investigation of Scandinavian folktales and legends. Readings in translation for nonmajors.

SCAN 3504. Emigration, Immigration, Integration: The Nordic Experience. (GP,HIS; 3 cr. ; Student Option; Every Fall & Spring)
Issues of origin/language, immigration/settlement, traditions/values, culture/politics, and transgressions of boundaries from the old to the new studied through photos, diaries, letters, stories, and novels by Moberg, Rolvaag, Ager, and other pioneers. All readings in translation.

SCAN 3505. Scandinavian Fiction From 1890 to Present. (LITR; 3 cr. ; Student Option; Fall Odd, Spring Even Year)
Modernity's search for new forms to represent changing historical situations. Ibsen, Strindberg, Hamsun, Selma Lagerlof, Hjalmar Bergman, Paar Lagerkvist, Karen Blixen, Moa Martinson, Tarjei Vesaas, Edith Sodergran, Ingmar Bergman, Lars Gustafsson. All readings in translation.

SCAN 3601. Great Literary Works of Scandinavia. (LITR; 3 cr. ; Student Option; Fall Odd Year)
Major literary works from the Middle Ages to the present. Readings in translation.

SCAN 3602. The Literary Fairy Tale in Scandinavia. (LITR; 3 cr. ; Student Option; Fall Even, Spr & Summer Odd Yr)
Literary fairy tales from Scandinavia, especially Hans Christian Andersen. Readings in translation for non-majors.

SCAN 3604W. Living Pictures: An Introduction to Nordic Cinema. (AH,WI; 3 cr. ; Student Option; Spring Odd Year)

Since the early days of the twentieth century, debates have proliferated in the Nordic countries about film's nature and function, whether as popular entertainment, high art, or a dynamic cultural artifact important in defining national and regional identities. In this course, History of Nordic Cinema, we will survey discrete moments in Nordic film history (viewing films from Denmark, Finland, Iceland, Norway and Sweden) and contextualize them within broader developments in global cinema. Particularly important in this regard will be Nordic Cinema's love-hate relationship with Hollywood and its complicated status as European Cinema. We will begin in the beginning, with examples of Scandinavia's often-underestimated role as an international, artistic, and popular culture powerhouse in the silent era up through WWI. We'll go on to explore Nordic film productions intended mainly for domestic audiences and juxtapose these with the emergence of a compelling modernist, art-house cinema tradition revolving around the international figure of the auteur director, including Ingmar Bergman and later, Aki Kaurismäki. We'll present examples of 60s and 70s political, avant-garde cinema (reverberations of the French Nouvelle Vague); talk about the unique development of state-funded structures for film production in these small countries; and end with a survey of recent Nordic films and movements such as Dogme 95 that illustrates ways in which small national cinemas continue to grapple with new iterations of globalization. In this course, students will be exposed to visual cultures from all five Nordic countries and consider the implications of reading film at regional, national and global levels. In short, Nordic Cinema provides a vital and vibrant case study with which to consider a broad range of issues involving the aesthetics and politics of cinema in the world.

SCAN 3605. The Scandinavian Short Story. (LITR; 3 cr. ; Student Option; Fall Even, Spring Odd Year)
Short stories by important 19th/20th-century authors from five Scandinavian countries. Genre theory/practical criticism. Readings in English for non-majors.

SCAN 3613. Children's Literature in Scandinavia. (LITR; 3 cr. ; Student Option; Fall Even Year)
Analysis and discussion of representative works in Scandinavian children's literature from picture books to young adult books using a variety of critical methods of interpretation. Taught in English.

SCAN 3614. Blood on Snow: Scandinavian Thrillers in Fiction and Film. (GP,LITR; 3 cr. ; Student Option; Periodic Fall & Spring)
Scandinavian crime novels/films against background of peaceful welfare states. Readings in translation for non-majors. Scandinavian majors/minors read excerpts in specific languages.

SCAN 3617. Scandinavian Gothic: Horror and the Uncanny in Nordic Literature and Media. (AH,GP; 3 cr. ; Student Option; Spring Even Year)

Scandinavia is popularly thought of as a bastion of social democracy, gender equality, and sleek modern design. Despite this well-earned reputation for political and aesthetic progressivism, there has also been a significant undercurrent of anti-rationalism and supernatural horror in Nordic culture. In Gothic fiction, the unwelcome appearance of primitive, irrational, and malevolent forces often takes the form of supernatural or monstrous figures?ghosts, vampires, witches, and trolls. As conventions established abroad mingled with a home-grown tradition of social realism, the Scandinavian Gothic became a vehicle for representing marginalized voices and revealing the shortcomings of Nordic societies. We will examine Gothic works of literature, film, television, popular music, and visual art. Through this examination, we will build an analytical vocabulary to formally analyze works of Gothic art in all of these media, and will practice that through in-class discussions as well as formal and informal writing.

SCAN 3634. Scandinavian Women Writers. (GP,LITR; 3 cr. ; Student Option; Spring Odd Year)

Investigation of issues important to women as articulated by Scandinavian women writers. Historical overview of women's writing in Scandinavia and in-depth investigation of texts by contemporary women writers. All readings in translation.

SCAN 3670. Topics in Scandinavian Studies. (; 3 cr. [max 12 cr.]; Student Option; Periodic Fall & Spring)

Topic may focus on a specific author, group of authors, genre, period, or subject matter. Topics specified in Class Schedule. Readings in English for nonmajors. May meet with 5670.

SCAN 3993. Directed Studies. (1-4 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer)

Guided individual reading and study. Prereq instr consent, dept consent, college consent.

SCAN 4011. Readings in Scandinavian Languages. (; 2 cr. ; Student Option; Every Fall)

Meets with 3011W. See 3011W for description. prereq: Grad student

SCAN 5502. The Icelandic Saga. (; 3 cr. ; Student Option;)

Study of the sagas written in 13th-century Iceland. Discussion includes cultural and historical information about medieval Iceland and analysis of a selection of saga texts using contemporary critical approaches. All readings in translation.

SCAN 5604W. Living Pictures: An Introduction to Nordic Cinema. (AH,WI; 3 cr. ; Student Option; Spring Odd Year)

Since the early days of the twentieth century, debates have proliferated in the Nordic countries about film's nature and function, whether as popular entertainment, high art, or a dynamic cultural artifact important in defining national and regional identities. In this course, History of Nordic Cinema, we will survey discrete moments in Nordic film history (viewing films from Denmark, Finland, Iceland,

Norway, and Sweden) and contextualize them within broader developments in global cinema. Particularly important in this regard will be Nordic Cinema's love-hate relationship with Hollywood and its complicated status as European Cinema. We will begin in the beginning, with examples of Scandinavia's often-underestimated role as an international, artistic, and popular culture powerhouse in the silent era up through WWI. We'll go on to explore Nordic film productions intended mainly for domestic audiences and juxtapose these with the emergence of a compelling modernist, art-house cinema tradition revolving around the international figure of the auteur director, including Ingmar Bergman and later, Aki Kaurism?ki. We'll consider examples of 60s and 70s political, avant-garde cinema (reverberations of the French Nouvelle Vague); talk about the unique development of state-funded structures for film production in these small countries; and end with a survey of recent Nordic films and movements such as Dogme 95 that illustrates ways in which small national cinemas continue to grapple with new iterations of globalization. In this course, students will be exposed to visual cultures from all five Nordic countries and consider the implications of reading film at regional, national, and global levels. In short, Nordic Cinema provides a vital and vibrant case study with which to consider a broad range of issues involving the aesthetics and politics of cinema in the world.

SCAN 5605. The Scandinavian Short Story. (LITR; 3 cr. ; Student Option; Fall Even, Spring Odd Year)

Short stories by 19th-20th century authors from all five Scandinavian countries. Genre theory/practical criticism. Readings in English for nonmajors.

SCAN 5614. Blood on Snow: Scandinavian Thrillers in Fiction and Film. (3 cr. ; Student Option; Periodic Fall & Spring)

Scandinavian crime novels/films against background of peaceful welfare states. Readings in translation for non-majors. Scandinavian majors/minors read excerpts in specific languages.

SCAN 5617. Scandinavian Gothic: Horror and the Uncanny in Nordic Literature and Media. (AH,GP; 3 cr. ; Student Option; Spring Even Year)

Scandinavia is popularly thought of as a bastion of social democracy, gender equality, and sleek modern design. Despite this well-earned reputation for political and aesthetic progressivism, there has also been a significant undercurrent of anti-rationalism and supernatural horror in Nordic culture. In Gothic fiction, the unwelcome appearance of primitive, irrational, and malevolent forces often takes the form of supernatural or monstrous figures?ghosts, vampires, witches, and trolls. As conventions established abroad mingled with a home-grown tradition of social realism, the Scandinavian Gothic became a vehicle for representing marginalized voices and revealing the shortcomings of Nordic societies. We will examine Gothic works of literature,

film, television, popular music, and visual art. Through this examination, we will build an analytical vocabulary to formally analyze works of Gothic art in all of these media, and will practice that through in-class discussions as well as formal and informal writing.

SCAN 5634. Scandinavian Women Writers. (GP,LITR; 3 cr. ; Student Option; Fall Even, Spring Odd Year)

Issues important to women as articulated by Scandinavian women writers. Historical overview of women's writing in Scandinavia. In-depth investigation of texts by contemporary women writers. All readings in translation.

SCAN 5670. Topics in Scandinavian Studies. (; 3 cr. [max 12 cr.]; Student Option; Periodic Fall & Spring)

Topic may focus on a specific author, group of authors, genre, period, or subject matter. Topics specified in Class Schedule. Readings in English for nonmajors. May meet with 3670.

SCAN 5701. Old Norse Language and Literature. (; 3 cr. ; Student Option; Every Fall)

Acquisition of a reading knowledge of Old Norse; linguistic, philological and literary study of Old Norse language and literature.

SCAN 5703. Old Norse Poetry. (3 cr. ; Student Option; Periodic Fall)

Reading and analysis of either eddic poetry from the Poetic Edda or skaldic poetry. Texts read in Old Norse.

SCAN 5993. Directed Studies. (1-4 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer)

Guided individual reading and study. Prereq instr consent, dept consent, college consent.

School for Field Studies (SFS)

SFS 2001. Language, Culture and Society of Chile. (2 cr. ; Student Option; Every Fall, Spring & Summer)

The Language, Culture, and Society of Chile course is provided in two integrated modules: I. Chile: History, Culture, and Society. Rodrigo Hernandez & Guest Lecturers I. Spanish The Spanish module is designed to provide students with working knowledge of the Spanish language for communication, according to their initial level of competence. The Society and Culture module aims to provide students with an initial national and local historical and cultural context for understanding the cultural and political complexities of contemporary Chile. The Spanish module comprises 20 hours and the Society and Culture module comprises 10 hours, for a total of 30 instructional hours, equivalent to 2 credits. Instructional parts of the course will be complemented by opportunities for participation in community and cultural activities. The course does not provide cultural immersion, rather it aims to provide students with initial tools they can build on outside class.

SFS 2010. Religion and Culture of Bhutan. (2 cr. [max 4 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course

SFS 2050. Language, Culture, and Society of Costa Rica. (2 cr. [max 4 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SFS 2060. Introduction to Swahili Language and East African Tribal Communities. (2 cr. [max 4 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SFS 2070. Language, Culture, and Society of Panama. (2 cr. [max 4 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SFS 2080. Language and Culture of Cambodia. (2 cr. [max 4 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SFS 2090. Language, Culture and Society of Peru. (2 cr. [max 4 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SFS 3000. Tourism and Island Systems: Assessment of Sustainable Practices. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

SFS 3020. Environmental Policy and Socioeconomic Values. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SFS 3021. Environmental Sustainability and Socioeconomic Values . (SOCS; 4 cr. ; Student Option; Every Fall & Summer)
The Environmental Sustainability and Socio-Economic Values course explores the contemporary environmental and sustainability issues and also touches broadly on the historical, social-cultural, economic and political factors that determine the use of natural resources, with particular emphasis on, but not limited to, the Wet Tropics of Australia. Topics to be covered in this course include; environmentalism, sustainable food production and livelihoods, the impact of human activities on terrestrial and marine biomes, conservation conflicts, resource governance and so on. In addition, students will be introduced to social science research methods, while a visit to a local Aboriginal community will help them gain a better understanding of the first Australian's enviro-cultural heritage values.

SFS 3030. Economic and Ethical Issues in Sustainable Development. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SFS 3040. Political and Socioeconomic Dimensions of Environment. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

SFS 3050. Land Use, Natural Resources and Conservation. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

SFS 3060. Mountain Ecology. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course

SFS 3070. Field Practicum in Public Health and Environment. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SFS 3071. Human Dimensions of Conservation. (ENV,SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)
The concepts of human dimensions in conservation dates back to Aldo Leopold, one of the key pioneers of land ethics and conservation. Conservation is a complex undertaking and partly entails involving humans. It has therefore increasingly become important to address or relate human dimensions to conservation and management of natural resources. This course will examine the relationship between people, the environment and associated natural resources. In the process, it will explore how people's behavior, values and knowledge, influence and are affected by decisions on management of natural resources and conservation of wildlife. It will use social science knowledge and tools to effectively incorporate societal values into conservation planning and decision-making, and to build stronger and more diverse partnerships. Students will also learn human dimensions concepts, the tools and methods that can be used in conservation outreach and communication. This course will focus on the human dimensions on conservation in the Amboseli Ecosystem in the South-eastern rangelands of Kenya. Students and Faculty will examine the cultural, economic, political and social context of the Maasai people and other ethnic groups in relationship to wildlife and natural resources utilization and conservation. To understand the current and future management and conservation of wildlife and other natural resources in the region, students will also examine the influence of traditional beliefs and attitudes in natural resource use and conservation practices. The influence of modern lifestyle, conservation and management practices, national policies and laws as well as land uses and socio-political and economic changes among the Maasai people will be evaluated. Specifically, human dimensions of conservation issues will focus on the Maasai Group Ranches, national parks, wildlife sanctuaries or conservancies especially those in the former Kimana Group Ranch, and the expansive private land parcels along the Kenya-Tanzania border. At the end of the semester, students will use and apply the human dimensions aspects learned in their directed research work which will be guided the Faculty in-charge of the course. The findings will be presented to diverse stakeholders comprising of community members, local leaders, national and Kajiado County government officials.

SFS 3081. Political and Social Dimensions of Conservation. (ENV; 4 cr. ; Student Option; Every Fall, Spring & Summer)
This course explores the decision-making apparatus within Chile and Argentina and delves into the complexity of why humans decide to conserve or not; which places/things we choose to conserve or not, what is the

cost (in human capital, economic capital, and to ecosystem services) when we choose to conserve or not, and who ultimately are the power brokers of the conservation movement in Patagonia (corporations, government entities, NGOs, foreigners, etc.). And by extension, how do the Chilean conservation management objectives and operations map onto the broader world stage. This is a very transformative time in Chilean conservation management. The ministries are under re-organization; those that hold political influence now may not be the ones in office next year. Many media outlets such as CNN, the New York Times, and The Economist have had recent profiles on the influence of foreign private entities largely shaping the conservation scene in Chile. This course will allow stimulating debate and exploration and send students home with unprecedented insight. While the course will expose students to broad conservation issues that face the entire planet, we will ground these topics in case studies from the diverse locations we visit. Students will learn concepts in conservation both theoretical and practical from lectures and field trips. Throughout the semester, students will be exposed to a wide range of conservation practices, policies and critiques through discussions, direct observations, and assessments of various conservation initiatives that are being implemented and co-managed by diverse stakeholders including: local government agencies, international governments and investors, private companies, local and international organizations, and researchers. The course will provide students with a background to engage in a nuanced discussion of conservation at multiple scales. Students will gain first-hand information about different conservation challenges and approaches from diverse perspectives such as decision makers; park rangers; educators; and conservation activists who are active in the conservation field in both Chile and Argentina.

SFS 3111. Ecology and Conservation of Southeast Asian Elephants. (4 cr. ; Student Option; Every Fall, Spring & Summer)
This course will focus on the ecology and conservation of the Asian elephant (*Elephas maximus*). Due to a drastic decrease in wild elephant populations, the reality of a world without these charismatic megafauna is becoming a likely possibility. In Asia this is primarily due to a booming human population and increased demand for space. Elephants are of great scientific interest due to their complex behaviors associated with intelligence and social interactions, forming deep family bonds and displaying empathy by recognizing and responding to another elephant's pain or problem and showing signs of grief after the loss of a family member. Saving the elephants requires improved scientific understanding of the species and the increasingly complex environment that they inhabit.

SFS 3121. African Large Carnivores: Ecology and Conservation. (BIOL,ENV; 4 cr. ; Student Option; Every Summer)
This course will focus on the behavioral ecology and conservation challenges facing

large carnivores in Africa using Northern Tanzania as a case study. SFS center for wildlife management studies in Tanzania is an ideal location to explore the ecological and human aspects of large carnivore conservation. The center is located between the Ngorongoro-Serengeti (NSE) and Tarangire-Manyara (TME) ecosystems in northern Tanzania. Both ecosystems have largely intact carnivore guilds that occur within and outside the protected areas. The large carnivores are one of the main attractions to a vibrant photographic tourism industry. In addition, large carnivores attract high premiums among the trophy hunters in the area. Despite the high economic values, carnivores in northern Tanzania are under immense threats from human-related effects such as habitat loss, and conflicts with pastoralists. In order to address these challenges, large carnivores have attracted high interest among conservationists and scientists in Northern Tanzania. African wild dogs, African lions, spotted hyenas, cheetahs and leopards have received high attention due to their charismatic appeal and the manifold threats facing them. Among those species, lions and leopards are among the big five and are highly sought after by tourists. In order to address the conservation threats and better understand the ecology of these large carnivore species in Northern Tanzania, several conservation and research projects have been initiated. These include: The Tarangire Lion Research Project in Tarangire/Manyara National Parks and the surrounding areas, Kope Lion project in Ngorongoro Conservation Area, and species-specific projects in Serengeti National park focusing on lion, cheetah, spotted hyena and African wild dog.

SFS 3131. Marine Megafauna Ecology and Conservation. (BIOL,ENV; 4 cr. ; Student Option; Every Summer)

In this course, we will explore the ecological importance and conservation status of megafauna that are prominent in the coastal waters of the tropics, namely elasmobranchs (sharks and rays), large oceanic and reef fishes, marine and coastal reptiles (sea turtles, island iguanas), and marine mammals. The course will consist of lectures, workshops and field-based activities that provide students with an understanding of the diversity and ecological characteristics of these animals. Furthermore, the workshops and field activities will introduce students to the practical techniques that are commonly employed to study and assess megafauna. The course will take place on the island of South Caicos, which is at a pivotal time in its development. Until recently, the island's economy centered around small-scale local fisheries, but a growing tourism industry and recent devastation from Hurricanes Irma and Maria have meant major changes to the community and marine ecosystem. As climate events continue to perturb the marine environment and the economy and the population grow and diversify, so too do the demands on the marine environment. Marine megafauna play important roles in the TCI, both ecologically and economically, making this

the perfect place to take a deep dive into their characteristics, threats, and conservation.

SFS 3141. Coffee, Chocolate and Sustainable Development. (ENV,GP; 4 cr. ; Student Option; Every Summer)

Coffee (*Coffea arabica*, *Coffea canephora*) and chocolate / cacao (*Theobroma cacao*) are iconic food crop species in the Tropics. Their emotionally and physically addictive components have led to \$98.2 billion in annual sales of chocolate (International Cacao Organization, Statistics, 2016) and coffee exports totaling \$30.6 billion (World's Top Exporters, Coffee, 2016). These tropical crops are intimately intertwined with the natural and political history, culture, and ecology of Costa Rica. This is an interdisciplinary summer program aiming to explore the deeper social and ecological components that intertwine these crops to our lives and the natural and political history of Costa Rica. We consider how the relations between slavery as part of early cacao production, and the transformation of forested lands to coffee plantations owned by elites, intertwine with current questions of cultural representation, agro-tourism, land use strategies, and agricultural certifications. We will conduct site visits to a variety of coffee and cacao farms and producers to learn how various production methods and policies impact the local flora, fauna, and society. Through field research in small groups, we will focus on data collection to conduct an in-depth exploration of the relations between cacao and coffee production and climate change, social justice movements, and species conservation.

SFS 3151. Primate Behavioral Ecology in East Africa. (BIOL,ENV; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This course focuses on primate behavioral ecology in southern Kenya focusing on Amboseli Tsavo Ecosystem (ATE). In Africa, there are about 94 species of primates, with Kenya having 19 species. These include some of the world's most endangered and rare species such as the Tana River red colobus, Tana River mangabey, Percival's black and white colobus, and de Brazza's monkeys. Globally and across the continent, most primate populations are declining due to habitat loss, and poaching for bush meat and other products. In most regions of Kenya, habitat loss, habitat fragmentation and human primate conflicts are the major challenge to primate conservation. These effects have been amplified by a continuously increasing human population particularly in the rural areas where there most natural areas for wildlife occur. The increased human population is associated with activities such as agriculture, charcoal burning and conversion of land for human settlement which have led to loss and degradation of primate habitats. The loss of habitat has resulted to fragmentation and reduced populations of primates as critical habitats becoming scarce. Today the scenario is that of isolated populations of primates, with more habitat specific species getting confined mostly to within protected areas. However due to their broad habitat and long ranging movement of a number of primates, areas

outside protected areas are still very critical to primate conservation.

SFS 3161. Wet Tropics Watershed Ecology and Conservation. (ENV,GP; 4 cr. ; Student Option; Every Summer)

The Great Barrier Reef and its catchments (watersheds) are an inter-connected system. In this course we will follow a river's journey from the World Heritage listed rain forest ranges to the Great Barrier Reef as we explore the connections between land and sea. Students will learn about the ecological processes and socio-economic factors that shape rain forest, watershed, and reef management in Queensland's tropical north, and the factors needed to maintain healthy ecosystems in the face of climate change, development and increasing urbanization.

SFS 3181. Himalayan Forests & Gross National Happiness. (ENV; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Bhutan is internationally famous for its development concept of Gross National Happiness (GNH). GNH, which has its underpinnings in the Buddhist philosophy of the Middle Path, is the guiding principle of development in Bhutan, and is understood to have four pillars: good governance, cultural protection and preservation, sustainable development, and environmental conservation. GNH and a leadership committed to conservation has led to Bhutan having more than 70% forest cover and about 50% of its land area under formal protection. Bhutan's forests which fall within the eastern Himalayan region is characterized by extensive and numerous mountains and valleys, hosting some of the world's highest peaks and a diversity of vegetation and wildlife. Bhutan's natural landscapes host an estimated 770 species of birds and other diverse fauna, including the takin, snow leopard, golden langur, blue sheep, and tiger. Ecosystems range from subtropical broadleaf forests in the south, to subalpine conifer forests, alpine shrub, and high-mountain meadows. The highest elevations comprise rock and ice. These forests and natural landscapes are integral to Bhutan's development, and key to ensuring food, water and energy security. Over four weeks, students will learn about the interplay between GNH, resource use and development. Through travel to various parts of the country, students will be exposed to the culture and history, religious traditions, environmental issues, and conservation policies. Students will stay in Bhutanese villages and trek across Himalayan landscapes to experience and understand rural livelihoods and their connection to the natural environment. Academically, students will develop skills in assessing environmental problems, designing socio-economic surveys, conducting resource assessments, and communicating results. Students will be guided to appreciate the complexities and challenges involved in meeting development goals while simultaneously ensuring the adequate conservation of natural resources in a rapidly changing region. SFS partners with the Ugyen Wangchuck Institute for Conservation

and Environment Research (UWICER), an international research and training facility in Bumthang, Bhutan and the Bhutan Ecological Society (BES), a Civil Society Organization promoting environmental sustainability in Bhutan. SFS students and faculty will collaborate with UWICER and BES to advance its research agenda in several priority areas, including forest management, community resource assessment, and development policy.

SFS 3191. Tracking and Conservation of Big Cats in the Himalayas. (ENV; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Within the Eastern Himalayas, Bhutan is increasingly seen as the last biodiversity refugia. In particular, Bhutan is home to 10 wild cat species, with the Snow Leopard, Tiger and the Clouded Leopard being the most charismatic big cat species. With 70% of its land under forests, and over 50% conserved under a well networked protected area system, these wild cats and associated species continue to thrive in Bhutan. A deep spiritual and cultural reverence for life and nature has aided in the persistence of biodiversity. However, climate change and human-wildlife conflicts continue to pose serious threats to the long term health of Bhutan's landscapes and species therein. Tracking the status of important keystone species, such as Tigers and Snow Leopards, and understanding threats and opportunities will be crucial in helping to adequately mitigate threats and implement effective adaptation strategies to ensure the long term survival of species in the wild. The summer course on Tracking and Conservation of Big Cats in the Himalayas will focus on understanding key issues and challenges associated with conservation of wild cats and associated species. Students will be introduced to the socio-political and cultural significance of Himalayan landscapes and biodiversity, with a special focus on charismatic species such as the Tigers and Snow Leopards. Interactions with stakeholders from the Government, academia, local people and civil society will allow students to understand environmental governance frameworks and better appreciate on-the-ground conservation challenges associated with climate change, human-wildlife conflicts, and limited financing and capacity. The four-week course will be a mix of classroom lectures and field trips to different parts of Bhutan. Traveling through Bhutan, students will learn about conservation challenges, culture and history, religious traditions, and environmental issues. Students will stay in Bhutanese villages and trek across Himalayan landscapes to experience and understand rural livelihoods and their connection to the natural environment. Academically, students will develop skills in assessing environmental problems, designing socio-economic surveys, conducting resource assessments, and communicating results. Students will learn camera trapping techniques and associated data analysis skills to estimate population sizes and map species distribution ranges in a GIS. Students will also be introduced to radio-telemetry and estimation of home ranges. Throughout the course, students will be guided

to appreciate the complexities and challenges involved in effective conservation of wildlife. SFS partners with the Ugyen Wangchuck Institute for Conservation and Environment Research (UWICER), an international research and training facility in Bumthang, Bhutan, and the Bhutan Ecological Society (BES), a Civil Society Organization promoting environmental sustainability in Bhutan. SFS students and faculty will collaborate with UWICER and BES to advance its research agenda in several priority areas, including conservation, forest management, community resource assessment, and development policy.

SFS 3211. Freshwater Ecosystems. (ENV; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Freshwater ecosystems are amongst the most important and productive ecosystems. They support tremendous biodiversity and provide food security to millions of people, many of whom live in some of the world's poorest nations. Despite this, the millennium development goals for biodiversity completely neglected freshwater systems, and it is only now emerging on the global agenda. This lack of attention has resulted in fewer freshwater protected areas compared to terrestrial biome. In addition, a critical knowledge gap in the conservation of freshwater ecosystems exists because the majority of research and conservation efforts have concentrated on terrestrials or marine systems. Cambodia is home to one of the highest levels of biodiversity and productivity of freshwater ecosystems in the world. The Cambodian Tonle Sap-Lower Mekong River system is driven by an annual flood pulse hydrological system which results in rich spawning grounds for fishes and high nutrient loads for rice production. This system produces one of the world's largest inland fisheries and an importance source of food security to the Cambodians: over 70% of the population's protein intake derive from fisheries resources from this system.

SFS 3232. Environmental Justice from the Ground Up. (ENV; 4 cr. ; Student Option; Every Fall, Spring & Summer)

The concept of environmental justice (EJ) refers to equal sustainable access to natural resources that are vital for human groups to achieve a meaningful, fulfilling, and happy life, such as access to clean water, to nutritious and pesticide-free food, clean air, and to the benefits of sustainable use of biodiversity. The concept of environmental justice (EJ) combines notions of environmental sustainability and everyday environments with demands for social justice (Agyeman 2013, Walker G. 2012). EJ focuses on the unequitable distribution of environmental risks and governmental protection among people of different economic and ethnic backgrounds (Schlosberg 2009). This concept has a long history in conservation and sustainable development. The modern view derived from the US civil rights movement and advocates calls for racial equality with environmental action. Socioeconomically disadvantaged groups across the world have harnessed social justice action to fight against unequitable environmental outcomes, although

its origin is much older and can be traced back to historical conflicts for limited natural resources.

SFS 3252. Elephant Ecology and Conservation in Kenya. (ENV; 4 cr. ; Student Option; Every Fall, Spring & Summer)

The African elephant (*Loxodonta africana*) is an important keystone species in Africa and has profound influence on the structure and dynamics of landscapes where it co-exists with other species. It's one of the most charismatic and charming species but its conservation and population status has continued to attract a lot of concern within and beyond Africa. A key worry is that it's conservation is increasingly becoming uncertain across the entire African continent as due illegal poaching, landscape fragmentation, and retaliatory attacks by local communities due to prevalence of human-elephant conflicts. At the beginning of the 20th century, there were several millions of elephants roaming across Africa (Douglas-Hamilton 1979), but today, they have declined rapidly, and are estimated to be nearly 450,000 - 700,000 (Stephenson, 2007). Illegal poaching has been and remains the biggest threat to the survival of elephants, and this threat is rampant throughout the entire continent (Douglas-Hamilton et al. 1992). Habitat loss, associated with anthropogenic effects is the second biggest threat to the future conservation of the species, and in the last century, large swathes of elephant natural habitats have been converted into human dominated landscapes (Esikuri 1998). This not only leads to loss, reduction, and degradation of elephant prime habitats, but curtails their free movement, reduces their home range, blocks their movement corridors and routes but increases conflicts with humans (Spinage 1990). Collectively, this matrix creates a very inhabitable and hostile environment for elephant survival and conservation programs in all its range in Africa.

SFS 3262. Rainforests of Australia. (4 cr. ; Student Option; Every Fall, Spring & Summer)

In Rainforests of Australia, you will obtain a broad appreciation of the diversity and dynamics of tropical terrestrial biomes and marine life. You will be introduced to the current and past distributions of tropical rainforests, their biodiversity, and their relationships with the abiotic environment, human use, present threats, and restoration practices. This course aims to bring together an understanding of the underlying ecological processes that affect rainforests (and other tropical vegetation) with the role of human society in shaping the present and future rainforests of the Wet Tropics. The course will take the Australian Wet Tropics as a case study to investigate this field, yet many of the skills you learn here can be transferred to other systems. Topics covered will include: biophysical determinants of which vegetation type occurs where; past, present, and future threats to Wet Tropics rainforests; and the theory and practice of rainforest restoration. The course also has a practical component. You will be taught field techniques for carrying out field research, data analysis, and

communication of results. The course is a mixture of class lectures, field lectures, field laboratory courses, workshops, field trips, and readings to complement the material presented in the lectures. A major emphasis is on field skills, the collection, management and analyses of data, and skills of writing a scientific paper. A wide range of material will be provided and should be used to study the class topics and to acquire the desired skills. Be aware that all material covered in class, lectures, field lectures, and field trips will be required.

SFS 3272. Marsupials of Australia. (ENV; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This course will focus on the evolution, biogeography, ecology, behaviour, and conservation of marsupials of Australia. Australia is one of the most ancient continents on our planet with geological features dating back to more than 1.7 billion years. Its history was influenced by long periods of isolation from other land masses while uplifts and erosion of mountains, forming, and disappearance of inland seas and cycles of fires, drought, cyclones, and flooding shaped this land. This long history resulted in a unique diversity of plants and animals. Ancient forms of mammals, such as egg-laying monotremes and some small marsupials lived amongst Australia's dinosaurs about 110 million years ago and formed part of the ancient Gondwana fauna. After the extinction of the dinosaurs and when Australia finally broke away from Gondwana it took with it its unique array of mammals into isolation. Freed from the past dominating dinosaurs and finding themselves on a vast continent with no competing intruders, Australia's ancient marsupials could thrive and diversify. Marsupial 'hippos', 'rhinos' and 'tapirs' occupied the land while killer-kangaroos targeted the weakest of these herds of grazing marsupials.

SFS 3282. Patagonian Winter. (ENV; 4 cr. ; Student Option; Every Summer)

The Patagonian winter is a defining aspect of the ecological and social systems of the region. This course will examine the different ways that winter affects human and non-human systems. This course brings you to the world-famous Torres del Paine National Park in the stillness of winter, to observe the camelid guanacos and flightless 'and's as they get ready for the approaching winter. The shortening days drive changes in the ranching practices in the estancias in the area as they move their livestock to winter pastures. The approaching Winter Solstice also connects indigenous communities as they make ready for the coming New Year. Finally, the winter brings the season when glaciers would normally be recovering their mass. However, climate change is creating changes in all of these interactions. High-latitude regions, such as Patagonia, are often more prone to the effects of climate change, making changes more apparent and significant. Indeed, climate change in Patagonia is quite clear, and one of the seasons that have seen the most marked change is the winter. There has been

less precipitation, and higher temperatures, meaning that there is less overall precipitation, and that which falls tends more to be rain. This is leading to changes in ecological and social contexts of the Patagonian winter that we will explore in this course. This course covers past adaptations to historic winter climates, from plant and animal community distributions and the human settlement patterns driven by climate conditions for the maintenance of communities. We examine how the Patagonian winter drives the ecology and social contexts of the region.

SFS 3500. Wildlife Management and Conservation. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer) Study abroad course.

SFS 3502. Foundations of Wildlife Management and Conservation. (ENV; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Conservation is a deeply human endeavor in multiple dimensions. In this regard, this course will examine the relationship between people, the environment and associated natural resources in the Amboseli Ecosystem. It will explore how people's behavior, values, and knowledge influence and are affected by decisions on management of environmental resources. Overall, the course will provide students with in-depth understanding on the climate, ecology, and dynamics of East Africa Savanna Ecosystems and their linkage to wildlife and natural resources conservation in the predominantly Maasai inhabited Kenya-Tanzania borderland of the Amboseli Ecosystem. It will also use social science knowledge and tools to effectively incorporate societal values into conservation planning and decision-making, and to build stronger and more diverse partnerships. Students will learn and apply in the field multiple approaches and techniques to studying wildlife, natural resources conservation, community socio-economic aspects and ecological sampling techniques. They will also explore application of ecological and wildlife management concepts and principles in sustainable management of wildlife, water, and other natural resources through lectures, field exercises, and experiential hands-on learning. Students will learn about concepts of human dimensions of conservation, the tools and methods that can be used in conservation outreach and communication. The course will be done in the rapidly changing Maasai landscape of the Amboseli Ecosystem situated in the Southeastern sector of Kenya, along the Kenya-Tanzania border. Field lectures, exercises and DR will be done in the Maasai Group Ranches, private and community owned conservancies including private land in the former Kimana Group Ranch. Field trips to protected areas mainly; Amboseli, Chyulu Hills and Tsavo West National Parks will be used to further student's field experiential learning. Field exercises will be used for acquisition of multiple skills such as; planning and designing fieldwork, field sampling techniques, data management, analysis and synthesis, report writing, and application of research in

promoting sustainable management of wildlife and natural resources in general. Overall, the course aims at equipping students with knowledge on wildlife and natural resources conservation, imparting problem-solving scientific/social skills and techniques that are needed to understand the complex interactions affecting wildlife and natural resources. It offers practical, hands-on experiences inside and outside the classroom.

SFS 3510. Marine Protected Areas: Management Techniques and Policies. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer) Study abroad course.

SFS 3520. Sustaining Tropical Ecosystems: Biodiversity, Conservation, and Development. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer) Study abroad course.

SFS 3530. Tropical Marine Ecosystems: Monitoring and Management. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer) Study abroad course

SFS 3532. Foundations of Tropical Marine Ecosystems. (ENV; 3 cr. ; Student Option; Every Fall, Spring & Summer)

The Turks and Caicos Islands (TCI) advertises itself to tourists as 'Beautiful by Nature.' Indeed, the tourism that the country's economy is heavily dependent on is driven by its stunning marine environment, which is characterized by extensive coral reefs, seagrass meadows and mangrove forests. However, the health of these ecosystems, and therefore the 'Beautiful by Nature' motto, is under threat. At the local level, unsustainable and damaging fishing practices, increased water-based recreational activities, and coastal development are potentially major sources of disturbance. Furthermore, the ocean impacts of global climate change will continue to negatively affect marine organisms and ecosystem processes, adding an additional layer of complexity to the problem. Foundations of Tropical Marine Ecosystems: Monitoring and Management is an interdisciplinary three-week winter term course that highlights the ecological characteristics and current threats to coastal ecosystems, in addition to exploring existing and potential environmental management approaches that would encourage the sustainable development of small island nations such as the TCI. Course participants will gain knowledge of tropical marine ecosystem function and connectivity and will be introduced to the most pressing threats at the intersection of marine conservation and economic development. The course will take place on the island of South Caicos which is at a pivotal time in its development. Until recently, the island's economy centered around small-scale local fisheries, but tourism is now a growing industry and South Caicos is experiencing major changes to its social and structural fabric. As the economy and the population grow and diversify, so too do the demands on the marine environment, making this the perfect location to study a small, tropical island in transition.

SFS 3540. Rainforest Management Studies in Australia and New Zealand. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SFS 3550. Techniques for Rainforest Research in Australia. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SFS 3560. Applied Marine Research Techniques. (4 cr. [max 8 cr.] ; Student Option; Every Spring & Summer)

Study abroad course

SFS 3570. Techniques for Wildlife Field Research. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SFS 3580. Himalayan Forests, Watersheds, and Rural Livelihoods. (6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SFS 3601. Earth Systems and Climate Science. (ENV,PHYS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This course focuses on the physical nature of landscapes and the geologic and seismic complexity of a region firmly situated along the ?ring of fire,? the edge of the Pacific Ocean basin where tectonic activity generates earthquakes and volcanic activity. On a planet whose surface is more than 70% ocean, we will also explore the important role of the oceans in the Earth Systems. We will study the science of climate past and current and the evidence for anthropogenic climate change. As we build our understanding of how the globe functions, we will consistently ground our learning with our location in Patagonia. From the base of Puerto Natales, many national parks are only kilometers away. Glaciers that belong to the Southern Patagonian Ice Field, the world?s second largest contiguous ice field outside the polar regions, will be visited. Chile?s dynamic Andes range ? which is still growing ? and the active volcanoes of the lakes region of Chile are open to discovery. Fragile forests susceptible to wildfire will be examined. One focus of this course will be the science of climate change, understanding the dynamics of the Quaternary Period (the time when periodic pulses of warm and cold influenced most earth systems; e.g., the ice ages) and the Anthropocene (the period where humans have begun to dominate earth systems). The Chilean Patagonia region, like other high-latitude regions, is hyper-susceptible to changes in climate, and the Southern Patagonian icefield is shown to be more vulnerable to climate change than other glaciers. Unpredictable rain- and snow-fall, glacial melt, temperature shifts, fires and droughts can wreak havoc on slow-growing plant ecosystems. Climatic shifts have effect on the trophic webs, freshwater catchments, and farming and ranching operations. Understanding the geosphere, biosphere, the cryosphere (the frozen environment) and their interactions, we will weave the study of human action and impact throughout Earth Systems: our food

systems, energy systems, and the nexus of water/energy/agriculture and climate. Chile is where climate change can be observed and measured in palpable ways.

SFS 3690. Rainforest Ecology. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SFS 3691. Tropical Biome Ecology & Climate Change. (ENV; 4 cr. ; Student Option; Every Fall, Spring & Summer)

In Tropical Biome Ecology & Climate Change, you will obtain a broad appreciation of the diversity and dynamics of tropical terrestrial & marine biomes. You will be introduced to the current and past distributions of tropical rainforests, dry forest, savannas and coastal biomes, their biodiversity, and their relationships with the abiotic environment, human use, present threats, and restoration practices. This course aims to bring together an understanding of the underlying ecological processes that affect different biomes with the role of human society in shaping the present and future rainforests of the Wet Tropics & the coral reefs of the Great Barrier Reef. The course will take the rainforest Australian Wet Tropics & the coral reefs of the Great Barrier Reef (GBR) as case studies to investigate this field, yet many of the skills you learn here can be transferred to other systems. Topics covered will include: biophysical determinants vegetation and coral reef distribution; past, present, and future threats to Wet Tropics rainforests & GBR; and the theory and practice of rainforest and coral restoration. The course also has a practical component. You will be taught field techniques for carrying out field research, data analysis, and communication of results.

SFS 3700. Principles of Forest Management. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SFS 3701. Wildlife and Conservation Biology. (ENV; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This component of the program focuses on identifying threats to wildlife populations, how to obtain data on the impact of these threats on wildlife populations and how to select and apply appropriate conservation methods to mitigate these threats. We will look at these aspects in general and then demonstrate them in case studies of species in the Wet Tropics. To formulate a background understanding of habitats of the Wet Tropic?s wildlife, we will explore the origin of the main landscape formations of this part of Australia by looking at geological and biogeographical factors that shaped the landscape and its biota. You will be introduced to Australia?s flora and fauna and the unique species that inhabit the diverse habitats of the Wet Tropics. We then will deal with some basic ecological concepts of biodiversity and why so many species can co-exist in one place. This will also involve learning skills to obtain data on various parameters of wildlife populations to assess the impact of habitat loss, fragmentation,

introduced species and climate change on them. Field trips and field work in various parts of the Atherton Tablelands will help you in learning these skills. Using the obtained data on wildlife populations we will explore various conservation techniques in order to mitigate these threats to the flora and fauna of the Wet Tropics, how to identify partners and resources for conservation work, how to triage conservation needs, and how to best advocate conservation. We will consider the role of corridors or landscape linkages, particularly along riparian areas, and ways in which restoration and landscape rehabilitation can overcome negative effects of human driven landscape modification and climate change on these ecosystems. We will consider options on how to efficiently control pest animals and their impacts on native flora and fauna.

SFS 3710. Techniques in Wildlife Management. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SFS 3720. Wildlife Ecology. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SFS 3730. Tropical Marine Ecology. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SFS 3740. Principles of Resource Management. (4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SFS 3751. Techniques in Wildlife and Natural Resource Management. (ENV; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Globally, most natural resources face enormous pressure from multiple direct and indirect human activities, with delirious consequences for humans and natural life. Further, most of the resources are limited, and thus easily prone to any disturbance by humans. In this regard, a lot of effort has gone to promote sustainable utilization of natural resources with emphasis on minimizing damaging human activities and overexploitation. Most parts of East Africa, Kenya included are dominated by Savanna or rangeland environments which are naturally dry for most of the year due to scanty annual rainfall. However, these are the same landscapes where diverse biota endowments are found but which are currently under siege and near extermination by rapid human population growth and unregulated land-use changes. The Amboseli Ecosystem is characterized by a semi-arid environment, and rainfall is received twice a year but it?s scarce, unpredictable and low (300-800mm per year). This creates a water deficient landscape, and most of the water is found in scattered rivers, streams, springs, and wetlands like swamps, all linked to the hydrology of the neighboring Mt. Kilimanjaro. These conditions tend to favour wildlife conservation and pastoralism, the latter being the historical key land use by the local pastoral Maasai people. However, immigration into the region by agricultural communities

starting in the 1960 through the 1980s saw introduction of farming as a new land use along the wet and arable slopes of Mt. Kilimanjaro along the Kenya-Tanzania border. Thereafter, irrigated agriculture mostly for commercial purposes was introduced in the water systems of the Maasai Group Ranches where rain-fed farming is not possible. This lifestyle shift has seen pastoralism nearly replaced and dominated by agro-pastoralism among the Maasai. Today, the dominant human activities, mostly irrigated farming and livestock in the Maasai group ranches and the former Kimana Group Ranch keeping rely on the springs and rivers emanating from Mt. Kilimanjaro. The wildlife ecological dynamics in the ecosystem is also entirely dependent on these wetlands, which are the predominant dry season concentration areas as water and forage resources elsewhere diminish. Consequently, management of water resources is a major conservation and livelihood issue. Often there are conflicts associated with water use among humans and between humans and wildlife, which is attributed to diminished availability of this vital resource. Resolving these conflicts and promoting wise use of available water resources is a major preoccupation of wildlife and natural resources managers in the area, Water Resource Users Associations (WRUAs) and the Water Resources Authority (WRA), the lead Kenya Government agency on water management. The Amboseli Ecosystem lies contiguous to the Tsavo West and Chyulu Hills National Parks which are part of the Tsavo Conservation Area, the largest wildlife conservation landscape in Kenya. Chyulu Hills was gazetted as a protected area in 1983 to enhance protection of its wildlife resources and watershed services. It's recognized as one of the important water catchment areas situated in the dry lands of the country and provides water to a vast landscape and diverse beneficiaries including Mombasa County. However, this service is threatened by destruction and general environmental degradation of the hills by livestock grazing, charcoal burning, and accidental fires. Neighboring the Chyulu Hills N. Park is the expansive Tsavo West N. Park, which covers more than 9,000Km, and it's one of the important wildlife conservation areas in the country. Prior to its gazettement as a protected area in 1948, the area was used by pastoral communities like the Maasai. Over the years, human population and land use changes especially farming, adjust the park boundaries have increased significantly. This has led to escalation of human-wildlife..

SFS 3770. Tropical Ecology and Sustainable Development. (4 cr. [max 8 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SFS 3781. Patagonian Ecology. (ENV; 4 cr. ; Student Option; Every Fall, Spring & Summer)
This course focuses on ecology as a discipline, biodiversity, and the Patagonian ecoregions and habitats that have evolved with short growing seasons, tenacious southwesterly winds, and fierce winters. We will examine the ecology and evolution of faunal species such as Guanaco (related to the llama), Magellanic

and King penguins, and the flightless Rhea, most of them endemic to the region, and the largest animal of them all, the Blue Whale. We will explore ecological succession, including primary succession, which is how life recruits into new environments, such as bare rock after glacial retreat, or new, igneous rock after volcanic eruption. Though flora is not particularly diverse here in southern Patagonia (save for the lichens and bryophytes), the floral structural complexity is fascinating. We will explore a remarkable latitudinal gradient from Cape Horn in the south to Chilo Island's milder, temperate climate? a latitudinal change equivalent to traveling from Massachusetts to Florida. Thematically, we will traverse alpine ecology, exposed terrestrial ecology, coastal ecology, marine ecology, and fire ecology. From the central focus on the theory and practice of ecology, we will expand to investigate relationships between people and nature in conservation, resilience, and environmental challenges. We will explore the role of protected areas in conservation, including private protected areas that have emerged in Chile; invasive species; human history on landscapes; agriculture, plantation forests, and aquaculture; and current and predicted changes due to climate change. The course is constructed so that the lens of climate shifts and perturbations will be central to discussions and observations; it will encompass not only climate threats, but an understanding of the role of nature in climate adaptation and mitigation, and the role of Chilean climate policy and commitments in an international community.

SFS 3782. Foundations of Patagonian Ecology. (ENV; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course focuses on ecology as a discipline, biodiversity, and the Patagonian ecoregions and habitats that have evolved with short growing seasons, tenacious southwesterly winds, and fierce winters. We will examine the ecology and evolution of faunal species such as guanaco (related to the llama), Magellanic penguins, and the flightless Rhea, most of them endemic to the region. We will explore ecological succession, including primary succession, which is how life recruits into new environments, such as bare rock after glacial retreat. Thematically, we will traverse alpine ecology, rangeland ecology, coastal ecology, and fire ecology. From the central focus on the theory and practice of ecology, we will expand to investigate relationships between people and nature in conservation, resilience, and environmental challenges. We will explore the role of protected areas in conservation, invasive species, human-landscape interactions, and current and predicted changes due to climate change.

SFS 3790. Tropical Coastal Ecology. (4 cr. [max 8 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SFS 3800. Conservation Science and Practice. (4 cr. [max 8 cr.]; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SFS 3810. Ecosystems and Livelihoods. (4 cr. [max 8 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SFS 3820. Environmental Ethics and Development. (4 cr. [max 8 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SFS 3831. Tropical Ecology of the Amazon. (4 cr. [max 8 cr.]; Student Option; Every Fall, Spring & Summer)

The term biodiversity refers to the variety of life on Earth at all its levels, from genes to ecosystems. Ecology is the scientific study of interactions of organisms with one another and with the physical and chemical environment around them. In this course Tropical Ecology of the Amazon we will be looking at the biodiversity of the region and the processes that originate and sustain it at multiple scales: regional, landscape, ecosystem, habitat, communities, and species. The overarching goal of this course is for students to be able to identify and characterize the diversity of non-human life in the Amazon region, and to understand the patterns and processes that support this diversity. Students will learn the fundamental principles of ecology through studying a diverse mosaic of ecosystems, habitats, and species along elevation gradients, succession gradients, and geomorphic features.

SFS 3840. Political Ecology of Developing Landscapes: Peru. (4 cr. [max 8 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SFS 3911. Fundamentals of Environmental Inquiry. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Research takes many forms. Though the SFS model emphasizes field-based methodologies, there is much to be learned in those aspects of research that lie beyond the fieldwork: building a robust question, vetting sources of information to produce a high-quality literature review, placing novel inquiry within a theoretical and empirical context and analyzing existing data to create a strong discussion of the research question. The aim of this course is to provide students the opportunity to explore existing Center resources and develop methods of inquiry to analyze environmental issues relevant to the communities in which we operate. We will investigate the ways that various methods and theories distinguish (or not) fact from interpretation, cause from correlation, and advocacy from objectivity. Through their research projects, students will contribute to a growing body of scientific research that informs local conservation and resource management decisions near SFS Centers around the world. Each student will be led by a faculty advisor that will produce research questions and methods, analyze data, and communicate results in one or across several of the following disciplines: ecology, conservation, earth sciences, natural resource management, anthropology, human

geography, and environmental policy. All FEI projects are collaborative in process, but individual in outputs. Depending on the project, students may work together on the development and analysis of questions, but individual students must submit final assignments independently. The course is designed to build on the information students have learned in their disciplinary courses at each Center. In addition, faculty will provide lectures and workshops specifically designed to assist students in understanding the scientific process and presenting results in both written, spoken, and visual formats.

SFS 4910W. Directed Research. (WI; 4 cr. [max 8 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SFS 4930. Applied Research Techniques and Strategies Toward Sustainability in Costa Rica. (4 cr. [max 8 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

Senegal (SNGL)

SNGL 1001. Beginning French I. (4-5 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SNGL 1002. Beginning French II. (4-5 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SNGL 1003. Intermediate French I. (4-5 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SNGL 1004. Intermediate French II. (4-5 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SNGL 1101. Beginning Wolof. (4 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SNGL 3001. Senegal: Culture and Society. (3 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SNGL 3002. Entrepreneurship & Marketplace. (3 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SNGL 3015. Advanced French I. (3-4 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SNGL 3016. Advanced French II. (3-4 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SNGL 3101. Intermediate Wolof. (4 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SNGL 3102. Advanced Wolof. (4 cr. ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SNGL 3201. Advanced Language Through Current Events. (4 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course

SNGL 3202. Reading and Writing through Current Events. (4 cr. ; Student Option; Every Fall, Spring & Summer)

This course is a continuation of SNGL 3201, Advanced Language through Current Events. Students examine contemporary issues in Senegal through the lens of Senegalese newspapers, journals, films, radio, and TV broadcasts.

SNGL 4001. International Development: Human Rights: Policy, & Practice. (SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

The Political Economy of International Development (PIED) critically explores the role of the international development agenda, with a specific focus on its impact on the African continent. Students will acquire knowledge on the foundation of this agenda while capturing the complexity and paradoxes of its implementation. Students will also build on this understanding to analyze the power relationships at stake between the various actors (donors, governments, international institutions, development beneficiaries, private sector, etc.). Grounded in a theoretical approach, this course will nevertheless explore practical case studies and experiences to favor in-depth analysis. This course will dedicate particular attention to the social experiences of the populations in developing countries from a political and historical perspective. Furthermore, students will be better inclined to critically appreciate the contribution of institutional mechanisms in the bi-lateral, multilateral, and non-government sectors in the development of Sub-Saharan African nations. Students will examine multidisciplinary ways of thinking that can be used to synthesize and analyze local, national, and global issues, and the connections among these experiences. Students will then examine constructs of human rights and services in developing countries in general and Senegal in particular. As background to the course, we will attempt to create a common understanding of key concepts such as human rights, social justice, human services, social services, social welfare, community development, and social work. Students will then look at how these ideals are implemented in Senegal and the limitations and challenges of the implementation.

SNGL 4002. International Development: Entrepreneurship & Inclusive Finance. (SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

The Political Economy of International Development (PIED) critically explores the role of the international development agenda, with a specific focus on its impact on the African continent. Students will acquire knowledge on the foundation of this agenda while capturing the complexity and paradoxes of its implementation. Students will also build on this understanding to analyze the power relationships at stake between the various actors (donors, governments, international institutions, development beneficiaries, private sector, etc.). Grounded in a theoretical

approach, this course will nevertheless explore practical case studies and experiences to favor in-depth analysis. This course will dedicate particular attention to the social experiences of the populations in developing countries from a political and historical perspective. Furthermore, students will be better inclined to critically appreciate the contribution of institutional mechanisms in the bi-lateral, multilateral, and non-government sectors in the development of Sub-Saharan African nations. Students will examine multidisciplinary ways of thinking that can be used to synthesize and analyze local, national, and global issues, and the connections among these experiences. This course will then examine constructs of inclusive finance in developing countries in general and Senegal in particular. It will challenge students to understand development policy tools that use microfinance as a strategy for economic growth in the war on poverty. A critical reflection on the limits of microfinance as a durable development approach will allow students to better understand attempts at innovation that respond to specific problems related to microfinance, and the course will introduce them to diverse perspectives on microfinance in the contemporary global economy. Students will engage with topics such as microfinance, social entrepreneurship, access to capital, and financial services.

SNGL 4003. International Development: Public & Community Health. (SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

The Political Economy of International Development (PIED) critically explores the role of the international development agenda, with a specific focus on its impact on the African continent. Students will acquire knowledge on the foundation of this agenda while capturing the complexity and paradoxes of its implementation. Students will also build on this understanding to analyze the power relationships at stake between the various actors (donors, governments, international institutions, development beneficiaries, private sector, etc.). Grounded in a theoretical approach, this course will nevertheless explore practical case studies and experiences to favor in-depth analysis. This course will dedicate particular attention to the social experiences of the populations in developing countries from a political and historical perspective. Furthermore, students will be better inclined to critically appreciate the contribution of institutional mechanisms in the bi-lateral, multilateral, and non-government sectors in the development of Sub-Saharan African nations. Students will examine multidisciplinary ways of thinking that can be used to synthesize and analyze local, national, and global issues, and the connections among these experiences. Students will then examine constructs of public and community health in developing countries in general and Senegal in particular. This course will present students with an overview of the social-health system in Senegal and critically discuss the main obstacles that Senegal has had to overcome in the realm of public health. It will highlight health determinants, explain the choice of the Senegalese to prioritize the fight against certain

illnesses, and present the organization of its public health services.

SNGL 4004. International Development: Sustainable Development & Climate Change. (ENV,SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

The Political Economy of International Development (PIED) critically explores the role of the international development agenda, with a specific focus on its impact on the African continent. Students will acquire knowledge on the foundation of this agenda while capturing the complexity and paradoxes of its implementation. Students will also build on this understanding to analyze the power relationships at stake between the various actors (donors, governments, international institutions, development beneficiaries, private sector, etc.). Grounded in a theoretical approach, this course will nevertheless explore practical case studies and experiences to favor in-depth analysis. This course will dedicate particular attention to the social experiences of the populations in developing countries from a political and historical perspective. Furthermore, students will be better inclined to critically appreciate the contribution of institutional mechanisms in the bi-lateral, multilateral, and non-government sectors in the development of Sub-Saharan African nations. Students will examine multidisciplinary ways of thinking that can be used to synthesize and analyze local, national, and global issues, and the connections among these experiences. Students will then examine constructs of sustainable development and climate change in developing countries in general and Senegal in particular. Students will look at the human and natural environments in urban and rural Dakar. Students will engage with topics such as waste management in urban settings, mangrove swamps, coastal preservation in Senegal (maritime erosion, the loss of biodiversity, difficulties accessing fishing waters), flooding in Dakar neighborhoods, recycling, and the repurposing of waste objects. Students will consider a variety of solutions to these challenges, wrestle with the questions of balance between practical needs and preservation, and propose ways to best implement these solutions in the Senegalese value context.

SNGL 4101. Historical & Political Context of Senegal. (HIS; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This course provides a broad historical overview of Senegal and in-depth analysis of the cultural underpinnings that have shaped the country. Using this rich history and diverse culture, students will explore and analyze the structure of the political, socio-economic, and social policies that characterize Senegal today. The course will look at Senegalese history and culture from the original Kingdoms and cover more modern periods from the slave trade to colonization through decolonization. Students will examine the human past, study the beliefs, practices, and relationships that shaped the human experience over time in Senegal. Students will analyze the place of Senegal in the broader West African sub region; discuss

the physical and human resources available for Senegal's development and the major challenges and constraints it faces; and take a critical look at the country's economic policy and political system. Students will discuss Senegalese cultures, cultural values, arts, and lifestyles using literature, visuals, and the performing arts. They will consider how literature forges the conscience of a nation and how the encouragement of thriving artistic expression can help the development efforts and the carving of a national identity.

SNGL 4201. Research in Senegal. (4 cr. ; Student Option; Every Fall, Spring & Summer)

In this course, the MSID student will learn about various research concepts and practices; make decisions involved in research, including selecting a topic and title for their study, developing statements of problems, and choosing research questions and appropriate research design; learn about issues related to research ethics; and develop their skills in choosing data collection instruments and analysis of the data they collect for their research. The course does this by introducing various topics in the research cycle and providing a forum in which students can share with one another their research experience at each stage of the process. Students will learn to develop, defend, and challenge their own values and beliefs. Research projects in this course are ideally projects that fit with the development agency's goals and activities; therefore, the student's research interests must blend with what is realistically happening at the development agency. Students must have approved proposals before proceeding onto their research sites to allow them collect necessary data and complete data analysis before heading back to Dakar at the end of the six-week field period. It is likely that students will participate in field activities, meetings, and other forms of engagement that will be indirectly related to and could inform their research projects. Students will be presented with concrete opportunities to identify and apply their knowledge of ethics, both in solving short-term problems and in creating long-term forecasts. As stated on the MSID website, the governments of the United States and MSID countries have laws protecting human subjects of research. Due to the timeline for gaining the necessary permissions for doing research with human subjects, such research cannot be conducted while abroad on LAC programs. However, there are still a wide variety of projects, that include interaction with people, that are available. See more information on options for Undergraduate Research Abroad. The course will also include 15 hours of French or Wolof instruction to prepare students with practical vocabulary for the workplace.

SNGL 4896. Internship in Senegal. (4 cr. ; Student Option; Every Fall, Spring & Summer)

This course provides a cross-cultural experience of working on various development issues with a regional nonprofit organization. The course focuses on guiding students to understand their own identity as they integrate theory with reality through participation in local development sites. Students are

prepared for entering into their community work through discussions on stakeholder and agency analysis, culture specific gender and diversity context, and power and privilege. Students will learn to develop, defend, and challenge their own values and beliefs. The mentoring continues while students are at their internship placement. They come in contact with social actors, community organizations, and local and national authorities in various regions of Dakar at the marginal urban and rural levels. The students are urged to play an active role in their internships by providing suggestions and solutions, discussing alternatives, and investigating all areas of their internship placement to garner a holistic experience of the realities of development work. Through practical internship experiences as well as readings, discussions, and written assignments, students will deepen their understanding of the host-country cultural context and development work from an international perspective, as well as critically examine their own worldview. Students will be presented with concrete opportunities to identify and apply their knowledge of ethics, both in solving short-term problems and in creating long-term forecasts. The course will also include 15 hours of French or Wolof instruction to give students practical vocabulary for the workplace.

Slavic (SLAV)

SLAV 3900. Topics in Slavic Languages & Literatures. (; 3 cr. [max 12 cr.] ; Student Option; Periodic Fall & Spring)
Topics specified in Class Schedule.

SLAV 5900. Topics in Slavic Languages and Literatures. (; 3 cr. [max 12 cr.] ; Student Option; Periodic Fall & Spring)
Topics specified in Class Schedule.

Social Work (SW)

SW 1501. Introduction to Peace Studies. (GP; 3 cr. ; A-F only; Every Fall & Spring)
Interdisciplinary field that considers questions such as how human conflicts can be resolved in ways that promote justice/peace. Definitions, conditions, and causes of violence, nonviolence, war, and peace between nations, groups, or individuals.

SW 2501W. Introduction to Social Justice. (WI,DSJ; 4 cr. ; A-F only; Every Fall & Spring)
Meanings of social justice. Ways in which social justice advocates work for social change. Criminal justice, globalization, and social welfare. Students do service learning in a social justice organization.

SW 3501. Theories and Practices of Social Change Organizing. (; 4 cr. ; A-F only; Every Fall & Spring)
Concepts, theories, and practices of social change organizing. U.S. power relations. How people organize. Cross-class, multi-racial, and multi-issue organizing. Students do service learning in social justice organization.

SW 3601. Solidarity & Community-led Transformation in South Africa. (CIV,GP; 3 cr. ; A-F only; Every Spring)

Though the magnificence of South Africa's people and landscapes is vast, it is often said that visitors ignore the view by overlooking the juxtaposition between acute poverty in the townships and immensely affluent neighborhoods (built for-and-by the white minority during Apartheid). Mindful visitors often put into question the free market and recognize that Apartheid's history of racism and classism still exists in all fabrics of life; and, many westerners try to assist through service or volunteerism without fostering real change. In Africa, service is a billion-dollar industry. Abuse by western volunteer organizations and other programs has included half-finished work, time and resources drained from communities, and unchanged volunteers. But, do we do nothing? In this course, we will explore the dynamics of power, privilege, and repression through social justice advocacy and scholarly analysis of the oppressive savior complex.

SW 3701. Introduction to Child Maltreatment: Intervention and Prevention. (; 3 cr. ; Student Option; Every Fall & Spring) Child abuse/neglect as form of family violence. Prevalence, scope, dynamics, responses, and prevention strategies. Individual, familial, and community analyses using ecological perspective and risk/resilience framework.

SW 3702. Introduction to Adult Intimate Partner Violence: Intervention and Prevention. (; 3 cr. ; Student Option; Every Fall & Spring) Theories, research, intervention, and prevention strategies regarding violence against women and the abuse of vulnerable adults in the United States. Issues of gender, race, culture, age, physical ability, SES, and sexual orientation. Includes service learning.

SW 3703. Gender Violence in Global Perspective. (; 3 cr. ; Student Option; Every Fall & Spring) Theories/research on violence in intimate domestic relationships examined through multiple lenses. Overview of interventions in Minnesota, United States, and other societies.

SW 4501. Senior Seminar in Social Justice. (; 4 cr. ; A-F only; Every Spring) Capstone course. Students complete a social justice portfolio, do service learning in a social justice organization. prereq: 2501, 3501

SW 4693. Directed Studies. (; 1-10 cr. ; Student Option; Every Fall, Spring & Summer) Guided individual reading or study related to social issues, social work methods, or social work history. prereq: instr consent

SW 4694. Directed Research. (; 1-10 cr. ; Student Option; Every Fall, Spring & Summer) Guided research related to social issues, social work methods, or social work history. prereq: instr consent

SW 5051. Human Behavior and the Social Environment. (; 2 cr. ; A-F or Audit; Every Fall & Spring) Social, psychological, biological, and cultural factors of individual and group development as applied to social work practice. Behavior and life-cycle development focusing on diversity

and each stage of life. Discuss development in terms of the individual, and in terms of overlapping social systems such as the multi-generational family, culture, community, and society.

SW 5101. Historical Origins and Contemporary Policies in Social Welfare. (; 3 cr. [max 4 cr.] ; A-F or Audit; Every Fall) Contemporary policies and programs in social welfare are examined in light of their historical origins and evolution. A framework is then developed for analysis of concepts and principles in contemporary social policy for social welfare programs and services. The emergence of the profession of social work also examined.

SW 5562. Global Social Work and Social Development. (3 cr. ; Student Option; Every Fall) Theories/strategies of social work and social development in industrial/developing countries. Applying international perspective and comparative framework to analyze basic human needs, social problems, and social work and social development strategies in different countries.

SW 5903. Substance Abuse and Social Work. (; 2 cr. ; Student Option; Every Fall) Students gain skills in eliminating the detrimental impact of substance use disorders at multiple levels (families, groups, organizations, and communities) through an ability to identify, assess, intervene, and evaluate those struggling with substance abuse and dependency throughout the life span.

SW 5904. Facilitation and Conflict Management: Humanistic Approach. (; 2 cr. ; Student Option; Every Spring) Humanistic approach to facilitating meetings in small human service organizations and units within large bureaucratic structures. Managing conflict among individuals, groups, and communities in multiple settings.

SW 5905. Permanency in Child Welfare. (; 2 cr. ; A-F or Audit; Every Spring) Depth/breadth in knowledge/skill acquisition in achieving permanency for children receiving services within public, tribal, and private child welfare systems. Out-of-home/permanency placements, specific permanency interventions, and child/family responses to different permanency options.

SW 5907. School Social Work. (; 1 cr. ; Student Option; Periodic Fall, Spring & Summer) Apply social work knowledge/skills in school settings through prevention, assessment, intervention, and evaluation from an ecological multilevel approach focused on students, families, and the school community.

SW 5912. Grief and Loss in Social Work Practice. (1 cr. ; Student Option; Every Fall & Spring) Review current concepts of grief/loss. Historical/modern views, symptoms of grief, implications of diverse losses, including expected, sudden, or traumatic losses, ambiguous grief.

SW 5913. Working with Immigrant Populations. (; 2 cr. ; Student Option; Periodic Fall & Spring) Trends in immigration to US and public policy responses. Acculturation processes, issues, problems. Common social service needs of immigrants/refugees. Skills for engagement/interventions with immigrants and refugees across main fields of social work.

SW 5991. Independent Study in Social Work. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer) Independent study in areas of special interest to students and faculty. This course is open to graduate students in the School of Social Work with an approved independent study proposal. MSW students may apply a maximum of 4 credits of SW 5991 to their program of study.

Social/Administrative Pharmacy (SAPH)

SAPH 5100. Pro-Seminar. (; 1 cr. ; A-F or Audit; Every Fall) History, foundational frameworks, and key research domains for social and administrative pharmacy through examining landmark literature. Students think critically, reflect on important works, and create a cognitive map of the discipline and their own focus for study.

SAPH 5610. Pharmacoepidemiology. (3 cr. ; A-F only; Fall Odd Year) Application of epidemiologic principles to study/use. Beneficial/adverse outcomes of drugs in human populations.

Sociology (SOC)

SOC 1001. Introduction to Sociology. (DSJ,SOCS; 4 cr. ; Student Option; Every Fall, Spring & Summer) This course is designed to introduce you to the study of society and what sociologists call the "sociological imagination:" a way of viewing the events, relationships and social phenomena that shape our individual lives and much of our collective experience. Through the course we will examine some of the central concepts and problems that have preoccupied both classical and contemporary sociologists and gain a sense of how the sociological imagination can illuminate the social forces that have a concrete impact on our everyday lives. Throughout the course you will be asked to consider the ways in which society affects your life, and how you, in turn, affect society. prereq: Soc Majors/Minors must register A-F

SOC 1011V. Honors: Introduction to Sociology. (DSJ,WI,SOCS; 4 cr. ; A-F only; Every Fall & Spring) This course is designed to introduce you to the study of society and what sociologists call the "sociological imagination:" a way of viewing the events, relationships, and social phenomena that shape our individual lives and much of our collective experience. Through the course we will examine some of the central concepts and problems that have preoccupied both classical and contemporary sociologists and gain a sense of how the sociological imagination can

illuminate the social forces that have a concrete impact on our everyday lives. Throughout the course you will be asked to consider the ways in which society affects your life and how you, in turn, affect society.

SOC 1101. Law, Crime, & Punishment. (3 cr. ; A-F or Audit; Every Spring)

Introductory course designed to provide students with a general understanding of the main theoretical perspectives and empirical findings that dominate socio-legal studies and contemporary criminology. We examine the connections and relationships between law, crime, and punishment using an interdisciplinary social science approach.

SOC 3003. Social Problems. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

In this course, we will engage in a sociological examination of major social problems facing the contemporary US and abroad. We explore the origins and causes of different social problems, seek to understand how they impact individuals, groups, and the society as a whole, and evaluate solutions. We ask how an issue becomes defined as a "social problem," discuss the social construction of reality and deviance, and consider the primary frameworks under which societies have organized their responses to different social problems. prereq: 1001 recommended; soc majors/minors must register A-F

SOC 3005. Social Science Fiction. (3 cr. ; A-F or Audit; Periodic Spring)

This course applies theories, concepts, and principles from social science disciplines such as sociology, political science, and anthropology, to social science fiction novels, stories, and films, to understand how soc-sci-fi contributes to knowledge about current societal conditions. Soc majors/minors must register A-F.

SOC 3090. Topics in Sociology. (; 3 cr. [max 6 cr.] ; Student Option; Periodic Spring)

Topics specified in Class Schedule. prereq: 1001 recommended; soc majors must register A-F; cr will not be granted if cr has been received for the same topics title

SOC 3093. Directed Study. (1-4 cr. ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study at sophomore level. Prereq 1001, instr consent, dept consent, college consent; soc majors/minors must register A-F.

SOC 3094. Directed Research. (; 1-4 cr. ; Student Option; Every Fall & Spring)

Guided research experience at sophomore level. prereq: 1001, instr consent; soc majors/minors must register A-F

SOC 3101. Sociological Perspectives on the Criminal Justice System. (CIV; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

This course introduces students to a sociological account of the U.S. criminal justice system. We will critically examine the components, dynamics, and effects of policing, criminal courts, community supervision, jails, and prisons. Throughout the course, we focus on sociological understandings of these

processes, with particular attention to ethnic, racial, class, and gender inequalities as well as long-term problems associated with the high rate of criminal justice supervision in the U.S. prereq: [SOC 1001] recommended, Sociology majors/minors must register A-F

SOC 3101H. Honors: Sociological Perspectives on the Criminal Justice System. (CIV; 3 cr. ; A-F only; Every Fall, Spring & Summer)

This course introduces students to a sociological account of the U.S. criminal justice system. We will critically examine the components, dynamics, and effects of policing, criminal courts, community supervision, jails, and prisons. Throughout the course, we focus on sociological understandings of these processes, with particular attention to ethnic, racial, class, and gender inequalities as well as long-term problems associated with the high rate of criminal justice supervision in the U.S. Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Examples of additional requirements may include: ? Honor students will be expected to interview a current Sociology graduate student working on a LCD topic. Following this, each student will individually be expected to do an in-class power-point presentation explaining how the interviewees? research relates with themes presented in the course. Students will also be expected to meet as a group and individually with the professor four times during the course semester. ? Sign up and prepare 3-4 discussion questions in advance of at least one class session. ? Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). ? Write two brief (1-page) reflection papers on current news, or a two-page critique of a class reading ? Attend a presentation, workshop, or seminar on a related topic for this class and write a 2 page maximum reflective paper. prereq: [SOC 1001] recommended, Sociology majors/minors must register A-F, honors

SOC 3102. Criminal Behavior and Social Control. (3 cr. ; Student Option; Every Fall & Spring)

This course will address the social and legal origins of crime and crime control with a focus on general theories of deviance/crime and present an overview of forms of social control. We will critically examine criminological, sociological and legal theories that explain the causes of crime and other misdeeds. prereq: Soc majors/minors must register A-F

SOC 3201. Inequality: Introduction to Stratification. (; 3 cr. ; Student Option; Periodic Fall)

Why does inequality exist? How does it work? These are the essential questions examined in this class. Topics range from welfare and poverty to the role of race and gender in getting ahead. We will pay particular attention to social inequities ? why some people live longer and happier lives while others are burdened by worry, poverty, and ill health. prereq: soc majors/minors must register A-F

SOC 3207. Global Islamophobia. (3 cr. ; A-F only; Periodic Spring)

Throughout the world, anti-Muslim activists and politicians have been increasingly attacking Muslims and Islam. And, international organizations have reported human rights violations against Muslims worldwide. Recently, in the United States, there have been calls to ban Muslims, as well as register American Muslims. In France, Muslim women are prohibited to wear a headscarf in high school. And in Myanmar, a genocide against Muslim minorities is currently underway. While anti-Islamic discourses have a long history in many societies worldwide (including Muslim-majority countries), the course seeks to explore the global rise of these discourses since September 11, 2001. The course examines the cultural, political, and historical origins of Islamophobic discourses that cast Muslims as "violent," "hateful," and "uncivilized." Class sessions will include some lecture but will be largely discussion based. Assignments will ask students to think and write critically about course concepts, debate and participate in simulation exercises, and reflect on personal thoughts and feelings about course content.

SOC 3211W. Race and Racism in the US. (DSJ,WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

We live in a society steeped in racial understandings that are often invisible?some that are hard to see, and others that we work hard not to see. This course will focus on race relations in today's society with a historical overview of the experiences of various racial and ethnic groups in order to help explain their present-day social status. This course is designed to help students begin to develop their own informed perspectives on American racial ?problems? by introducing them to the ways that sociologists deal with race, ethnicity, race relations and racism. We will expand our understanding of racial and ethnic dynamics by exploring the experiences of specific groups in the U.S. and how race/ethnicity intersects with sources of stratification such as class, nationality, and gender. The course will conclude by re-considering ideas about assimilation, pluralism, and multiculturalism. Throughout, our goal will be to consider race both as a source of identity and social differentiation as well as a system of privilege, power, and inequality affecting everyone in the society albeit in different ways.

SOC 3215. Supercapitalism: Labor, Consumption & the Environment in the New Global Economy. (3 cr. ; A-F only; Every Fall)

From the jeans you buy online to the place mats you purchase at Target, most of the items we consume are made somewhere else. Global production networks link consumers of fresh green beans in Britain with growers, pickers, and packers in Zambia. And it isn't only products that move around the globe; so do people. Thanks to immense economic inequalities, wealthy families in the global North enjoy the cheap labor of Eastern European, Filipino, and Honduran nannies, house cleaners, and gardeners. How did this global economy come to be, how has it impacted

workers, consumers, and ecosystems, and what are its ethical and political implications? This course focuses on the changes that have occurred over the last 70 years in the realms of labor, consumption, and the environment. We'll examine the movement away from regulated national economies to an integrated global economy; changing patterns and organization of production, distribution, consumption, and waste disposal; and new forms of capital-labor-state relations. Some of the topics we explore include the global trade in body parts; the rise of shareholder capitalism; the new "platform" economy; the growing insecurity of work; and the environmental changes global capitalism has wrought. We end by considering alternatives to the "business-as-usual" (BAU) economy.

SOC 3221. Sociology of Gender. (3 cr. ; A-F or Audit; Periodic Spring)

Gender is something so fundamental to our lives, to our identities, and how we interact with others that we often take it for granted. However, understandings of gender vary across time and place, and even within cultures, making it clear that our understandings of gender are not universal or timeless. In this class, we will examine how gender intersects with race and sexuality, as well as how it impacts areas of our lives such as child socialization, family structure, the media, intimate relationships, and the workplace. Prereq: 1001 recommended; soc majors/minors must register A-F

SOC 3225. The Power of the 1%: Global Philanthropy and the Making of a New World. (3 cr. ; Student Option; Periodic Fall & Spring)

Philanthropy has come to play an increasingly important role in the economy and society, on both a national and global level. Americans gave away \$450 billion in 2019, or a little over 2 percent of our country's GDP (Giving USA 2020). A few mega-philanthropists, such as Bill Gates, Warren Buffett, Michael Bloomberg, and others donated mind-boggling sums of money. These individuals and their foundations are having a significant impact around the world, changing the way public education is carried out in many countries, how global health priorities are defined, how public policies are made, and how African agricultural systems are organized. Forbes magazine reports that there are 1,645 billionaires in the world today, 80% more than a decade ago. While some observers look positively on this philanthropic outpouring, others suggest it may be eroding democracy. In this course, we study philanthropy from a variety of perspectives, exploring who gives away money and why, how this "gift" impacts givers, receivers, and taxpayers, and what the relationship is between global philanthropy and power. Specific topics include the history of foundations; religion and charity; philanthropy and politics; consumption-based giving (or "brand aid"), and philanthropy and social policy. We'll examine case studies such as the Gates Foundation's role in African agriculture. Students will do "participant observation" in a local charity, and a research project on the philanthropic foundation or giving

practice of their choice. Pre-req: Soc Majors must register A-F.

SOC 3241. Sociology of Women's Health: Experiences from Around the World. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Health care is a fundamental right, but access to it is not shared evenly by all. This course considers women's and men's health needs, and how health systems assign priority to those needs. The course also covers how differences in health policy, national medical systems, levels of wealth, and cultural contexts around the world affect women's health and treatment and their experiences of wellness and illness. Women are taking an active role in shaping healthy societies. The final portion of this course looks at the goals and successes of women's movements in the health sphere. Throughout the course, there will be an emphasis on how sociological approaches to health differ from medical or epidemiological approaches, the advantages of the sociological approaches, and the respective advantages and disadvantages of qualitative versus quantitative approaches to studying women's health. Pre-req: Soc majors and minors must register A-F; Soc 1001 recommended.

SOC 3243W. On Drugs: Pleasures, Panics & Punishments. (WI; 3 cr. ; Student Option; Periodic Fall & Spring)

In this course we are going to study and reflect on the immense popularity of mood-enhancing drugs, legal and illegal, around the world today. Why do we want to modify our moods, and how do we set about it? Why do some people throw themselves into drug use while others fearfully avoid it? And why do many more of us feel worried about "addiction" to shopping, sex, or gambling? Together we will build a comparative analysis of drug cultures and practices? understanding the place of "journey" and "possession" inebriation across time, and how the temporal and ritual boundaries delimiting substance use get broken down by the mass commoditization of alcohol and other drugs by 19th century capitalism. From there we trace the amazingly confused development of addiction and changing forms of intervention, from alarmist educational campaigns and the militarized maneuvers of the drug war to the drug court movement, and from the twelve-step cure to alternative harm reduction approaches. This class will offer you a mixture of accessible and detailed material, together with some theoretical work which will help you grasp the subject on a deeper level. As a writing intensive class you will develop a three-stage paper with feedback at each stage, producing a strong writing sample. Pre-req: Soc 1001 recommended; Soc majors/minors must register A-F.

SOC 3246. Diseases, Disasters, & Other Killers. (ENV,HIS; 3 cr. ; A-F or Audit; Every Fall)

This course studies the social pattern of mortality, beginning with demographic transition theory. Students will study specific causes of death or theories of etiology, including theories about suicide, fundamental cause theory, and the role of early life

conditions in mortality. Students learn tools for studying mortality, including cause of death classifications and life tables. Soc majors/minors must register A-F.

SOC 3251W. Sociological Perspectives on Race, Class, and Gender. (DSJ,WI,SOC; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

In the midst of social unrest, it is important for us to understand social inequality. In this course we will analyze the impact of three major forms of inequality in the United States: race, class, and gender. Through taking an intersectional approach at these topics, we will examine the ways these social forces work institutionally, conceptually, and in terms of our everyday realities. We will focus on these inequalities as intertwined and deeply embedded in the history of the country. Along with race, class, and gender we will focus on other axes of inequality including sexuality, citizenship, and dis/ability. We will analyze the meanings and values attached to these social categories, and the ways in which these social constructions help rationalize, justify, and reproduce social inequality. Prereq: Soc majors/minors must register A-F

SOC 3301W. Politics and Society. (WI; 3 cr. ; A-F or Audit; Periodic Spring)

Political sociology is concerned with the social bases of power and the social consequences of the organization of power, especially how power operates in relationship to various forms of inequality and different institutions. We will explore political socialization, electoral politics and voting, social movements, the media and framing, and politics of inequality, poverty, and welfare. Prereq: 1001 recommended; soc majors/minors must register A-F

SOC 3309. Atheists as "Other": Religious & Nonreligious Outsiders in the US. (DSJ; 3 cr. ; A-F or Audit; Periodic Spring)

What does it mean to be an atheist in the United States today? Atheists comprise a small percentage of the American population, but one with an increasingly visible presence in popular culture, political discourse, & everyday life. How do atheists organize into groups oriented toward identity-formation, social connection, and political action? Prereq: 1001 recommended

SOC 3311W. Hard Times & Bad Behavior: Homelessness & Marginality in the United States. (WI; 3 cr. ; Student Option; Periodic Spring)

As we read about hobos and sailors, opium users and saloon girls, and contemporary experiences on the streets, we trace themes about marginality in the US, such as rootlessness produced by labor market, the love-hate relationship between elites and marginal populations in popular culture, and the complex mixture of freedom and deprivation of people on the edge. Prereq: 1001 recommended, soc majors/minors must register A-F

SOC 3322W. Social Movements, Protests, and Change. (CIV,WI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Focusing on the origins, dynamics, and consequences of social movements,

this course explores debates about the dilemmas and challenges facing movement organizations, the relationship between social movements and various institutions, and the role of social movements and protest in bringing about change. The course is organized around general theoretical issues concerning why people join movements, why they leave or remain in movements, how movements are organized, the strategies and tactics they use, and their long-term and short-run impact. prereq: 1001 recommended; soc majors/minors must register A-F

SOC 3411W. Organizations and Society. (WI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course introduces undergraduates to contemporary theories and debates about formal organizations in an international context, including such forms as large corporations, small businesses, public bureaucracies, nonprofits, voluntary associations, social movement organizations, terrorist networks and counterterror organizations. prereq: 1001 recommended; soc majors/minors must register A-F

SOC 3412. Social Networking: Theories and Methods. (TS; 3 cr. ; A-F only; Periodic Spring)

Network analysis spans a diverse range of phenomena from ego-centric ties, to small work-team sociograms, to organizational relations, to trade and military alliances among nation states. This course introduces undergraduate students to theories and methods for studying social networks, the ties connecting people, groups, and organizations. Topics include friendship, communication, small group, health, sexual and romantic, corporate, social movement, public policy, innovation diffusion, criminal and terrorist, and Internet networks.' prereq: [SOC 1001] recommended, Sociology majors/minors must register A-F

SOC 3412H. Honors: Social Networking: Theories and Methods. (TS; 3 cr. ; A-F only; Periodic Spring)

Network analysis spans a diverse range of phenomena from ego-centric ties, to small work-team sociograms, to organizational relations, to trade and military alliances among nation states. This course introduces undergraduate students to theories and methods for studying social networks, the ties connecting people, groups, and organizations. Topics include friendship, communication, small group, health, sexual and romantic, corporate, social movement, public policy, innovation diffusion, criminal and terrorist, and Internet networks. Honors students are expected to demonstrate greater depth of discussion, depth and to a degree length of writing assignments, presentations, and leadership of the students. Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Students will also be expected to meet as a group and individually with the professor four times during the course semester. Examples of additional requirements may include: ? Sign up and prepare 3-4 discussion questions

in advance of at least one class session. ? Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). ? Write two brief (1-page) reflection papers on current news, or a two-page critique of a class reading ? Attend a presentation, workshop, or seminar on a related topic for this class and write a 2 page maximum reflective paper. ? Interview a current Sociology graduate student and present briefly in class or write a reflective piece, not more than 2 pages in length, to be submitted to the Professor. prereq: [SOC 1001] recommended, Sociology majors/minors must register A-F, honors

SOC 3415. Consume This! The Sociology and Politics of Consumption. (; 3 cr. ; A-F or Audit; Periodic Fall)

How symbols are created, acquired, diffused, and used for organizing personal identity and maintaining group boundaries. Fashion. Socialization. Structure of retail trade. Role of mass media, advertising, marketing/production strategies. Implications of worldwide markets. prereq: 1001 recommended; soc majors/minors must register A-F

SOC 3417W. Global Institutions of Power: World Bank, International Monetary Fund, and World Trade Organization. (GP,WI; 3 cr. ; A-F or Audit; Periodic Fall)

This course will introduce students to some of the world's most powerful global institutions -- such as the World Bank (IBRD), the International Monetary Fund (IMF), the World Trade Organization (WTO), the United Nations, and affiliated agencies such as UNHCR (for refugee support). We will follow their efforts to promote a style of global development practices -- large-scale capital lending and global expertise building -- that has crystallized into a common understanding of how global north-south dynamics should progress. Cases pursued in class may include their lending and debt policies, dam building and energy projects, climate resilience and water loans, and the ways they mediate free trade agreements among competing countries. We will also hear from the multitude of voices, theories, and practices that offer alternative visions as to how people strive to produce a more just, socially equitable, and climate-safe world. We will use books, articles, films, in-class debates, case study exploration, small-group projects, and guest speakers to create a lively discussion-based classroom environment.

SOC 3421W. Sociology of Work: Good Jobs, Bad Jobs, No Jobs?. (WI; 3 cr. ; A-F or Audit; Periodic Spring)

Work is central to individuals, economy, and society. This course introduces students to sociological perspectives and analyses of work. We will look at what makes a good job good, a bad job bad, and impacts of joblessness on society. prereq: 1001 recommended, Soc majors/minors must register A-F

SOC 3446. Comparing Healthcare Systems. (GP; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Examination of national health systems from an international comparative perspective,

emphasizing social, organizational, political, economic, cultural, and ethical dimensions of healthcare policies and programs to deliver services and their impacts on the health of population groups. The comparative approach will enable students to acquire a better understanding of the problems and potential for reforming and improving US healthcare delivery. Pre-req: Soc majors/minors must register A-F

SOC 3451W. Cities & Social Change. (WI; 3 cr. ; A-F or Audit; Spring Odd Year)

The core themes of this class will provide an essential toolkit for approaching broad questions about social justice, culture, work, housing and service provision on multiple levels and across the globe. This course will have units on economic development, inequality, the interaction between design and human action, inclusive and exclusive cultural formations, crime and cultures of fear, social control and surveillance. prereq: 1001 recommended, Soc majors/minors must register A-F

SOC 3452. Education and Society. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Everyone thinks they know what "education" is. We've all been in schools, and we think we know how they work. We all have opinions about why some people go farther in school than others and why some people learn more than others. We all think we know what role education plays in shaping who gets good jobs, who has a good life, and who has more knowledge. This course is designed to challenge and expand what we think we know about all of these things. Students (and instructor) will critically engage scientific research in sociology, education, economics, public policy, and elsewhere. The goal will be to educate everyone about the current state of knowledge about how "education" works: what shapes educational achievement; where sex and racial/ethnic and socioeconomic inequalities in educational achievements come from; what role education plays in economic development; how and why educational accomplishments result in better social and economic outcomes; and how educational institutions might be improved. prereq: Soc majors/minors must register A-F.

SOC 3461. Sociology of Neighborhoods: People, Place, Housing, and Community. (3 cr. ; A-F or Audit; Periodic Fall)

This course is an introduction to the sociological study of neighborhoods, exploring how sociologists study people in their local communities. Generally the course focuses on neighborhoods in American society, and may explore broader issues with a research focus on neighborhoods in the Twin Cities area which students can study using a range of sociological research methods. Students will learn about a range of methods for studying neighborhoods including analysis of local area statistics, ethnographies, and interviews, and how to analyze different forms of data to meet the Data Analysis requirements for the BS in Sociology. Important themes which are addressed in the class include the composition and population structure of communities, racial

and ethnic segregation, associational and civic life, municipal government and politics, community folklore and memory, housing, and local environmental issues. Soc 1001 recommended; Soc Majors and Minors must register A-F

SOC 3501. Sociology of Families.

(DSJ,SOCS; 3 cr. ; Student Option; Fall Odd, Spring Even Year)

Family has long been a significant experience in human societies; much of what we understand ourselves to be, arises in family life. But family also varies widely in composition across time and place. We will learn how sociologists study and understand families theoretically, as social institutions, as well as sites and sources of social problems. prereq: 1001 recommended; soc majors/minors must register A-F

SOC 3503. Asian American Identities, Families & Communities. (SOCS,DSJ; 3 cr. ; A-F or Audit; Periodic Spring)

This course provides a sociological overview of Asian American identities, families and communities. To place these experiences within a broader historical, structural, and cultural context the course will begin with a brief introduction to the history of Asians and Asian Americans in the United States and sociological theories about incorporation and racial stratification. We will then examine the diversity of Asian American communities and families, highlighting ethnic, gender, and class variations. Other topics of focus include racialization and discrimination, education, ethnic enclaves, family and intergenerational relationships, identity, media, culture, and politics and social action. Throughout the course we will consider the ways in which society affects individuals, and how in turn, individuals affect society. Students will have an option to do community-engaged learning or another course project. prereq: SOC 1001 recommended, Sociology majors/minors must register A/F

SOC 3503H. Honors: Asian American Identities, Families & Communities. (SOCS,DSJ; 3 cr. ; A-F only; Periodic Spring)

This course provides a sociological overview of Asian American identities, families, and communities. To place these experiences within a broader historical, structural, and cultural context the course will begin with a brief introduction to the history of Asians and Asian Americans in the United States and sociological theories about incorporation and racial stratification. We will then examine the diversity of Asian American communities and families, highlighting ethnic, gender, and class variations. Other topics of focus include racialization and discrimination, education, ethnic enclaves, family and intergenerational relationships, identity, media, culture, and politics and social action. Throughout the course, we will consider the ways in which society affects individuals, and how in turn, individuals affect society. Students will have an option to do community-engaged learning or another course project. Honors students are expected to demonstrate a greater depth of discussion, depth and to a degree length

of writing assignments, presentations, and leadership of the students. Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Students will also be expected to meet as a group and individually with the professor four times during the course semester. Examples of additional requirements may include: - Sign up and prepare 3-4 discussion questions in advance of at least one class session. - Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). - Write two brief (1-page) reflection papers on current news, or a two-page critique of a class reading - Attend a presentation, workshop, or seminar on a related topic for this class and write a 2-page maximum reflective paper. - Interview a current Sociology graduate student and present briefly in class or write a reflective piece, not more than 2 pages in length, to be submitted to the Professor. prereq: [SOC 1001] recommended, honors

SOC 3505. Migrations: People in Motion.

(GP; 3 cr. ; A-F or Audit; Periodic Fall & Spring) Students in this course will tackle debates related to migration from a variety of disciplinary perspectives and will compare and connect diverse migration trends around the world (Asia, Africa, Latin America, and North America). Students will critically engage with various paradigms on the geopolitical, racial, and gender power dynamics that anchor migration processes and outcomes. Why would the movement of individuals from some parts of the world (often from the least developed regions to the highly developed Western nations) create such strong and highly charged debates? How are cross border social and economic relations of individuals and households maintained and perpetuated? What are particular governments doing to either encourage or hinder these movements? How are current migrations different from earlier eras? Is this gendered, and if so, how and why? The objective of this course is to explore the above questions through academic and policy published literature. prereq: Soph, jr, or sr

SOC 3507. Immigration to the United States: Beyond Walls. (DSJ; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Immigration is one of the most politically and emotionally charged issues in the United States today. It is also poorly understood. Assumptions, myths, and misinformation about US immigration and immigrants are routinely and increasingly manifested in acrimonious political debates, news stories and sound bites, and our daily conversations and interactions with one another in the very communities in which we live and work. At the same time, US immigration and immigrants have been, are, and will continue to be an essential and vibrant part of our lived and shared experiences as individuals and communities, Minnesotans and Americans, and global citizens.

SOC 3511. World Population Problems.

(GP; 3 cr. ; A-F or Audit; Periodic Fall & Summer)

This class is an introduction to the contemporary issues that accompany such dramatic population change, including fertility change, disease experiences, migration as opportunity and challenge and human-environment conflict. Further, we will examine the roles of global organizations, national governments, and culture in shaping and reshaping populations. prereq: [SOC 1001] recommended, Sociology majors/minors must register A-F

SOC 3511H. Honors: World Population Problems. (GP; 3 cr. ; A-F only; Periodic Fall & Spring)

This class is an introduction to the contemporary issues that accompany such dramatic population change, including fertility change, disease experiences, migration as opportunity and challenge and human-environment conflict. Further, we will examine the roles of global organizations, national governments, and culture in shaping and reshaping populations. Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Students will also be expected to meet as a group and individually with the professor four times during the course semester. Examples of additional requirements may include: ? Sign up and prepare 3-4 discussion questions in advance of at least one class session. ? Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). ? Write two brief (1-page) reflection papers on current news, or a two-page critique of a class reading ? Attend a presentation, workshop, or seminar on a related topic for this class and write a 2-page maximum reflective paper. ? Interview a current Sociology graduate student and present briefly in class or write a reflective piece, not more than 2 pages in length, to be submitted to the Professor. prereq: [SOC 1001] recommended, Sociology majors/minors must register A-F

SOC 3613V. Honors: Stuffed and Starved: The Politics of Eating. (GP,WI,SOCS; 3 cr. ; A-F only; Periodic Fall & Spring)

The course takes a cross-cultural, historical, and transnational perspective to the study of the global food system. Themes explored include: different cultural and social meanings attached to food; social class and consumption; the global food economy; global food chains; work in the food sector; the alternative food movement; food justice; environmental consequences of food production. Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Students will also be expected to meet as a group and individually with the professor four times during the course semester. Examples of additional requirements may include: - Sign up and prepare 3-4 discussion questions in advance of at least one class session. - Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). - Write two brief (1-page) reflection papers on current news or a two-page critique of a class reading - Attend a

presentation, workshop, or seminar on a related topic for this class and write a 2-page maximum reflective paper. - Interview a current sociology/Global Studies graduate student and present briefly in class or write a reflective piece, not more than 2 pages in length, to be submitted to the professor.

SOC 3613W. Stuffed and Starved: The Politics of Eating. (GP,WI,SOCs; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course takes a cross-cultural, historical, and transnational perspective to the study of the global food system. Themes explored include: different cultural and social meanings attached to food; social class and consumption; the global food economy; global food chains; work in the food sector; the alternative food movement; food justice; environmental consequences of food production. prereq: Soc majors/minors must register A-F

SOC 3641. Understanding New Zealand: Culture, Society, and Environment.

(CIV,GP; 3 cr. ; A-F only; Periodic Summer)
This course introduces students to New Zealand society in a 3-week global seminar, covering political structures, indigenous rights, immigration trends, and environmental politics. New Zealand is one of the world's most remote inhabited land-masses, and this remoteness has had a significant impact on its environmental and human history. Like the United States, New Zealand is thought of as a "settler society" that is now largely populated by descendants of people who migrated from Europe in the last couple of centuries. Like the United States it is a long-established democracy, with significant levels of immigration from Europe and Asia. Unlike the United States, the indigenous Maori population comprise around 1/6 of the population giving indigenous issues an unusual prominence in politics and society compared to peer countries such as the US, Canada, Australia, or Scandinavia to which NZ is often compared by social scientists. The predominant language spoken in the country is English, giving students the ability to quickly engage with the local population in formal and informal settings, and access local resources for study such as libraries, archives, speakers from universities, civic organizations, and government. Thematically the course has a continuing focus on indigenous rights, immigration, and the environment in a long-established democracy. Methodologically the course gives students an opportunity to engage with several important social research methods including reading comparative social science that puts New Zealand in context with similar countries; archival and biographical research, and social observation of public spaces. Through the instructor's contacts with colleagues in New Zealand, students also have the opportunity to engage in joint discussions with New Zealand university students about shared assigned readings about New Zealand society, and meet community members in a range of informal and formal settings. Assignments have students undertake reflective journaling on their observations of New Zealand, write a biographical profile

from archival sources, and complete a short research paper on a topical issue of the students' choice using academic literature, official statistics, and news media.

SOC 3671. Chinese Society: Culture, Networks, & Inequality. (3 cr. ; A-F or Audit; Periodic Fall)

Introduces students to sociological perspectives and analyses of cultures, social networks, and socioeconomic inequalities in post-1980 China. In addition to lectures, the instructor will show video clips about various backgrounds of China and group discussions will be organized to exchange opinions about issues of common interest. Students will gain a basic understanding of how Chinese society operates today. prereq: 1001 recommended, soc majors/minors must register A-F

SOC 3681. Gender and the Family in the Islamic World. (; 3 cr. ; A-F only; Periodic Spring)

This course explores the experiences of Muslim women and Muslim families from a historical and comparative perspective. Expanding the discussion on Muslim women's lives and experiences beyond the Middle East, by also centralizing on the experiences of Muslim women and families outside of this geographical area highlights the complex and diverse everyday experiences of Muslim women around the world. This wider lens exposes the limitations intrinsic in the stereotypical representation of Muslims in general and Muslim women in particular. We will explore the intricate web of gender and family power relations, and how these are contested and negotiated in these societies. Some of the themes the course explores include the debates on Muslim women and colonial representations, sexual politics, family, education and health, women and paid work, gender and human rights, and Islamic feminisms debates. prereq: At least soph; 1001 recommended

SOC 3701. Social Theory. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

This course provides an introductory overview of major social theories ranging from the foundational sociological theories of Marx, Weber and Durkheim to contemporary theories of postmodernism and globalization. We will examine a range of theories with particular attention to their treatments of core sociological questions and concerns. prereq: 1001 recommended; soc majors/minors must register A-F

SOC 3721. Principles of Social Psychology. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Social psychology is at the intersection of macro and micro sociology, linking social structures, interpersonal relationships and interactions, attitudes, values and the self-concept. Principles of social psychology are drawn from multiple theoretical perspectives, including symbolic interactionism, expectation states theory, social structure and personality, and the life course. This course covers a broad range of topics as well as the diverse methods that social psychologists use to study them (for example, experiments, surveys, ethnographic

observation). prereq: 1001 recommended; soc majors/minors must register A-F

SOC 3801. Sociological Research Methods. (; 4 cr. ; A-F or Audit; Every Fall & Spring)

This course provides an introduction to the materials and methods of social science research in a comprehensive and critical way. The course begins by introducing social science research, including philosophical and theoretical foundations. The course then covers the primary components of research design, including conceptualization, operationalization and measurement, primary and secondary data collection and sources, sampling, and the logic of comparison(s). prereq: 1001 recommended; soc majors must register A-F

SOC 3811. Social Statistics. (MATH; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This course will introduce majors and non-majors to basic statistical measures and procedures that are used to describe and analyze quantitative data in sociological research. The topics include (1) frequency and percentage distributions, (2) central tendency and dispersion, (3) probability theory and statistical inference, (4) models of bivariate analysis, and (5) basics of multivariate analysis. Lectures on these topics will be given in class, and lab exercises are designed to help students learn statistical skills and software needed to analyze quantitative data provided in the class. prereq: Undergraduates with strong math background are encouraged to register for 5811 in lieu of 3811 (Soc 5811 offered Fall terms only). Soc Majors/Minors must register A-F.

SOC 4090. Topics in Sociology. (; 3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring)
Topics specified in Class Schedule. prereq: 1001 recommended; soc majors/minors must register A-F; cr will not be granted if cr has been received for the same topics title

SOC 4093. Directed Study. (1-4 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study at junior or senior level. Prereq instr consent, dept consent, college consent; soc majors/minors must register A-F.

SOC 4094W. Capstone Experience: Directed Research (4 cr.). (WI; 4 cr. ; A-F only; Every Fall & Summer)

Faculty guided and self directed research experience at junior/senior level. This is designed to: a) provide students with an opportunity to reflect on what they have learned as a sociology major; b) use that knowledge to write a sociological analyses; and c) think about how the knowledge, skills, and insights of the sociological enterprise can be used and applied outside of the University. Through this one:one capstone experience majors will emphasize the relationship between a sociological perspective and critical thinking, effective communication, and meaningful civil engagement. This Capstone Experience: Directed Research is to include but not limited to: bi-weekly meetings, literature review, multiple drafts and revisions, etc. prereq: 1001,

3701, 3801, 3811, at least 12 cr upper div sociology electives, dept & instructor consent.

SOC 4101V. Honors: Sociology of Law. (WI; 3 cr. ; A-F only; Every Fall & Spring)

This course will consider the relationship between law and society, analyzing law as an expression of cultural values, a reflection of social and political structure, and an instrument of social control and social change. Emphasizing a comparative perspective, we begin by discussing theories about law and legal institutions. We then turn our attention to the legal process and legal actors, focusing on the impact of law, courts, and lawyers on the rights of individuals. Although this course focuses on the US legal system, we will explore issues of the relationship between US law and global law and concepts of justice. Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Examples of additional requirements may include: - Honors students will be expected to interview a current Sociology graduate student working on a LCD topic. Following this, each student will individually be expected to do an in-class power point presentation explaining how the interviewees' research relates with themes presented in the course. Students will also be expected to meet as a group and individually with the professor four times during the course semester. - Sign up and prepare 3-4 discussion questions in advance of at least one class session. - Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). - Write two brief (1-page) reflection papers on current news, or a two-page critique of a class reading - Attend a presentation, workshop, or seminar on a related topic for this class and write a 2-page maximum reflective paper. prereq: honors student, [[SOC 1001] and [SOC 1101 or 3101 or 3102]] recommended, Sociology majors/minors must register A-F

SOC 4101W. Sociology of Law. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

This course will consider the relationship between law and society, analyzing law as an expression of cultural values, a reflection of social and political structure, and an instrument of social control and social change. Emphasizing a comparative perspective, we begin by discussing theories about law and legal institutions. We then turn our attention to the legal process and legal actors, focusing on the impact of law, courts, and lawyers on the rights of individuals. Although this course focuses on the US legal system, we will explore issues of the relationship between US law and global law and concepts of justice. prereq: [[SOC 1001] and [SOC 1101 or 3101 or 3102]] recommended, Sociology majors/minors must register A-F

SOC 4102. Criminology. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

This class seeks to develop an understanding of patterns of crime and punishment in the United States (including American particularities in international comparison), their social, political, economic, cultural,

and institutional conditions, and how these patterns relate to broader sociological themes. We will examine a cross-section of most outstanding recent and some (by now) classical criminological and sociological books and a few articles that have attracted much attention among scholars and/or the broader public. prereq: [SOC 3101 or SOC 3102 or instr consent], Sociology majors/minors must register A-F

SOC 4102H. Honors: Criminology. (; 3 cr. ; A-F only; Periodic Fall & Spring)

This class seeks to develop an understanding of patterns of crime and punishment in the United States (including American particularities in international comparison), their social, political, economic, cultural, and institutional conditions, and how these patterns relate to broader sociological themes. We will examine a cross-section of most outstanding recent and some (by now) classical criminological and sociological books and a few articles that have attracted much attention among scholars and/or the broader public. Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Examples of additional requirements may include: ? Honors students will be expected to interview a current Sociology graduate student working on a LCD topic. Following this, each student will individually be expected to do an in-class power point presentation explaining how the interviewees' research relates with themes presented in the course. Students will also be expected to meet as a group and individually with the professor four times during the course semester. ? Sign up and prepare 3-4 discussion questions in advance of at least one class session. ? Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). ? Write two brief (1-page) reflection papers on current news, or a two-page critique of a class reading ? Attend a presentation, workshop, or seminar on a related topic for this class and write a 2 page maximum reflective paper. prereq: Honors student, [SOC 3101 or SOC 3102 or instr consent], Sociology majors/minors must register A-F

SOC 4104. Crime and Human Rights. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course addresses serious violations of humanitarian and human rights law, efforts to criminalize those violations (laws and institutions), and consequences of these efforts. Special attention will be paid to the impact interventions have on representations and memories of atrocities on responses and the future of cycles of violence. Case studies on Holocaust, Balkan wars, Darfur, My Lai massacre, etc. Criminal justice, truth commissions, vetting, compensation programs. prereq: SOC 1001, at least one 3xxx SOC course recommended, Sociology majors/minors must register A-F

SOC 4104H. Honors: Crime and Human Rights. (; 3 cr. ; A-F only; Periodic Fall & Spring)

This course addresses serious violations of humanitarian and human rights law, efforts to criminalize those violations (laws and institutions), and consequences of these efforts. Special attention will be paid to the impact interventions have on representations and memories of atrocities on responses and the future of cycles of violence. Case studies on Holocaust, Balkan wars, Darfur, My Lai massacre, etc. Criminal justice, truth commissions, vetting, compensation programs. Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Examples of additional requirements may include: ? Honors students will be expected to interview a current Sociology graduate student working on an LCD topic. Following this, each student will individually be expected to do an in-class PowerPoint presentation explaining how the interviewees' research relates to themes presented in the course. Students will also be expected to meet as a group and individually with the professor four times during the course semester. ? Sign up and prepare 3-4 discussion questions in advance of at least one class session. ? Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). ? Write two brief (1-page) reflection papers on current news or a two-page critique of a class reading ? Attend a presentation, workshop, or seminar on a related topic for this class and write a 2-page maximum reflective paper. prereq: SOC 1001, at least one 3xxx SOC course recommended, Sociology majors/minors must register A-F

SOC 4105. Sociology of Punishment. (; 3 cr. ; A-F or Audit; Periodic Spring)

The purpose of this class is to develop a working understanding of the sociology of punishment. To that end, the course focuses on three interrelated questions: How do various social factors (the economy, culture, crime, media, race relations, etc.) shape the development of criminal punishment? Why does punishment differ across time and place? How do penal laws, practices, and institutions affect individuals, groups, and communities? The course combines lectures and small and large group discussions. prereq: 3101 or 3102 recommended; soc majors/minors must register A-F

SOC 4106. Crime on TV. (3 cr. ; Student Option; Every Fall)

This course uses television shows to explore sociological perspectives on crime and punishment. We will critically examine how (and to what extent) four television series represent or distort prevailing knowledge about crime and punishment. prereq: recommended [1001 or 1011V, 1101 or 3101 or 3102]; Soph or above or instr consent; soc majors/minors must register A-F.

SOC 4108. Current Issues in Crime Control. (; 3 cr. ; Student Option; Periodic Spring & Summer)

Selected current criminal justice policies from perspective of courts, legislature, community, and interest groups. Impact of criminal justice

policy changes on society and on social control agencies. prereq: Soc majors/minors must register A-F

SOC 4111. Sociology of Deviance. (; 3 cr. ; A-F or Audit; Periodic Fall)

This course considers why and how certain attributes and behaviors are defined as deviant, the consequences of deviant labels, and how norms, values, and rules are made and enforced. We will discuss basic concepts that cut across deviance theories and research, including social control, subcultures and deviant careers. We will explore theories of and societal reaction to deviant behavior. We will also discuss methodology and how the "social facts" of deviance are determined and disseminated. Finally, we will examine case studies addressing crime, organizational and occupational deviance, substance use, sexuality, body image, and more. prereq: Soc 3101 or 3102 recommended; Sociology majors/minors must register A-F

SOC 4113. Sociology of Violence: Bedrooms, Backyards, and Bars. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course looks at violent behavior across a wide variety of social arenas, bedrooms, backyards, and bars, being some common places where violence occurs. Students will wrestle with definitions of violence and the circumstances in which behavior is or isn't categorized as violent. A major theme will be how violence operates as a property of institutional arrangements, organizational practices, and interpersonal situations. Subtopics intersecting violence include cohorts (race, class, & gender), sport, sex, emotion, the State, and the environment. Soc Majors and Minors must register A/F. Pre-req of Soc 1001, Soc 1101, 3101 or 3102 is recommended.

SOC 4125. Policing America. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course is an in-depth sociological analysis of the origins, composition, and effects of policing in contemporary U.S. society. Throughout the course, we focus on using a social science lens to understand policing dynamics and how policing shapes social life. We will pay particular attention to the ways in which race, class, and gender inequalities are reflected in and reshaped by policing practices. Throughout the course, we will draw on contemporary media stories, podcast, documentaries, and guest visitors to connect scholarship with the world around us. prereq: 3101 or 3102 recommended or instr consent, soc majors/minors must register A-F

SOC 4133. Sociology of Gender, Sex, and Crime. (3 cr. ; A-F or Audit; Periodic Spring)

Crime and criminal justice is a gendered phenomena. In this seminar course, we will examine the contribution of feminist theoretical work to the field of criminology and to our understanding of how gender prescriptives are embedded in and influence criminal behaviors, the operation of the criminal justice system, and our conceptualizations of both. In so doing, we will critically assess the experiences of women, men and transgender persons in the criminal justice system as victims,

offenders, and defendants. The readings are drawn from a broad range of interdisciplinary empirical works. Students should critically assess both the strengths and limitations of the research. Lecture will be accompanied by class discussion, film segments (as well as legal proceedings), and small group work. Soc 1001 or Soc 1101 recommended; Soc majors/minors must register A-F

SOC 4135. Sociology of White-Collar Crime. (3 cr. ; A-F or Audit; Periodic Spring)

This course deals with diverse types of white-collar crime (high status, occupational, organizational crimes), their causation, the damage they cause, and their control. We will read some of the outstanding literature on these issues and explore well-known cases in depth. There will be lectures and discussion in the classroom. We will explore what white-collar crime teaches us about the nature and explanation of crime and about the nature of criminal justice and other government social control. prereq: [SOC 3101 or SOC 3102 or instr consent]; soc majors/minors must register A-F

SOC 4135H. Honors: Sociology of White-Collar Crime. (; 3 cr. ; A-F only; Periodic Spring)

This course deals with diverse types of white-collar crime (high status, occupational, organizational crimes), their causation, the damage they cause, and their control. We will read some of the outstanding literature on these issues and explore well-known cases in depth. There will be lectures and discussion in the classroom. We will explore what white-collar crime teaches us about the nature and explanation of crime and about the nature of criminal justice and other government social control. Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Examples of additional requirements may include: ? Honors students will be expected to interview a current Sociology graduate student working on a LCD topic. Following this, each student will individually be expected to do an in-class power point presentation explaining how the interviewees' research relates with themes presented in the course. Students will also be expected to meet as a group and individually with the professor four times during the course semester. ? Sign up and prepare 3-4 discussion questions in advance of at least one class session. ? Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). ? Write two brief (1-page) reflection papers on current news, or a two-page critique of a class reading ? Attend a presentation, workshop, or seminar on a related topic for this class and write a 2 page maximum reflective paper. prereq: Honors, [SOC 3101 or SOC 3102 or instr consent]

SOC 4141. Youth Crime & Punishment. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course offers an overview of social theory and research on youth crime, punishment, and delinquency. We start by critically examining the social facts surrounding the measurement, extent, and distribution of delinquency.

Next, we study the principal sociological explanations of delinquent behavior. These theories provide conceptual tools for analyzing delinquency and punishment among groups such as gang members. We then trace youth experiences in the juvenile justice system, from policing, to juvenile court, to probation, and institutionalization. Throughout, we analyze the success or failure of key programs implemented in attempts to prevent or reduce delinquency. prereq: Soc 3101 or 3102 recommended; Sociology majors/minors must register A-F

SOC 4141H. Honors: Youth Crime & Punishment. (; 3 cr. ; A-F only; Periodic Fall & Spring)

This course offers an overview of social theory and research on youth crime, punishment, and delinquency. We start by critically examining the social facts surrounding the measurement, extent, and distribution of delinquency. Next, we study the principal sociological explanations of delinquent behavior. These theories provide conceptual tools for analyzing delinquency and punishment among groups such as gang members. We then trace youth experiences in the juvenile justice system, from policing, to juvenile court, to probation, and institutionalization. Throughout, we analyze the success or failure of key programs implemented in attempts to prevent or reduce delinquency. Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Examples of additional requirements may include: ? Honors students will be expected to interview a current Sociology graduate student working on a LCD topic. Following this, each student will individually be expected to do an in-class power-point presentation explaining how the interviewees' research relates with themes presented in the course. Students will also be expected to meet as a group and individually with the professor four times during the course semester. ? Sign up and prepare 3-4 discussion questions in advance of at least one class session. ? Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). ? Write two brief (1-page) reflection papers on current news, or a two-page critique of a class reading ? Attend a presentation, workshop, or seminar on a related topic for this class and write a 2-page maximum reflective paper. prereq: honors student, Soc 3101 or 3102 recommended; Sociology majors/minors must register A-F

SOC 4147. Sociology of Mental Health & Illness. (; 3 cr. ; A-F or Audit; Periodic Spring)

This course is designed to give you an overview of the ways a sociological perspective informs our understanding of mental health and illness. While sociologists, psychologists, psychiatrists, social workers, and others all deal with issues of mental illness, they often approach the topic in very different ways. In general, a sociological perspective tends to focus on aspects of the social environment that we often ignore, neglect, or take for granted. It calls attention to how society or groups are organized, who benefits or is hurt

by the way things are organized, and what beliefs shape our behaviors. In viewing mental illness, sociologists have primarily challenged dominant views of mental illness, examined how social relationships play a role in mental illness, questioned the goals and implications of mental health policy and researched how mental health services are organized and provided. prereq: Soc 1001 recommended, Soc majors/minors must register A-F

SOC 4161. Criminal Law in American Society. (3 cr.; A-F or Audit; Every Fall) Purposes of criminal law and of principles of criminal liability, justification, and excuse. Applications to law of criminal homicide, sexual assault, drugs, and crimes against property, public order, and morals. prereq: Soc 3101 or 3102 recommended; soc majors/minors must register A-F

SOC 4162. Criminal Procedure in American Society. (3 cr.; A-F or Audit; Every Spring) How constitutional democracy balances need to enforce criminal law and rights of individuals to be free of unnecessary government intrusion. prereq: Soc 3101 or 3102 recommended; soc majors/minors must register A-F

SOC 4171. Sociology of International Law: Human Rights & Trafficking. (GP; 3 cr.; A-F or Audit; Periodic Fall & Spring) This course takes a sociological approach to international law, considering how history, institutions, power, and interests shape the phenomenon. What is international law, where does it come from, and how does it work? What does international law tell us about globalization and nation-states? Does it make a difference in the world? Does it have a real impact on the day-to-day lives of individuals? When is it followed; when is it ignored? This course takes a broad sociological view of international law. We analyze the actors and processes that constitute international law and then focus on particular substantive areas, including human rights, economic development, environmental concerns, trafficking, and drug interdiction. prereqs: 1001 or 3101 or 3102 or instr consent; soc majors/minors must register A-F

SOC 4190. Topics in Sociology With Law, Criminology, and Justice Emphasis. (3 cr. [max 6 cr.]; Student Option; Periodic Fall, Spring & Summer) Topics specified in Class Schedule. prereq: [1001, [3101 or 3102]] recommended; soc majors/minors must register A-F; cr will not be granted if cr has been received for the same topics title

SOC 4243W. Brewing Society: Alcohol & Social Life. (WI; 3 cr.; A-F or Audit; Periodic Fall) What does our relationship with drink have to tell us about contemporary society and our own lives? The history of alcoholic drink is entwined with the history of human society itself. We use drinking as a window through which we can better understand roles, relationships, social boundaries, and cultural change. We bring sociological perspectives to bear on alcohol advertising, campus drinking, and more. There

are reasons why alcoholic beverages have played a role in almost all human societies. Social barriers can be lowered, new friendships made, and old relationships reestablished when people get together over a drink. Cultural and political battles about alcohol can also be a way to see social divisions, power struggles, and hierarchies. And of course, drinking can be a route to all sorts of bad behavior and social problems too. We look at all of this, first in historical and cross-cultural perspective and then focusing on our own contemporary society. Pre-req: Soc 1001 recommended, Soc majors must register A-F

SOC 4246. Sociology of Health and Illness. (3 cr.; A-F or Audit; Periodic Spring) This course is an introduction to the importance of health and illness in people's lives, how social structures impact who gets sick, how they are treated, and how the delivery of health care is organized. By the end of the course you will be familiar with the major issues in the sociology of health and illness, and understand that health and illness are not just biological processes, but profoundly shaped by the organization of society. prereq: One sociology course recommended; soph or above; soc majors/minors must register A-F

SOC 4305. Environment & Society: An Enduring Conflict. (ENV; 3 cr.; A-F or Audit; Every Fall) Examines the interaction between human society and the natural environment, focusing on the contemporary and global situation. Takes the perspective of environmental sociology concerning the short-range profit-driven and ideological causes of ecological destruction. Investigates how society is reacting to that increasing destruction prereq: 1001 recommended or a course on the environment, soc majors/minors must register A-F

SOC 4309. Religion in American Public Life: Culture, Politics, & Communities. (CIV; 3 cr.; A-F or Audit; Periodic Fall & Spring) How diversity/vitality of American religion shape public life. How religious groups engage in political action, foster understandings of democracy/styles of civic participation. Volunteering/service activities. Race, poverty, the family, sexuality. prereq: Soc majors/minors must register A-F

SOC 4309H. Honors Religion in American Public Life - Culture, Politics, & Communities. (CIV; 3 cr.; A-F only; Periodic Fall & Spring) How diversity/vitality of American religion shape public life. How religious groups engage in political action, foster understandings of democracy/styles of civic participation. Volunteering/service activities. Race, poverty, family, sexuality. Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Students will also be expected to meet as a group and individually with the professor four times during the course semester. Examples of additional requirements may include: ? Sign up and prepare 3-4 discussion questions

in advance of at least one class session. ? Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). ? Write two brief (1-page) reflection papers on current news, or a two-page critique of a class reading ? Attend a presentation, workshop, or seminar on a related topic for this class and write a 2 page maximum reflective paper. ? Interview a current Sociology graduate student and present briefly in class or write a reflective piece, not more than 2 pages in length, to be submitted to the Professor.

SOC 4311. Power, Justice & the Environment. (DSJ; 3 cr.; A-F or Audit; Periodic Spring) This course introduces students to the theoretical and historical foundations of environmental racism and environmental inequality more broadly. We will examine and interrogate both the social scientific evidence concerning these phenomena and the efforts by community residents, activists, workers, and governments to combat it. We will consider the social forces that create environmental inequalities so that we may understand their causes, consequences, and the possibilities for achieving environmental justice prereq: SOC 1001 recommended

SOC 4315. Never Again! Memory & Politics after Genocide. (GP; 3 cr.; A-F or Audit; Spring Odd Year) Course focuses on the social repercussions and political consequences of large-scale political violence, such as genocide, war crimes, and crimes against humanity. Students learn how communities and states balance the demands for justice and memory with the need for peace and reconciliation and addresses cases from around the globe and different historical settings. prereq: SOC 1001 or 1011V recommended, A-F required for Majors/Minors.

SOC 4319. ?Jews will not replace us!? Global Antisemitism from its Origins to the Present. (3 cr.; A-F or Audit; Periodic Fall & Spring) This course will explore the topic of antisemitism, its history and cultural logic, and the relation to other forms of exclusion tied to race, religion, and citizenship in modern times. Starting with the history of Jewish emancipation in Europe and the subsequent debates about the ?Jewish Question,? students will learn to identify the key features of political antisemitism and the ways that antisemitism has been explained by different social theories, including Marxism, Functionalism, and Critical theory. The course will examine the differences and continuities between older theological forms of anti-Judaism and modern antisemitism, the connections between antisemitism, nativism, and xenophobia in the US and globally, and engage with current debates regarding the correlation between anti-Zionism and antisemitism. We will also explore Jewish social, political, and ideological responses to antisemitism in Europe and the US, from the Holocaust to the present. Pre-reqs: sophomore or above; Soc 3701 recommended; soc majors/minors must register A-F

SOC 4321. Globalize This! Understanding Globalization through Sociology. (GP; 3 cr. ; A-F or Audit; Periodic Fall)

From the city streets of Bangalore to the high plateaus of La Paz to the trading floors of New York City, people from around the world are becoming increasingly interdependent, creating new and revitalizing old forms of power and opportunity, exploitation and politics, social organizing and social justice. This course offers an overview of the processes that are forcing and encouraging people's lives to intertwine economically, politically, and culturally. prereq: Soc majors/minors must register A-F

SOC 4411. Terrorist Networks & Counterterror Organizations. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Terror involves using violent actions to achieve political, religious, or social goals. This course examines theories and evidence about the origins, development, and consequences of terrorist networks. It analyzes efforts to prevent, investigate, and punish terrorists by counterterror organizations, including law enforcement, security, and military forces. Graduate and honors students are expected to demonstrate greater depth of discussion, depth and, to a degree, length of writing assignments, presentations, and leadership of the students. Prereq: Sociology majors/minors must register A-F

SOC 4411H. Honors: Terrorist Networks & Counterterror Organizations. (; 3 cr. ; A-F only; Periodic Fall & Spring)

Terror involves using violent actions to achieve political, religious, or social goals. This course examines theories and evidence about the origins, development, and consequences of terrorist networks. It analyzes efforts to prevent, investigate, and punish terrorists by counterterror organizations, including law enforcement, security, and military forces. Graduate and honors students are expected to demonstrate greater depth of discussion, depth and, to a degree, length of writing assignments, presentations, and leadership of the students. Honors students registering for Soc 4411H: Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Students will also be expected to meet as a group and individually with the professor four times during the course semester. Examples of additional requirements may include: ? Sign up and prepare 3-4 discussion questions in advance of at least one class session. ? Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). ? Write two brief (1-page) reflection papers on current news or a two-page critique of a class reading ? Attend a presentation, workshop, or seminar on a related topic for this class and write a 2-page maximum reflective paper. ? Interview a current Sociology graduate student and present briefly in class or write a reflective piece, not more than 2 pages in length, to be submitted to the Professor. Prereq: Honors

SOC 4451. Sport, Culture & Society. (3 cr. ; A-F or Audit; Periodic Fall)

This course is intended to stimulate critical, sociological thinking about sport? how it is socially organized, who participates in what and why, what role (or roles) sport plays in society, and what sporting practices tell us about contemporary social life more generally. It begins from and is grounded in the notion that sport is one of the most powerful and paradoxical institutions in the modern world. The course is intended for a wide range of undergraduates, though some familiarity with basic social scientific thinking and techniques will be helpful. prereq: SOC 1001 recommended, Sociology majors/minors must register A-F

SOC 4461. Sociology of Ethnic and Racial Conflict. (DSJ; 3 cr. ; A-F or Audit; Periodic Fall)

We will examine conceptual and theoretical approaches to the sociological study of ethnic and racial conflict around the globe, looking at ethnicity and race as distinctive but overlapping social constructions of collective identity that underpin patterns of social conflict and systems of power and privilege. We will also explore the difference between race and ethnicity, the various ways in which racial, ethnic, and national identities are constructed in different countries, individual versus group approaches to the study of prejudice and discrimination, and the racialization of ethnic and religious groups prereq: 1001 recommended; soc majors/minors must register A-F

SOC 4511. Sociology of Children & Youth. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course examines the lives of youth in today's society. It explores the influence of social contexts, institutions, social structures, and social location (e.g. social class, race, gender) on youth experiences and differential opportunities and outcomes. The course also considers how youth act as agents in their own lives and shape their social worlds and society. Additionally, the course looks at some of the problems or challenges that contemporary children, adolescents, and young adults encounter, and considers social policies and interventions aimed to address these and support young people. prereq: 1001 recommended, soc majors/minors must register A-F

SOC 4521. Love, Sex, & Marriage. (3 cr. ; A-F or Audit; Periodic Fall)

This course will provide an overview of sociological approaches to intimate human relationships. What can sociology and related disciplines tell us about these seemingly intensely personal subjects? More than you might think! Specific topics we will cover include love and romance, dating and mate selection, sexuality, cohabitation, marriage, and divorce. The focus is on contemporary American society, but current U.S. practices are placed in historical and cross-cultural context. prereq: [1001 or instr consent], soc majors/minors must register A-F

SOC 4521H. Honors: Love, Sex, & Marriage. (; 3 cr. ; A-F only; Periodic Fall)

This course will provide an overview of sociological approaches to intimate human

relationships. What can sociology and related disciplines tell us about these seemingly intensely personal subjects? More than you might think! Specific topics we will cover include love and romance, dating and mate selection, sexuality, cohabitation, marriage, and divorce. The focus is on contemporary American society, but current U.S. practices are placed in historical and cross-cultural context. Honors students registering for Soc 4521H: Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Students will also be expected to meet as a group and individually with the professor four times during the course semester. Examples of additional requirements may include: - Sign up and prepare 3-4 discussion questions in advance of at least one class session. - Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). - Write two brief (1-page) reflection papers on current news or a two-page critique of a class reading - Attend a presentation, workshop, or seminar on a related topic for this class and write a 2-page maximum reflective paper. - Interview a current sociology graduate student and present briefly in class or write a reflective piece, not more than 2 pages in length, to be submitted to the professor. prereq: Honors

SOC 4551. Sociology of Sexualities. (DSJ,SOCS; 3 cr. ; A-F or Audit; Periodic Spring)

In this course we will examine social theories and sociological research on the topic of sexuality. We will explore the concept of sexuality as it intersects with race, gender, age, and class. This course is designed to give you a basic understanding of sociological implications of sexuality in the United States. This course is intended to help you develop your analytical and critical thinking skills. You will be asked to move beyond your own experience and perspectives to sociologically analyze and evaluate over-simplified explanations of past and contemporary issues as they appear in our course readings. Prereq: Sociology majors/minors must register A-F

SOC 4551H. Honors: Sociology of Sexualities. (DSJ,SOCS; 3 cr. ; A-F only; Periodic Spring)

In this course we will examine social theories and sociological research on the topic of sexuality. We will explore the concept of sexuality as it intersects with race, gender, age, and class. This course is designed to give you a basic understanding of sociological implications of sexuality in the United States. This course is intended to help you develop your analytical and critical thinking skills. You will be asked to move beyond your own experience and perspectives to sociologically analyze and evaluate over-simplified explanations of past and contemporary issues as they appear in our course readings. Additional special assignments will be discussed with honors participants who seek to earn honors credit toward the end of our first class session. Students will also be expected to meet as a group and individually

with the professor four times during the course semester. Examples of additional requirements may include: ? Sign up and prepare 3-4 discussion questions in advance of at least one class session. ? Work with professor and TA on other small leadership tasks (class discussion, paper exchange, tour). ? Write two brief (1-page) reflection papers on current news, or a two-page critique of a class reading ? Attend a presentation, workshop, or seminar on a related topic for this class and write a 2 page maximum reflective paper. ? Interview a current Sociology graduate student and present briefly in class or write a reflective piece, not more than 2 pages in length, to be submitted to the Professor. prereq: Honors

SOC 4703. A Nation Divided: Identity, Precarity, & Polarization. (CIV; 3 cr. ; Student Option; Periodic Fall)

This course explores how individuals and groups experience and understand current economic and political polarization in their daily lives. Our explorations will roam across changes in media and popular culture, work, religion, family, and social movements. prereq: 1001 recommended, soc majors/minors must register A-F

SOC 4821. Measuring the Social World: Concepts and Analysis. (3 cr. ; A-F only; Periodic Spring)

In this course, you will develop practical social science data analysis skills for use in the non-profit or corporate workplace or in a graduate program of research. You will assess the measurement of important social concepts, like race, health, or education, in large social surveys, and the strengths and weaknesses of those different measurement techniques. You will conduct data analysis on large datasets (see, e.g., www.ipums.org) using a statistical software program, such as STATA. You will develop a substantive, empirical final project (poster and paper) based on your analysis. prereq: SOC 3801 or equiv, and SOC 3811 or equivalent

SOC 4881. Population Studies Research Practicum. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Students enrolled in this course will gain hands-on experience with population studies research by (1) working under the mentorship of an individual researcher or a research team at the Minnesota Population Center (MPC) and (2) attending and reflecting in writing on MPC's weekly research seminar. In addition, students in the course will meet weekly with the instructor to discuss their research experiences and to develop and present a final research poster.

SOC 4966W. Capstone Experience: Seminar. (WI; 3 cr. [max 4 cr.]; A-F only; Every Fall & Spring)

This course is designed to: a) provide students with an opportunity to reflect on what they have learned as a sociology major; b) use that knowledge to write a sociological analyses - often based on community service learning; and c) think about how the knowledge, skills, and insights of the sociological enterprise can be used and applied outside of the

University. Through this course sociology majors will emphasize the relationship between a sociological perspective and critical thinking, effective communication, and meaningful civic engagement. This class is the final step in the sociology undergraduate major. prereq: 1001, 3701, 3801, 3811, 12 cr upper div sociology, dept consent

SOC 4977V. Senior Honors Proseminar I. (WI; 3 cr. ; A-F or Audit; Every Fall)

Exploring contemporary research for senior thesis. Guidance in defining a problem and reviewing prior theory/research. Presentation/discussion with faculty researchers. prereq: 3701, 3801, 3811, 9 additional upper div sociology cr, sr soc honors major, dept consent

SOC 4978V. Honors Capstone Experience: Proseminar II. (WI; 3 cr. [max 4 cr.]; A-F only; Every Spring)

This is the second course in the two-course Honors Capstone Experience. In Soc 4978V, students will complete their data collection and analysis while the focus of the seminar turns to scholarly writing, and particularly to drafting and refining arguments. The Department of Sociology does not make any initial distinction between Honors students who are seeking cum laude, magna cum laude, or summa cum laude levels of Latin Honors. Instead, our focus is on helping students to develop ambitious and high-quality original research papers of which they can be justifiably proud and which can serve as testaments to their abilities. The Department of Sociology's approach is to support every Honors student as they plan and conduct summa-level work. The ultimate recommendation for level of latin honors is made by the committee at the time of the thesis defense. In addition to the Honors thesis requirements, the recommendation for summa-level honors is reserved for the papers that demonstrate the following criteria: - Tight integration between a clearly defined question or thesis and the research presented; - Ambitious original research design, with research completed on time and analyzed appropriately; - Integration of ongoing conversations in the research literature into the design and analysis of the data gathered; - Powerful and precise prose which weaves together evidence and argument and which is attentive to both the lessons and limits of the data. Students will do an Oral Defense and participate in a panel presentation at the spring Sociological Research Institute (SRI). The Sociology Department requires completion of Soc 4977V/4978V to graduate with Latin Honors. prereq: 1001/1011V, 3701, 3801, 3811, 4977V, and at least 12 upper-division SOC credits; Sociology honors major & department consent

SOC 4994W. Capstone Experience: Directed Research (1 cr.). (WI; 1 cr. ; A-F only; Every Fall & Spring)

Guided individual research for the sociology major's Capstone requirement, conducted in conjunction with enrollment in an upper division sociology elective. This is designed to: a) provide students with an opportunity to reflect on what they have learned as a sociology major; b) use that knowledge to write

a sociological analyses; and c) think about how the knowledge, skills, and insights of the sociological enterprise can be used and applied outside of the University. Through this one:one capstone experience, using the structure and foundation of the 6th Sociology elective, majors will emphasize the relationship between a sociological perspective and the emphasis of the course. The final paper created for 4994W is in addition to the other 6th Sociology elective course requirements. prereq: 1001/1011V, 3701, 3801, 3811, and at least 12 cr upper div sociology electives; dept & instructor consent. Students are only authorized to register for Soc 4994W in conjunction with a 6th Sociology Elective.

SOC 5090. Topics in Sociology. (; 1-3 cr. [max 9 cr.]; Student Option; Periodic Spring) Topics specified in Class Schedule. prereq: Undergrad soc majors/minors must register A-F

SOC 5101. Sociology of Law. (3 cr. ; A-F or Audit; Every Fall & Spring)

This course will consider the relationship between law and society, analyzing law as an expression of cultural values, a reflection of social and political structure, and an instrument of social control and social change. Emphasizing a comparative perspective, we begin by discussing theories about law and legal institutions. We then turn our attention to the legal process and legal actors, focusing on the impact of law, courts, and lawyers on the rights of individuals. Although this course focuses on the U.S. legal system, we will explore issues of the relationship between U.S. law and global law and concepts of justice. prereq: graduate student

SOC 5104. Crime and Human Rights. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course addresses serious violations of humanitarian and human rights law, efforts to criminalize those violations (laws and institutions), and consequences of these efforts. Special attention will be paid to the impact interventions have on representations and memories of atrocities on responses and the future of cycles of violence. Case studies on Holocaust, Balkan wars, Darfur, My Lai massacre, etc. Criminal justice, truth commissions, vetting, compensation programs. prereq: at least one 3xxx SOC course recommended

SOC 5171. Sociology of International Law: Human Rights & Trafficking. (GP; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course takes a sociological approach to international law, considering how history, institutions, power, and interests shape the phenomenon. What is international law, where does it come from, and how does it work? What does international law tell us about globalization and nation-states? Does it make a difference in the world? Does it have a real impact on the day-to-day lives of individuals? When is it followed; when is it ignored? This course takes a broad sociological view of international law. We analyze the actors and processes that constitute international law and then focus on particular substantive areas, including human rights, economic

development, environmental concerns, trafficking, and drug interdiction. prereqs: Graduate student or instructor consent

SOC 5221. Sociology of Gender. (3 cr. ; A-F or Audit; Periodic Spring)

Gender is something so fundamental to our lives, to our identities, and how we interact with others that we often take it for granted. However, understandings of gender vary across time and place, and even within cultures, making it clear that our understandings of gender are not universal or timeless. In this class, we will examine how gender intersects with race and sexuality, as well as how it impacts areas of our lives such as child socialization, family structure, the media, intimate relationships, and the workplace.

SOC 5315. Never Again! Memory & Politics after Genocide. (GP; 3 cr. ; A-F or Audit; Spring Odd Year)

Course focuses on the social repercussions and political consequences of large-scale political violence, such as genocide, war crimes, and crimes against humanity. Students learn how communities and states balance the demands for justice and memory with the need for peace and reconciliation and addresses cases from around the globe and different historical settings. prereq: SOC 1001 or 1011V recommended, A-F required for Majors/Minors.

SOC 5411. Terrorist Networks & Counterterror Organizations. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Theories/evidence about origins, development, and consequences of terrorist networks. Efforts to prevent, investigate, and punish terrorists by use of law enforcement, security, and military forces. Terror involves using violent actions to achieve political, religious, or social goals. This course examines theories and evidence about the origins, development, and consequences of terrorist networks. It analyzes efforts to prevent, investigate, and punish terrorists by counterterror organizations, including law enforcement, security, and military forces. Graduate and honors students are expected to demonstrate greater depth of discussion, depth and to a degree length of writing assignments, presentations, and leadership of the students. Prereq: Sociology Major/Minors must register A-F

SOC 5446. Comparing Healthcare Systems. (GP; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Examination of national health systems from an international comparative perspective, emphasizing social, organizational, political, economic, cultural, and ethical dimensions of healthcare policies and programs to deliver services and their impacts on the health of population groups. The comparative approach will enable students to acquire a better understanding of the problems and potential for reforming and improving U.S. health care delivery. Students enrolled in Soc 5446 (graduate level) are expected to demonstrate greater depth of discussion, depth and to a degree length of writing assignments, presentations, and leadership of the students. prereq: Soc majors/minors must register A-F

SOC 5455. Sociology of Education. (; 3 cr. ; Student Option; Every Fall)

Structures and processes within educational institutions. Links between educational organizations and their social contexts, particularly as these relate to educational change. prereq: 1001 or equiv or instr consent; soc majors/minors must register A-F

SOC 5811. Social Statistics for Graduate Students. (3 cr. ; Student Option; Every Fall)

In this course, students will learn core statistical and computations principles that will allow them to perform quantitative analyses using social data. The course is designed for social science students at the beginning of their graduate school careers. However, advanced undergraduates can take the course, which will involve a few modifications to the assignment schedule. Sociology 5811 will review basic probability, and then move on to univariate inference, the linear regression model, and introductory lessons of causal inference. In doing so, students will explore statistical concepts and methods that provide the foundation sociologists use to most commonly collect and analyze numerical evidence. Sociology 5811 will also provide the foundation for data management and statistical inference using Stata, a statistical computing environment that is popular in the social sciences. prereq: Undergraduate students are expected to have familiarity with the materials taught in the equivalent of 3811. Students who are unsure of the course requirements should contact the instructor. Undergraduates with a strong math background are encouraged to register for 5811 in lieu of 3811. Soc majors must register A-F. 5811 is a good social statistics foundation course for MA students from other programs. 5811 will not count for credits towards the Soc PhD program requirements.

Software Engineering (SENG)

SENG 5115. Graphical User Interface Design, Evaluation, and Implementation.

(; 2 cr. [max 3 cr.]; A-F or Audit; Every Fall & Spring)

Design and evaluation of interactive application interfaces, user- and task-centered approaches to design, guidelines for graphical design, interface evaluation techniques, current interface trends, including web interfaces and information visualization. Group projects that include designing, prototyping, and implementing an application interface. prereq: Grad SEng major

SENG 5116. Graphical User Interface

Toolkits. (; 2-3 cr. ; A-F or Audit; Periodic Fall)

Toolkit-centered introduction to GUI implementation technology. Students learn to use a GUI toolkit to implement a graphical application. Introduction to advanced techniques, including constraint-based data management, 3D visualization tools, and toolkit structure and design. prereq: Grad SEng major

SENG 5130. Introduction to Internet of Things: Systems-Level Design and

Experimentation. (3 cr. ; A-F or Audit; Every Spring)

Project-based examples from modern "Internet of Things" (IoT) systems. Hands-on experiments with core wireless hardware, sensors, and software elements. Students will gain the practical system-level skills and understandings able to be applied to any IoT system, and walk away with an IoT project created themselves. There will be discussions and team-centric activities focused on market trends, ground-breaking tech and products, security, communication protocols, and exciting emerging technologies related to IoT including machine learning, artificial intelligence, and augmented reality.

SENG 5131. Distributed Application Design and Development. (; 3 cr. ; A-F or Audit; Every Spring)

Java programming, concurrent programming, workflow, distributed database, security, collaborative computing, object-oriented architecture/design, network publishing, messaging architecture, distributed object computing, and intranet. prereq: Grad SEng major

SENG 5132. Web Application Development. (3 cr. ; A-F or Audit; Every Spring)

This course is an in-depth discussion of the challenges and complexities involved in designing and implementing modern web applications. Students will gain experience designing and implementing a project during in the course of the semester.

SENG 5133. Cloud Computing - Leading Technical Change. (3 cr. ; A-F only; Periodic Spring)

Today most organizations make use of the "Cloud" in some way and it is, understandably, changing the way we architect our systems. But there is confusion around cloud native, 12 factors, modular monoliths, serverless, etc. How does a busy technologist make sense of it all? In this course, using cloud computing as a lens, we will explore the broader impact of technology change. We discuss how a technology radar can help a technologist stay marketable as well as to help an organization stay informed of important changes in the technology landscape. Expected topics: Docker; Kubernetes; Google Kubernetes Engine, Amazon EKS, Amazon Fargate; Cloud Foundry; Functions as a service; Amazon Lambda, Google Cloud Functions, Azure. This course will consist of discussion, hands on assignments, papers, presentations, and use of sample applications.

SENG 5199. Topics in Software Engineering. (; 2-3 cr. [max 6 cr.]; A-F or Audit; Every Spring)

Topics specified in Class Schedule. prereq: SEng grad student

SENG 5271. Cybersecurity. (3 cr. ; A-F or Audit; Every Spring)

This course introduces the major topics of cyber security. Class time will focus on demonstrations, exercises, mini-projects, and discussions. Topics include authentication, access control, file system forensics, symmetric and asymmetric cryptography, network monitoring and controls, dynamic web site attacks, and network cryptography.

SENG 5511. Artificial Intelligence. (; 2-3 cr. ; A-F or Audit; Periodic Spring)

Introduces ideas and theories of AI. Problem solving, search, inference techniques. Logic and theorem proving. Knowledge representation, rules, frames, semantic networks. Planning and scheduling. Introduces Lisp programming language. prereq: Grad SEng major

SENG 5551. Introduction to Intelligent Robotic Systems. (; 3 cr. ; A-F or Audit; Periodic Fall)

Transformations, kinematics and inverse kinematics, dynamics, and control. Sensing (robot vision, force control, tactile sensing), applications of sensor-based robot control, robot programming, mobile robotics, and micro-robotics. prereq: Grad SEng major

SENG 5707. The Principles of Database Systems. (; 3 cr. ; A-F or Audit; Every Fall)

Fundamental concepts; representing instances; prototypic model shapes; model evolution; interviewing user skills, reverse engineering; mapping to DBMS schema; database querying. prereq: Grad SEng major

SENG 5708. Data Analytics. (; 2-3 cr. ; A-F or Audit; Every Spring)

Applications/motivation. Extended relational, object-relational, and object-oriented data models. Object identifier, types/constructors. Versions, schema evolution. Query language (e.g., recursion, path expressions). Object indices, buffer management, and other implementation issues. Triggers, rules, complex objects, and case studies. prereq: Grad SEng major

SENG 5709. Big Data Engineering and Analytics. (3 cr. ; A-F or Audit; Every Spring)

This course aims to teach students how to evaluate and engineer solutions that traditional data systems cannot handle, as well as various real-world use cases related to big data problems. This course will integrate theory and hands-on learning of various big data systems like NoSQL, streaming architectures, along with popular industry tools for scalable analytics. The focus of the course is largely around big data engineering, with some coverage of data science and analytics.

SENG 5801. Software Engineering I: Overview, Requirements, and Modeling. (; 3 cr. ; A-F or Audit; Every Fall)

Software engineering as a discipline. Preview of topics to be covered in subsequent courses in master of science in software engineering program; in-depth study of requirements engineering; modeling techniques applicable to requirements and specification, including UML and formal modeling. prereq: Grad SEng major

SENG 5802. Software Engineering II: Software Design. (; 3 cr. ; A-F or Audit; Every Spring)

Software design quality, processes that produce quality design, graphical and textual representations, including UML, common problems and patterns that solve them, refactoring. Students develop fluency in object-oriented design, and ability to read, critique, and advocate design ideas. Students work

in teams to complete a multiphase project. prereq: Grad SEng major

SENG 5811. Software Testing and Verification. (; 3 cr. ; A-F or Audit; Every Spring)

Theoretical/practical aspects of testing software. Analyzing a requirements document for test conditions. Writing a test plan. Designing, creating, and executing test cases. Recording defects. Writing a test report. prereq: 5801, grad SEng major

SENG 5831. Software Development for Real-Time Systems. (; 2-3 cr. ; A-F or Audit; Periodic Fall)

Analysis, design, verification, and validation of real-time systems. Periodic, aperiodic, and sporadic processes, scheduling theory. Pragmatic issues. prereq: Grad SEng major

SENG 5841. Model-based Development. (; 3 cr. ; A-F or Audit; Every Spring)

Formal specification of software artifacts. Applicability of formal specifications. Methods such as Z, SCR, and Satecharts. Formal analysis. Theorem proving. Reachability analysis. Model checking. Tools such as PVS, StateMate, SPIN, and SMV. prereq: Grad SEng major

SENG 5851. Software Project Management. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Concepts used to manage software projects. Project management cycle: initiation, planning/control, status reporting, review, post-project analysis. Leadership and motivation strategies. Lecture, discussion, individual/team presentations/projects. prereq: Grad SEng major

SENG 5852. Quality Assurance and Process Improvement. (; 2 cr. [max 3 cr.] ; A-F or Audit; Every Fall & Spring)

Theory and application of capability maturity model: process assessment, modeling, and improvement techniques. Life cycle issues related to development and maintenance; quality, safety, and security assurance; project management; and automated support environments. Group projects and case studies. prereq: Grad SEng major

SENG 5861. Introduction to Software Architecture. (; 3 cr. ; A-F or Audit; Periodic Fall)

Software/systems architecture. Representation/design, how they fit into software engineering process. Description of architectures, including representation and quality attributes. prereq: 2nd year, MSSE grad student

SENG 5899. Software Engineering Seminar. (; 1 cr. [max 2 cr.] ; Student Option; Every Fall)

Software engineering trends. Talks by invited speakers, selected readings. prereq: Grad SEng major, instr consent

SENG 5900. Directed Study. (; 1-3 cr. ; Student Option; Every Fall & Spring)

Directed study/research in software engineering. Topics/scope decided in collaboration with instructor.

SOIL 2125. Basic Soil Science. (ENV,PHYS; 4 cr. ; A-F or Audit; Every Fall & Spring)

Basic physical, chemical, and biological properties of soil. Soil genesis classification, principles of soil fertility. Use of soil survey information to make a land-use plan. WWW used for lab preparation information. prereq: [CHEM 1015, CHEM 1017] or CHEM 1021 or equiv

SOIL 2601. The Social Life of Soil. (ENV; 3 cr. ; Student Option; Every Fall)

Soil microorganisms can either promote plant health or wage chemical warfare. And alliances can turn on a dime. Learn about this fascinating dog-eat-dog world and how we can support a rich soil ecosystem that benefits plants and humans.

SOIL 3416. Plant Nutrients in the Environment. (; 3 cr. ; Student Option; Every Spring)

Fundamental concepts in soil fertility and plant nutrition. Discuss dynamics of mineral elements in soil, plants, and the environment. Evaluation, interpretation, and correction of plant nutrient problems. prereq: SOIL 2125

SOIL 3521. Soil Judging. (; 1 cr. [max 3 cr.] ; A-F or Audit; Every Fall)

A field-based course which requires students to apply fundamental knowledge obtained from Basic Soil Science and Field Study of Soils to the description of soils in the field. This course includes an inter-collegiate Soil Judging contest that takes during the course of the class. prereq: An introductory soils course and field studies course.

SOIL 3993. Directed Study. (; 1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: Department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements

SOIL 3994. Directed Research. (; 1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: Department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

SOIL 4111. Introduction to Precision Agriculture. (; 3 cr. ; A-F or Audit; Every Spring)

Soil, Water, and Climate (SOIL)

Soil, landscape, and crop spatial variability. GIS, DEM, GPS technologies. Variable rate machinery, PA software, remote sensing. Geostatistics, sampling, experimental designs. Precision integrated crop management. Data acquisition, processing, and management. Socio-economical and e-marketing aspects. prereq: Basic sciences, statistics, soil, agronomy

SOIL 4511. Field Study of Soils. (; 2 cr. ; A-F or Audit; Every Summer)

Learn to write soil profile descriptions in the field. Class requires hands-on experience to determine soil texture, color, and horizon designations in the field. prereq: 2125

SOIL 5125. Soil Science for Teachers and Professionals. (; 4 cr. ; Student Option; Every Fall & Spring)

Basic physical, chemical, and biological properties of soil. Soil genesis classification, principles of soil fertility. Use of soil survey information to make a land-use plan. WWW used for lab preparation information.

SOIL 5232. Vadose Zone Hydrology. (; 3 cr. ; Student Option; Every Fall)

Basic soil physical properties/processes governing transport of mass/energy in soils. Emphasizes water/solute transport through unsaturated root/vadose zones, their impact on subsurface hydrology and on water quality. Lectures, hands-on laboratory exercises, discussion of real world problems, problem solving. prereq: [Math 1271 or equiv], [Phys 1042 or equiv]

SOIL 5555. Wetland Soils. (; 3 cr. ; A-F or Audit; Every Fall)

Morphology, chemistry, hydrology, formation of mineral/organic soils in wet environments. Soil morphological indicators of wet conditions, field techniques of identifying hydric soils for wetland delineations. Peatlands. Wetland benefits, preservation, regulation, mitigation. Field trips, lab, field hydric soil delineation project. prereq: SOIL 1125 or 2125 or equiv or instr consent; concurrent registration is required (or allowed) in SOIL 4511 recommended

SOIL 5611. Soil Biology and Fertility. (; 4 cr. ; Student Option; Every Fall)

Properties of microorganisms that impact soil fertility, structure, and quality. Nutrient requirements of microbes and plants, and mineral transformations in biogeochemical cycling. Symbiotic plant/microbe associations and their role in sustainable agricultural production. Biodegradation of pollutants and bioremediation approaches. prereq: Biol 1009 or equiv, Chem 1021 or equiv; Soil 2125 recommended

SOIL 5993. Directed Study. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed

study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

SOIL 5994. Directed Research. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

Somali (SMLI)

SMLI 1221. Beginning Somali. (; 5 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Comprehension, speaking, reading, writing.

SMLI 1222. Beginning Somali II. (; 5 cr. ; A-F only; Every Fall, Spring & Summer)
Comprehension, speaking, reading, writing. prereq: 1221

SMLI 1225. Accelerated Beginning Somali I. (; 5 cr. ; A-F only; Every Fall & Spring)
Review of grammar/usage, practice in reading/writing. Introduction to Somali literature and formal writing. Topics in Somali culture. prereq: EPT Placement of SMLI 1225 and ability in basic spoken Somali

SMLI 1226. Accelerated Beginning Somali II. (; 5 cr. ; A-F only; Every Fall & Spring)
Review of grammar/usages, practice in reading/writing. Introduction to Somali literature and formal writing. Topics in Somali culture. prereq: 1225 or instr consent

SMLI 3227. Intermediate Somali I. (; 5 cr. ; A-F only; Every Fall)
Intermediate level Somali language for undergraduate students. prereq: SMLI 1222

SMLI 3228. Intermediate Somali II. (; 5 cr. ; Student Option; Every Spring)
Intermediate Somali language for undergraduate students.

SMLI 4227. Intermediate Somali for Graduate Research I. (5 cr. ; A-F only; Every Fall)
Intermediate Somali language for graduate students.

SMLI 4228. Intermediate Somali for Graduate Research II. (; 5 cr. ; A-F only; Every Spring)
Intermediate Somali II for graduate students.

Spanish (SPAN)

SPAN 1001. Beginning Spanish. (; 5 cr. ; Student Option No Audit; Every Fall)
Listening, speaking, reading, writing. Emphasizes development of communicative competence. Cultural readings. prereq: Less

than 2 yrs of high school Spanish and/or three or more years away from Spanish language study; and dept consent

SPAN 1002. Beginning Spanish. (; 5 cr. ; Student Option No Audit; Every Spring)
Listening, speaking, reading, writing. Emphasizes development of communicative competence. Cultural readings. prereq: A grade of C- or better in SPAN 1001 completed at UMNTC, and dept consent

SPAN 1003. Intermediate Spanish. (; 5 cr. ; Student Option No Audit; Every Fall, Spring & Summer)
Speaking/comprehension. Developing reading/writing skills based on materials from Spain/Spanish America. Grammar review. Compositions, oral presentations. prereq: A grade of C- or better in SPAN 1002 or SPAN 1022 or EPT placement of SPAN 1003

SPAN 1004. Intermediate Spanish. (; 5 cr. ; Student Option No Audit; Every Fall, Spring & Summer)
Speaking/comprehension. Developing reading/writing skills based on materials from Spain/Spanish America. Grammar review. Compositions, oral presentations. prereq: A Grade of C- or better in SPAN 1003 or EPT placement of SPAN 1004

SPAN 1014. Business Spanish. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)
Vocabulary, report writing skills. Proper format for business communications. Conversational fluency on trade-related topics. prereq: 1003

SPAN 1022. Alternate Second-Semester Spanish. (; 5 cr. ; Student Option No Audit; Every Fall & Spring)
For students who have studied Spanish in high school or at community college, or who are transfer students. Begins with accelerated review of 1001 followed by material covered in 1002. prereq: Placement above 1001 (Span 1022 is designed for students who have had two or more years of high school Spanish, or one semester of college Spanish).

SPAN 1044. Intermediate Medical Spanish. (5 cr. ; Student Option; Every Fall & Spring)
Language needed by health-care workers who interact with Spanish-speaking patients. Basic medical vocabulary, questions/answers in common medical situations. Vocabulary/phrases to conduct patient interviews and physical exams. Readings on Latin American view of health and health care. prereq: 1003 or equiv

SPAN 1912. Plague, Pestilence, and Pandemic in Modern Iberian and Latin American Literature. (; 3 cr. ; A-F only; Periodic Fall & Spring)
"Over the course of the 20th and 21st centuries, contagious illness, both fictional and real, has served as a literary vehicle for authors in Spain, Portugal, and Latin America to engage with the ways the human body intersects with political power, technology, the environment, and webs of social contact and exclusion. For the Catalan author Blai Bonet, a tuberculosis ward becomes a place to explore the origins of community; for Gabriel García Márquez, the melancholy of inaccessible love

drains the body of vitality like cholera; for the Portuguese writer Jos? Saramago, an outbreak of an invented disease causing blindness allows for an exploration of human nature and the 20th-century?s worst excesses of violence, to name three examples studied in the course. This Freshman Seminar will explore the literary treatment of infectious disease across a broad spectrum of geographical and temporal signposts. Given the topicality of the course to the present moment, I plan to incorporate the RATE tool to give students an occasional opportunity to reflect on the utility of the humanities and literary criticism for analytically reflecting on their own pandemic experiences. "

SPAN 3011W. Spanish Grammar and Composition Workshop. (WI; 4 cr. ; Student Option; Every Fall & Spring)

Real-world writing, speaking, reading. Writing summaries of lectures by native speakers. Two papers. Reader's journals. Oral presentation. Grammar review. Audio exercises, paired/ small-group work. Discussions. Peer editing. Process writing. prereq: [1004 or 1014 or 1044], LPE pass

SPAN 3015V. Honors: Spanish Composition and Communication. (WI; 4 cr. ; A-F or Audit; Every Fall & Spring)

Comprehension of written/spoken text. Speaking/reading/ writing. prereq: SPAN LPE pass, Honors student

SPAN 3015W. Spanish Composition and Communication. (WI; 4 cr. ; Student Option; Every Fall & Spring)

Comprehending written/spoken texts. Speaking, reading, writing beyond intermediate level. prereq: SPAN LPE pass

SPAN 3019W. Composition and Communication for Spanish Speakers of the U.S. (WI; 4 cr. ; Student Option; Every Fall)

Students in this course will further develop the main linguistic skills taught in the foundational SPAN 1001-1004 sequence, modified appropriately for students born and/or raised in the US and who speak/spoke Spanish in the home. Instruction will target the linguistic forms and rhetorical organization necessary for the genres of narration, exposition, and comparison-contrast while exploring cultural texts. Through guided activities, students will identify their linguistic and communicative strengths and weaknesses and also steps that they can take to advance in their language development. This course may be used as a substitute for SPAN 3015W or SPAN 3011W, but cannot be used for both. prereq: Instructor consent (recommended SPAN 1004 Pass or SPAN LPE Pass)

SPAN 3034. Advanced Business Spanish. (; 4 cr. ; Student Option; Every Spring)

Major issues of culture in relation to business in context of Spanish-speaking world. Important historical-social factors that contribute to understanding of economy/business relationships with industrialized nations. prereq: A C- or better in SPAN 3015W or SPAN 3015V or SPAN 3019W or TLDO 3231 or ECDR 3015W or ARGN 3015W

SPAN 3044. Advanced Medical Spanish. (4 cr. ; Student Option; Every Fall & Spring)

How to communicate more effectively in linguistic/cultural terms with Spanish speaking patients. Advanced/specific medical vocabulary, communication strategies, and related cultural aspects. Conducting patient interviews/medical history. Using vocabulary/ conversation to conduct physical exams. Latin American views on health/health care. prereq: a grade of C- or better in SPAN 3015W or 3015V

SPAN 3104V. Honors: Introduction to the Study of Hispanic Literatures. (LITR,WI; 3 cr. ; A-F only; Periodic Fall & Spring)

Structures, meaning, and social/historical function of diverse literary texts. prereq: 3015, Spanish [major or minor]or Span-Port major

SPAN 3104W. Introduction to the Study of Hispanic Literatures. (LITR,WI; 3 cr. ; Student Option; Every Fall & Spring)

This course will introduce the principal literary genres--narrative prose, poetry, and theater? and the methods used to study literary art produced in a Hispanic context across the centuries. Structures, meaning, and social/ historical function of diverse literary texts. Prereq: a grade of C- or better in SPAN 3015W or 3015V or 3019W

SPAN 3105V. Honors: Introduction to the Study of Hispanic Cultures. (WI; 3 cr. ; A-F only; Periodic Fall & Spring)

Span 3105V is a writing-intensive course centered on major issues of culture in the context of the Spanish-speaking world. It is not a history of civilization, nor is it a survey of either Latin American or Peninsular literature. Rather, our objective here is to familiarize ourselves with the different issues central to the development of the Hispanic world as a cultural entity, and to practice analyzing and questioning received notions of culture in this context. We will examine all sorts of texts-- literary, visual, musical, and filmic--from all periods of both Latin American (including Brazil) and Peninsular history, reading them through the lens of a series of topics. These topics are as follows: Mapas del mundo hispanico/Maps of the Hispanic world, Pol?tica y legado del encuentro cultural/Politics and legacies of cultural encounter, Discursos de identidad social/Discourses of social identity, Coerci?n y subversion/Coercion and subversion, Las naciones modernas/Modern nations, and Cultura ?lite-cultura popular-cultura de masas/High culture-popular culture-mass culture.

SPAN 3105W. Introduction to the Study of Hispanic Cultures. (WI; 3 cr. ; Student Option; Every Fall & Spring)

This course familiarizes students with different issues central to the development of the Hispanic world as a cultural entity, and to practice analyzing and questioning received notions of culture in this context. Cultural issues pertaining to Spain or Spanish America. prereq: a grade of C- or better in SPAN 3015W or 3015V or 3019W

SPAN 3107W. Introduction to the Study of Hispanic Linguistics. (WI; 3 cr. ; Student Option; Every Fall & Spring)

Structure of Spanish. Phonetics, phonology, morphology, syntax, pragmatics, language acquisition, language/gender, sociolinguistics. History of Spanish. prereq: a grade of C- or better in SPAN 3015W or 3015V or 3019W

SPAN 3211. Interpreting Imperial Spain, 1492-1800. (3 cr. ; Student Option; Every Fall)

Novels, places, poems, aphorisms, emblems, letters, and political treatises. Questions of ethnicity, gender, class, colonization, early mass culture, and subjectivity. prereq: A C- or better in SPAN 3104W or SPAN 3104V or TLDO 3104W or ARGN 3104W or SPAN 3105W or TLDO 3105W or SPAN 3105V

SPAN 3221. Interpreting Colonial Latin America: Empire and Early Modernity. (3 cr. ; Student Option; Periodic Fall)

Conquest, colonization, and forms of resistance in Latin America. prereq: A C- or better in SPAN 3104W or SPAN 3104V or TLDO 3104W or ARGN 3104W or SPAN 3105W or TLDO 3105W or SPAN 3105V

SPAN 3222. Interpreting Modern and Contemporary Latin America. (3 cr. ; Student Option; Every Spring)

Late modern and contemporary discourses in literature, popular culture, mass media, and film. prereq: A C- or better in SPAN 3104W or SPAN 3104V or TLDO 3104W or ARGN 3104W or SPAN 3105W or TLDO 3105W or SPAN 3105V

SPAN 3301. Advanced Oral Proficiency Workshop. (3 cr. ; A-F only; Periodic Fall & Spring)

The main goal of this course is to advance students' oral proficiency in Spanish in a variety of genres of spoken discourse, including description, narration, argumentation, explanation, and hypothesizing. In addition, instruction will focus on developing the range of topics about which students can speak and the internal organization of discourse produced by students. These functions are characteristic of speakers at the advanced level of proficiency on the ACTFL scale. Students will engage in a variety of activities, among which are discussions, debates, oral presentations, and analysis of oral speech samples. Prereqs: Span 3104W, or 3105W, or 3107W AND Span 3211, or 3212, or 3221, or 3222, or 3502, or 3503, or 3510, or 3512, or 3701, or 3702, or 3703, or 3704, or 3706, or 3707, or 3730, or 3800, or 3910, or 3920, and oral interview required.

SPAN 3401. Latino Immigration and Community Engagement. (CIV; 3 cr. [max 6 cr.] ; Student Option; Every Fall & Spring)

Students analyze US power structures associated with emigration from Latin America and issues confronting societies with a rapid demographic change such as has been the case with Latino immigration in the U.S. Students have many opportunities to engage in dialogue with Latino immigrants. Topics include: the relationship between the global economic system and emigration from Latin America, human rights along the U.S./Mexican border, and US federal immigration policies. 33 hours of volunteer work outside of class

required in the Latino immigrant community. Prerequisite: ARGN 3015W or ECDR 3015W or SPAN 3015 or SPAN 3015W or SPAN 3015V or TLDO 3231 or VENZ 3015

SPAN 3403. Latino Immigration on US/ Mexican Border. (CIV; 3 cr. ; Student Option; Periodic Summer)

This course takes place off campus, through an organization called "Border Links" that is located in Tucson and works with migrants. Students will experience firsthand many issues that directly affect the migrant journey and meet with many immigrants to hear their personal stories. In addition to learning the history of the situation on the border, students will take a tour of the border wall, visit neighboring communities that work with immigrants, do a legal immigration simulation, walk the migrant trails in the Sonoran Desert and leave water there with Humane Borders, go to a Operation Streamline Deportation Court hearing, visit migrants seeking political asylum in Florence Detention Center, talk with a leader in Southside Workers Center, meet with an author focusing on Border Patrol, and more. Themes explored in this course include the connection between the roots of emigration and the global economy of violence in Central America; human rights on the border; and issues immigrants face in the US such as immigrants living in the US with or without legal documents, detention and deportation and the work they are doing to make a more just immigration system. Students will gather information during their stay and create a presentation to be shown to people in Minnesota upon returning from the border.

SPAN 3404. Medical Spanish and Community Health Learning. (; 3 cr. ; Student Option No Audit; Every Fall & Spring) Medical Spanish and Community Health Service an advanced language and culture course is designed to train Spanish Studies majors/ minors to work with materials to achieve effective communication with Spanish-speaking patients. In addition, Span 3404 has a service-learning component in which students apply academic knowledge to work done with community health care partners that work with the Latin American immigrant population at Minnesota. It should be noted that students in Span 3404 will not be involved in direct patient health care. prereq: SPAN 3015W with grade of at least C- or better and instructor permission. Recommended one additional upper division Spanish class.

SPAN 3502. Modern Spain. (; 3 cr. ; Student Option; Periodic Fall & Spring) Spanish culture, from beginning of 19th century to present. Cultural change and its conflicts as represented in Spanish art, literature, film, and diverse political developments. prereq: A Grade of C- or better in SPAN 3104W or TLDO 3104W or ARGN 3104W or SPAN 3105W or TLDO 3105W

SPAN 3503. Pre-modern Spanish Culture and Thought. (HIS; 3 cr. ; Student Option; Periodic Fall & Spring) Notions of nation, empire, and race precipitated by presence of Muslims, Jews, and Christians

in Iberia in 12th and 13th centuries. Toledo as center of translation, technology, innovation, design, and philosophical inquiry for all of Europe. How Iberian literary works differed from those produced in the rest of Western Europe. Readings from Saint Isidore, Ibn Hazm, Averroes (Ibn Rushd), and Maimonides. prereq: A Grade of C- or better in SPAN 3104W or SPAN 3104V or TLDO 3104W or ARGN 3104W or SPAN 3105W or TLDO 3105W or SPAN 3105V

SPAN 3510. Issues in Hispanic Cultures. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Analysis of practices that have shaped cultural identity of Spanish or Portuguese-speaking areas. Topics vary. prereq: A grade of C- or better in Span 3104W or Span 3105W or Tldo 3104 or Tldo 3105 or Venz 3104 or Venz 3512 or Argn 3104W or Span 3104v or Span 3105v

SPAN 3512. Modern Latin America. (; 3 cr. ; Student Option; Periodic Fall & Spring) Impact of various forms of modernization on cultural production in Latin American racial, ethnic, class relations, institutional, and ideological structures. prereq: A C- or better in SPAN 3104W or SPAN 3104V or TLDO 3104W or ARGN 3104W or SPAN 3105W or TLDO 3105W or SPAN 3105V

SPAN 3603. Jews and Muslims in Medieval Iberia. (AH; 3 cr. ; Student Option; Periodic Fall & Spring)

Cultural production of Sephardic Jews and Andalusí Muslims. Andalusí poetry. Fiction of al-Saraqusti, Judah al-Harizi and Juan Ruiz. Treatises of Averroes and Maimonides. How cultural assimilation in medieval al-Andalus complicates notions of identity, subalterity, and postcoloniality. How literary, historical, philosophical, and theological works of major Jewish/Muslim thinkers survived among later Spanish Christian intellectuals.

SPAN 3606. Human Rights Issues in the Americas. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Human rights movement. International law of human rights and the justice system. Focuses on human rights cases in the Americas and on cultural practices related to human rights.

SPAN 3612. Don Quijote and the Novel. (LITR; 3 cr. ; Student Option; Spring Even Year)

How Cervantes' text enters in dialogue with prevalent novelistic and social discourses of Spain's Renaissance and Baroque periods (sixteenth/seventeenth century). How novel has managed to interest succeeding generations of readers. Taught in English.

SPAN 3653. Latinx Cultural Narratives in the US. (DSJ; 3 cr. ; Student Option; Periodic Fall)

A wide variety of Latino groups have used the stage to explore identity issues in a public forum and have developed nontraditional approaches which have altered the nature, quality and substance of recent theater in the U.S. Off-Broadway, regional troupes, and groups and have attempted to break the mainstream theater's hegemony by addressing the audience's desire to see their problems

enacted in understandable and creative terms. Through an interdisciplinary approach which will include lectures, discussions, performance and visual materials, the course will introduce established and work-in-progress plays of the most active Latin (O) playwrights in the country, along with the historical, political and cultural development framework which made it possible. THIS CLASS IS TAUGHT IN ENGLISH

SPAN 3699. Study of Advanced Spanish Language Abroad. (; 1-5 cr. ; Student Option; Every Fall & Spring)

Study of advanced Spanish language in a Spanish-speaking country. prereq: Two yrs college-level Spanish, dept consent

SPAN 3701. Structure of Spanish: Phonology and Phonetics. (; 3 cr. ; Student Option; Periodic Fall & Spring) Analysis of phonetics/phonology of modern Spanish. Regional/social variants of the language in Spain and Spanish America. Emphasizes improving Spanish pronunciation. prereq: A C- or better in Span 3107W or TLDO 3107W

SPAN 3702. Structure of Spanish: Morphology and Syntax. (; 3 cr. ; Student Option; Periodic Fall & Spring) Using linguistic concepts such as morpheme, flexional affix, noun phrase, subject, subordination, and coordination to identify different morphological/syntactic components of Spanish. prereq: A C- or better in SPAN 3107W or TLDO 3107W

SPAN 3703. Origins and History of Spanish and Portuguese. (; 3 cr. ; Student Option; Every Fall & Spring) Development of Spanish from its Latin roots. Phonetic, morphological, syntactic, and sociolinguistic aspects of language variations over time. prereq: A Grade of C- or better in Span 3107W or TLDO 3107W

SPAN 3704. Sociolinguistics of the Spanish-Speaking World. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Spanish dialects. Spanish in contact with other languages. Bilingualism, language attitudes. Pragmatic analysis of Spanish. Impact of recent cultural, political, and socioeconomic transformations on language. prereq: A C- or better in Span 3107W or TLDO 3107W

SPAN 3706. Spanish Applied Linguistics. (; 3 cr. ; Student Option; Periodic Fall & Spring) Introduction to second language acquisition processes as they relate to fundamental analysis of linguistic concepts of Spanish. Features that present difficulties for English speakers. Sociolinguistic aspects of language learning. Application to Spanish language teaching. prereq: A C- or better in Span 3107W or TLDO 3107W

SPAN 3707. Linguistic Accuracy Through Translation. (; 3 cr. ; A-F only; Periodic Summer)

Analysis of style/audience/lexicon of various texts in Spanish (popular press, business, academic) examined as framework for training to communicate with accuracy in different contexts. Students apply lexical/grammatical

choices in translating texts. prereq: A grade of C- or better in SPAN 3104W or SPAN 3104V or TLDO 3104W or ARGN 3104W or SPAN 3105W or TLDO 3105W or SPAN 3105V or 3107W or instr consent

SPAN 3708. Spanish in the United States. (3 cr. ; Student Option; Periodic Spring)
Sociolinguistic overview of Spanish-speaking communities in the US; language use patterns in bilingual communities; linguistic characteristics of Spanish in the US; use of Spanish in schools and public life; language ideologies. prereq: A C- or better in SPAN 3107W or TLDO 3107W

SPAN 3730. Topics in Hispanic Linguistics. (; 3 cr. [max 9 cr.]; A-F only; Periodic Fall & Spring)
Topics specified in Class Schedule. prereq: SPAN 3107W or TLDO 3107W or VENZ 3107 or instr consent

SPAN 3800. Film Studies in Spanish. (; 3 cr. [max 9 cr.]; A-F only; Every Fall & Spring)
Films from Spain or Spanish-speaking world in their historical, (geo)political, and socioeconomic contexts. Films analyzed under interdisciplinary frameworks, noting aspects related to cinematography/rhetoric. prereq: Span 3104W or Span 3105W or Tldo 3104 or Tldo 3105 or Venz 3104 or Venz 3512 or Argn 3104W or Span 3104v or Span 3105v

SPAN 3807. Medical Humanities and Latin American Film: Narratives of Health, Illness & Trauma. (AH; 3 cr. ; Student Option; Periodic Fall & Spring)
In this course, we will study the representations of health, illness, and trauma in Latin American films. We will focus on the different ways in which the moving image account for different stories and perspectives. We will pay particular attention to the use of the camera in relation to the stories told by the different characters of the film, in particular, doctors and health workers, patients and their families. We will focus on the process of storytelling of illness and trauma, and on the essential role that the study of cultural and socio-political frameworks have in the study of narratives. Our objective will be to explore the visual, acoustic and narrative strategies through which pain, illness, trauma, and death are represented, as well as the role of those who listen to these narratives (friends, family, health professionals and, of course, ourselves as spectators) in the process of interpretation (and the cultural aspects of interpretation). In this course, students will reflect on the human condition, and in the use of storytelling to understand and communicate one's life story, focusing on the moments in which that the experience of illness or trauma interrupts and transforms a life story. Students will work in groups to create narratives based on the films studied in class and to analyze films (and their own narratives) with critical approaches coming from, visual and acoustic studies, philosophy, literary studies, and narrative medicine. prereq: A Grade of C- or better in SPAN 3104W or SPAN 3104V or TLDO 3104W or ARGN 3104W or SPAN 3105W or TLDO 3105W or SPAN 3105V or instr consent

SPAN 3910. Topics in Spanish Peninsular Literature. (; 3 cr. [max 9 cr.]; A-F or Audit; Periodic Fall & Spring)
Focus on central theme related to important groups of writers, literary movements, trends, critical approaches, methods. Topics specified in Class Schedule. prereq: SPAN 3104W or SPAN 3104V or TLDO 3104W or ARGN 3104W or SPAN 3105W or TLDO 3105W or SPAN 3105V or VENZ 3512 or instr consent

SPAN 3920. Topics in Spanish-American Literature. (; 3 cr. [max 9 cr.]; A-F or Audit; Periodic Fall & Spring)
Focus on central theme related to important groups of writers, literary movements, trends, critical approaches, and methods. Topics specified in Class Schedule. prereq: SPAN 3104W or TLDO 3104 or VENZ 3104 or ARGN 3104W or SPAN 3105W or TLDO 3105 or VENZ 3512 or instructor consent

SPAN 3970. Directed Studies. (1-4 cr. [max 9 cr.]; Student Option; Every Fall, Spring & Summer)
Guided individual reading/study in Hispanic linguistics, cultural studies, or peninsular, Latin American, or U.S. Latino theater or literatures. Prereq instr consent, dept consent, college consent.

SPAN 3972W. Capstone Seminar. (WI; 3 cr. ; A-F only; Every Spring)
Completion of a research paper on cultural, literary, or artistic issue in Spanish or Portuguese speaking worlds or on a topic related to Hispanic linguistics. In-depth research/consultation with instructor. SPAN 3972W needs to be taken during the semester in which student completes major course work. Prereq: Spanish Studies Major (for those who declared before Fall 2018): C- or better in SPAN 3015w, 3104w, 3105w, 3107w and 3 SPAN electives with a critical analysis prerequisite. Spanish Studies major (for those who declare Fall 2018 and after): C- or better in Span 3015w, 2 Span 31xx courses, and 4 electives with a Critical Analysis prerequisite. Spanish/Portuguese Studies Majors (for those who declared before Spring 2022): C- or better in SPAN 3015w, PORT 3003, SPAN 3104w, 3107w, 1 PORT 35xx class, 2 upper level SPAN or PORT electives. Spanish/Portuguese Studies Majors (for those who declared Spring 2022 and after): C- or better in SPAN 3015W, PORT 3003, SPAN 3104W or 3105W & 3107W, 1 PORT elective, 2 additional upper level Spanish or Portuguese electives

SPAN 3993. Directed Studies. (1-4 cr. [max 9 cr.]; Student Option; Every Fall, Spring & Summer)
Guided individual reading or study. Students enrolling in this directed study/research course will complete the University's common Directed Study/Research contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: - the work proposed is at the appropriate level for the course, academic in nature, and the student will be involved intellectually in the project. - the project scope is reasonable for one semester and the number of credits specified (42 hours of work per credit)

- the faculty mentor is qualified to serve in this role - assessment of student learning and grading criteria are clear and appropriate - the student will be working in a respectful, inclusive environment

SPAN 3994. Directed Research. (1-4 cr. [max 9 cr.]; Student Option; Every Fall, Spring & Summer)
Guided Research. Students enrolling in this directed study/research course will complete the University's common Directed Study/Research contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: - the work proposed is at the appropriate level for the course, academic in nature, and the student will be involved intellectually in the project. - the project scope is reasonable for one semester and the number of credits specified (42 hours of work per credit) - the faculty mentor is qualified to serve in this role - assessment of student learning and grading criteria are clear and appropriate - the student will be working in a respectful, inclusive environment

SPAN 4001. Beginning Spanish for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Fall)
Listening, speaking, reading, writing. Emphasizes development of communicative competence. Cultural readings. Prereq: Less than 2 yrs of High School Spanish, and dept consent

SPAN 4002. Beginning Spanish for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Spring)
Listening, speaking, reading, writing. Emphasizes development of communicative competence. Cultural readings. Meets concurrently with 1002. Prereqs: A Grade of C- or better in SPAN 1001/4001 completed at UMNTC and department consent

SPAN 4003. Intermediate Spanish for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Fall, Spring & Summer)
Speaking/comprehension. Developing reading/writing skills based on materials from Spain/Spanish America. Grammar review. Compositions, oral presentations. Meets concurrently with 1003. Prereq: A Grade of C- or better in SPAN 1002 or SPAN 4002 or SPAN 1022 or SPAN 4022 or EPT placement of SPAN 1003

SPAN 4004. Intermediate Spanish for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Fall, Spring & Summer)
Speaking/comprehension. Developing reading/writing skills based on materials from Spain/Spanish America. Grammar review. Compositions, oral presentations. Meets concurrently with 1004.

SPAN 4014. Business Spanish for Graduate Student Research. (5 cr. ; Student Option; Every Spring)
Vocabulary, report writing skills. Proper format for business communications. Conversational fluency on trade-related topics. Meets with SPAN 1014.

SPAN 4022. Alternate Second-Semester Spanish for Graduate Student Research.

(; 5 cr. ; Student Option No Audit; Every Fall, Spring & Summer)

For students who have studied Spanish in high school or at community college, or who are transfer students. Begins with accelerated review of 1001/4001 followed by material covered in 1002/4002. Meets concurrently with 1022.

SPAN 5150. Contemporary Spanish

Literature. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Major literary works/movements in Spain from 1915 to 2000. Neomodernism, surrealism, social realism, literatures of dictatorship/exile. Postmodernism. Poetry, novel, drama, essays, film, video/TV. Problems of literary history. prereq: Grad student or instr consent

SPAN 5160. Medieval Iberian Literatures and Cultures.

(; 3 cr. ; Student Option; Periodic Fall & Spring)

The major literary genres developed in Spain from the Reconquest to 1502, with reference to the crucial transformations of the Middle Ages, including primitive lyric, epic, clerical narrative, storytelling, debates, collections, chronicles, "exempla," and the *Celestina* (1499-1502).

SPAN 5170. The Literature of the Spanish Empire and Its Decline.

(; 3 cr. ; Student Option; Periodic Fall & Spring)

Major Renaissance/Baroque works of Spanish Golden Age (16th-17th-century poetry, nonfiction prose, novel, drama) examined against historical background of internal economic decline, national crisis, ideological apparatus developed by modern state. prereq: Grad student or instr consent

SPAN 5180. Don Quixote.

(; 3 cr. ; Student Option; Periodic Spring)

Analysis of Cervantes' [Don Quixote] in its sociohistorical context; focus on the novel's reception from the romantic period to postmodern times. prereq: Grad student or instr consent

SPAN 5190. The Crisis of the Old Regime: Spanish Literature of the Enlightenment and Romanticism.

(; 3 cr. ; Student Option; Periodic Fall & Spring)

Major literary works/intellectual movements/conflicts represented in written culture, of 18th/early 19th centuries (1680-1845), examined as expressions of long crisis of Spain's Old Regime and rise of bourgeois liberalism. prereq: Grad student or instr consent

SPAN 5550. Caribbean Literature: An

Integral Approach. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Literature of Spanish-speaking Caribbean. Emphasizes historical legacy of slavery, African culture, independence struggles. prereq: Grad student or instr consent

SPAN 5560. Global Colonial Studies in the Hispanic World.

(; 3 cr. ; Student Option; Periodic Fall & Summer)

Discourse production in Spanish America between 1492 and 1700. Conquest/colonial writing/counter writing. Historical origin, evolution, impact of cultural, political,

socioeconomic factors. prereq: Grad student or instr consent

SPAN 5570. Nineteenth Century Latin America: Enlightened Thought, Nation Building, Literacy, Cultural Discourse.

(; 3 cr. ; Student Option; Periodic Spring)

Political/economic contexts. Capitalism, liberalism, conservatism, their discursive media. Essay, journalism, literature, expression of everyday life. Wheels of commerce, progress, industrialization. Romanticism, realism, positivistic faith.

SPAN 5580. Latin American Cultural

Integration in the Neocolonial Order. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Modernismo, historical vanguard, impact of populist politics in patterns of culture/literature. 1900-50. prereq: Grad student or instr consent

SPAN 5590. The Impact of Globalization in Latin American Discourses.

(; 3 cr. ; Student Option; Every Fall & Spring)

Second half of 20th century critical culture. Neo-indigenism, new novel, poetry/antipoetry, theater/drama. Pragmatic search for past/identity. Globalization, its impact in literature.

SPAN 5701. History of Ibero-Romance.

(; 3 cr. ; Student Option; Periodic Spring)

Origins and developments of Ibero-Romance languages; evolution of Spanish, Portuguese, and Catalan. prereq: Grad student or instr consent

SPAN 5714. Theoretical Foundations of Spanish Syntax.

(; 3 cr. ; Student Option; Periodic Fall & Spring)

Linguistic types/processes that appear across languages. Grammatical relations, word order, transitivity, subordination, information structure, grammaticalization. How these are present in syntax of Spanish. prereq: Grad student or instr consent

SPAN 5716. Structure of Modern Spanish: Pragmatics.

(3 cr. ; Student Option; Periodic Fall)

Concepts in current literature in Spanish pragmatics. Deixis, presupposition, conversational implicature, speech act theory, conversational structure. prereq: Grad student or instr consent

SPAN 5717. Spanish Sociolinguistics.

(; 3 cr. ; Student Option; Periodic Spring)

Sociolinguistic variation, cross-dialectal diversity in different varieties of Spanish in Latin America and Spain. Impact of recent cultural, political, and socioeconomic transformations on language. prereq: Grad student or instr consent

SPAN 5718. Spanish Language Contact.

(; 3 cr. ; Student Option; Periodic Fall & Spring)

Analysis of different types/results of Spanish language contact globally, taking into account varying social conditions under which contact occurs. prereq: Grad student or instr consent

SPAN 5721. Spanish Laboratory Phonology.

(; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Core literature on Spanish laboratory phonology. Phonology from a laboratory perspective. Students evaluate laboratory research methodologies, perform basic

acoustic analyses, and design laboratory phonology studies. prereq: Grad student or instr consent

SPAN 5920. Topics in Spanish-American

Studies. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Spanish-American literature analyzed according to important groups, movements, trends, methods, and genres. Specific approaches depend on topic and instructor. Topics specified in Class Schedule. prereq: Grad student or instr consent

SPAN 5930. Topics in Ibero-Romance

Linguistics. (; 3 cr. [max 9 cr.] ; Student Option; Periodic Spring & Summer)

Problems in Hispanic linguistics; a variety of approaches and methods.

SPAN 5985. Sociolinguistic Perspectives on Spanish in the United States.

(; 3 cr. ; Student Option; Periodic Spring)

Sociolinguistic analysis of issues such as language maintenance/shift in U.S. Latino communities, code switching, attitudes of Spanish speakers toward varieties of Spanish and English, language change in bilingual communities, and language policy issues. prereq: Grad student or instr consent

SPAN 5991. The Acquisition of Spanish as a First and Second Language.

(; 3 cr. ; Student Option; Periodic Spring)

Analysis of issues such as the acquisition of Spanish and English by bilingual children; Spanish in immersion settings; developmental sequences in Spanish; classroom language learners' attitudes, beliefs, and motivation; development of pragmatic competence. prereq: Grad student or instr consent

SPAN 5993. Directed Studies.

(1-4 cr. [max 9 cr.] ; Student Option; Every Fall, Spring & Summer)

Students must submit reading plans for particular topics, figures, periods, or issues. Readings in Spanish and/or Spanish-American subjects. Students enrolling in this directed study/research course will complete the University's common Directed Study/Research contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: - the work proposed is at the appropriate level for the course, academic in nature, and the student will be involved intellectually in the project. - the project scope is reasonable for one semester and the number of credits specified (42 hours of work per credit) - the faculty mentor is qualified to serve in this role - assessment of student learning and grading criteria are clear and appropriate - the student will be working in a respectful, inclusive environment prereq Grad student or instr consent.

SPAN 5994. Directed Research.

(1-4 cr. [max 9 cr.] ; Student Option; Every Fall, Spring & Summer)

Directed research. Students enrolling in this directed study/research course will complete the University's common Directed Study/Research contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: - the work proposed is at the appropriate

level for the course, academic in nature, and the student will be involved intellectually in the project - the project scope is reasonable for one semester and the number of credits specified (42 hours of work per credit) - the faculty mentor is qualified to serve in this role - assessment of student learning and grading criteria are clear and appropriate - the student will be working in a respectful, inclusive environment prereq: Grad student or instr consent

Spanish and Portuguese (SPPT)

SPPT 3600. Topics in Spanish and Portuguese Studies (Taught in English). (3 cr. ; Student Option; Periodic Fall & Spring) Latin American, Iberian, or Lusophone topics related to culture, society, art, or linguistics. Taught in English.

SPPT 3601. 'Race' in Brazil & Latin America. (3 cr. ; Student Option; Periodic Fall & Spring) As cultural, national and racial mixings have become the celebrated norm in our society, it is instructive to reflect upon the radically historical, contingent role that the idea of racial mixings has played in the construction of national imaginaries. The idea that Latin America is a continent of mestizos looms large in the US as elsewhere, but generally without the contextual understanding of how that racial category came to be, and as imaginaries of national mesti?agem/ mestizaje were consolidated, developed and questioned in the twentieth century and, finally, transplanted to other geographical and epistemological sites, as is the case with Chicax in the USA. Rather than contributing to the invisibility of Brazil by generalizing from Spanish-speaking Latin America, the present course aims to introduce students to racial thinking in Brazil, from the mid-nineteenth century to the present in a comparative frame with racial thinking elsewhere in Latin America, particularly in Mexico. Aside from understanding how the Spanish ?mestizo? construction is not equivalent to that of ?mesti?o? or ?pardo? or ?mulato? in Portuguese, nor to contemporary multicultural US-branded notions of racial mixings, the course aims to query how the imaginaries of nationhood that have prevailed in Latin America contribute not only to the social exclusion of black people, even where they are a majority, but also to the systematic racism that is still dominant and difficult to combat. We will go over the social and anthropological concepts, the literary and artistic representations, and the political uses of racial ascriptions with attention to changing historical contexts and locations. The main topics covered are the idea of the mixed-race nation in romanticism; post-emancipation, modern nation-making and whitening; modernism and the ideals of ?la raza c?smica? (Jos? Vasconcelos, in Mexico) and racial democracy (Gilberto Freyre, in Brazil); the problem of forging a black consciousness in an officially mixed-race nation; and the appropriation of a modernist, Mexican notion of ?mestizaje? to forge a Chicax identity in the old one-drop rule USA. Classes will

be conducted in English, but students have the option to read some of the originals in Portuguese or Spanish; sometimes we will cite the originals in class to have students listen to ? and hopefully appreciate ? the sounds and nuances of Portuguese and Spanish. Classes will be interactive, with a combination of lecture and discussion; oral presentations, viewing of art, music and film clips and discussion thereof; and group activities. Depending on students? language abilities, small group discussions in class can be in Spanish, Portuguese or English. All texts are considered a valid object of study and discussion, in whatever language and from whatever disciplinary perspective they are written. I have deliberately mixed literature, anthropology, sociology, art history and so-called mass culture in order to expose students to a variety of disciplinary perspectives. The point is to see how insistent notions of ?race? are integrally related to the way that nations are imagined and controlled but also appropriated and potentially questioned.

SPPT 5930. Selected Topics in Hispanic and Lusophone Cultural Discourse. (1-3 cr. [max 9 cr.] ; A-F or Audit; Periodic Fall & Spring)

Cultural discourses in Spanish- and Portuguese-speaking areas. Historical intersections/divergences. Taught in Spanish or Portuguese, and in English when cross-listed. Topics specified in Class Schedule. prereq: Reading knowledge of Spanish and Portuguese

SPPT 5995. Directed Teaching. (1 cr. ; S-N only; Every Fall)

Taken in conjunction with SPPT 5999. Language acquisition theory as applied to foreign language instruction at college level. How current theory translates into practice through hands-on practical application particular to communicative language instruction practiced in Department of Spanish/ Portuguese Studies. prereq: Grad student with concurrent enrollment in 5999

SPPT 5999. The Teaching of College-Level Spanish: Theory and Practice. (3 cr. ; Student Option; Every Fall)

Theoretical grounding in the general principles of second language acquisition and guidance with their practical applications to the teaching of first- and second-year Spanish at the college-level. prereq: Grad or instr consent

Speech-Language-Hearing Sci (SLHS)

SLHS 1301V. Physics and Biology of the Voice Honors. (PHYS,WI; 4 cr. ; A-F or Audit; Every Fall & Spring)

The goal of this course is to provide students with a background of the core physical, linguistic, and perceptual concepts related to speech. This course talks about the acoustics of speech as well as the main principles that are used to describe articulation and phonetics. We will examine the aerodynamic and acoustic principles that underlie sound production. The course also covers basics of auditory perception and how computers can be used

to analyze and manipulate speech. Through an emphasis on physical analysis grounded in scientific principles, this course satisfies the university's physical sciences with laboratory liberal education requirement.

SLHS 1301W. Physics and Biology of the Voice. (PHYS,WI; 4 cr. ; Student Option; Every Fall & Spring)

The goal of this course is to provide students with a background of the core physical, linguistic, and perceptual concepts related to speech. This course talks about the acoustics of speech as well as the main principles that are used to describe articulation and phonetics. We will examine the aerodynamic and acoustic principles that underlie sound production. The course also covers basics of auditory perception and how computers can be used to analyze and manipulate speech. Through an emphasis on physical analysis grounded in scientific principles, this course satisfies the university's physical sciences with laboratory liberal education requirement.

SLHS 1302. Rate Your World: Quantifying Judgments of Human Behavior. (MATH; 3 cr. ; Student Option; Every Fall & Spring)

This 3-credit course meets the UMN liberal education requirements in the area of mathematical thinking. As specified on the university web site, the courses that were approved to fulfill the liberal education requirements aim to ?guide you through the ?why? and ?how? of different academic disciplines? and to ?equip you with a broad range of tools that you can use to approach problems in your everyday life and work, and ultimately to make a positive difference in your communities, your society, your state, and your world.? This course was initially developed by Professors Peggy Nelson and Leslie Glaze, and its contents have been substantially revised by Professor Yang Zhang to meet the requirements of the college curriculum review committee. Current materials for the course are based in part on a course at another Big Ten University, Ohio State, which was originally developed by Professor Mary EBeckman.

SLHS 1401. Introduction to Speech-Language Pathology & Audiology. (SOCS; 3 cr. ; Student Option; Every Fall & Spring)

In this course students will be provided an introduction to the diverse field of speech-language pathology and audiology. Case studies, documentaries, and patient testimonials will be used to orient students to the clinical significance of impairments that contribute to deficits in cognition, communication, and deglutition. Students will gain an understanding of associated assessments and interventions to mitigate these deficits from experts practicing in the field. Lastly, students will be introduced to career paths in speech language pathology and audiology, as well as their associated practice setting and remuneration specifications.

SLHS 1402. The Talking Brain. (SOCS; 3 cr. ; Student Option; Every Fall & Spring) How the brain produces/understands speech/ language, including various aspects of the nervous system involved in producing/

understanding speech/language. Differences in brain structure/function among individuals with and without brain injury, based on scientific versus historical, mass media and literature portrayals.

SLHS 1914. Communication Disorders and Neurodiversity. (; 3 cr. ; A-F only; Every Fall)

This discussion-based Freshman seminar is about how communication disorders resulting from a variety of causes, including Autism, Aphasia, Stuttering, Motor Speech Disorders, Traumatic Brain Injury, and Hearing loss, are perceived in the 21st century. Topics including the evolution of frameworks to understand disabilities and barriers, ableism, neurodiversity, intersectionality, disability policies and accommodations, role of stakeholders, and the lived experiences of individuals with disabilities, will be discussed to contextualize communication disorders within the field of Disability Studies. Instructor-based lectures will be augmented through discussions, guest lectures, written assignments, and group projects.

SLHS 3302. Anatomy and Physiology of the Speech and Hearing Mechanisms. (; 3 cr. ; Student Option; Every Fall)

Survey of anatomy and physiology of the auditory and speech production systems, including the nervous, respiratory, laryngeal, velopharyngeal and orofacial subsystems. Emphasis on normal processes and functions.

SLHS 3303. Language Acquisition and Science. (; 3 cr. ; Student Option; Every Spring)

Survey of typical language development, major theoretical perspectives about development, and analyses of children's language.

SLHS 3304. Phonetics. (3 cr. ; Student Option; Every Spring)

What is a click sound? Why is it that people who learned to speak English in New York City are more likely to produce the words Mary, merry, and marry differently than people who learned English in Minneapolis? Why does the name 'Beto' produced by a native speaker of English sound so much like the word 'pero' produced by a native speaker of Spanish? How is English-accented Japanese different from Japanese produced by a native speaker? How does one write the sounds of speech using the international phonetic alphabet? Phonetics is the science of speech production. In this course in phonetics, you will develop skills in phonetic transcription, and you will apply those new skills to understanding differences across languages, speech development, dialects, and individual speech styles. By the end of the course, you will be a skilled phonetic transcriber, and you will have used those skills to understand aspects of speech that can't be understood without a knowledge of phonetics. Your new knowledge of the sound structure of human languages will make you a more flexible listener when you encounter new languages, or new varieties of languages you already know. The skills in this course will be taught with a variety of in-person and on-line tools, including lectures, small group work, on-line self-paced modules, and interactive transcription practice.

SLHS 3305W. Speech Science. (WI; 3 cr. ; Student Option; Every Fall)

Because speech is the acoustic representation of language, we will examine the time varying acoustic signal ?speech production - and the reception, separation and decoding of this signal into language? speech perception. For this class you will be presented with: (a) the basic principles of acoustics; (2) the physiology that produces the acoustic features that comprise speech; (3) basic theories of speech-motor control; (4) basic principles of speech perception; and (5) overview of current theories of speech perception, especially as they pertain to development of language in the first year of life.

SLHS 3306. The Sense of Hearing. (; 3 cr. ; Student Option; Every Spring)

Have you ever wondered how the sense of hearing works? This course will give you a deep look at the science behind the sense of hearing. You will learn about how sound is created, and transmitted from the air to our ears. Once sound enters our ears, it makes an impressive journey through many stations along the auditory pathway... all the way up to our brains. In addition to the physiological process of sound transmission through the auditory system, this course also covers psychoacoustics measures that provide non-invasive techniques and methods to evaluate the transmission of sound through the auditory system. prereq: [3302, 3305W] or instr consent

SLHS 3401. Introduction to Speech-Language Pathology & Audiology. (SOCS; 3 cr. ; Student Option; Every Fall & Spring)

In this course, students will be provided an introduction to the diverse field of speech-language pathology and audiology. Case studies, documentaries, and patient testimonials will be used to orient students to the clinical significance of impairments that contribute to deficits in cognition, communication, and deglutition. Students will gain an understanding of associated assessments and interventions to mitigate these deficits from experts practicing in the field. Lastly, students will be introduced to career paths in speech language pathology and audiology, as well as their associated practice setting and remuneration specifications.

SLHS 3402V. Capstone Project in Speech-Language-Hearing Sciences Honors. (WI; 3 cr. [max 6 cr.] ; A-F only; Every Spring)

This final year writing intensive course provides students foundational knowledge on evidence-based practice in the fields of Speech Language Pathology and Audiology. The course has a research and a service learning module. The research module includes lectures and group activities designed to promote critical thinking in evaluating research evidence and will enable students to generate evidence maps to support clinical decision making. The service learning module requires students to complete 20 hours of volunteering with an organization of choice. Reflective writing and research writing activities are designed to enable students to make connections between classroom learning and field work. Students will participate in a final capstone presentation day

involving group and individual presentations to showcase their work throughout the semester.

SLHS 3402W. Capstone Project in Speech-Language-Hearing Sciences. (WI; 3 cr. ; S-N or Audit; Every Spring)

This final year writing intensive course provides students foundational knowledge on evidence-based practice in the fields of Speech Language Pathology and Audiology. The course has a research and a service learning module. The research module includes lectures and group activities designed to promote critical thinking in evaluating research evidence and will enable students to generate evidence maps to support clinical decision making. The service learning module requires students to complete 20 hours of volunteering with an organization of choice. Reflective writing and research writing activities are designed to enable students to make connections between classroom learning and field work. Students will participate in a final capstone presentation day involving group and individual presentations to showcase their work throughout the semester.

SLHS 3555H. Honors Thesis. (; 1-2 cr. ; A-F or Audit; Every Fall & Spring)

Research/writing under direction of faculty member. Details of work are determined in consultation with faculty thesis adviser selected based on availability/topic. prereq: See dir of undergrad studies for [thesis adviser, forms]

SLHS 3994. Directed Research. (; 1-12 cr. [max 24 cr.] ; Student Option; Every Fall, Spring & Summer)

tbd prereq: Undergrad doing research

SLHS 4301. Introduction to the Neuroscience of Human Communication. (; 3 cr. ; Student Option; Periodic Fall)

Basic neuroanatomy and neurophysiology, especially as they relate to normal speech, language, and hearing processes.

SLHS 4402. Clinical Methods in Speech-Language Pathology. (3 cr. ; A-F or Audit; Every Fall)

This course illustrates assessment and treatment methods in speech-language pathology. Students will gain a solid foundation for clinical practice with clients across the lifespan and across a range of communication impairments. The course is designed to prepare advanced undergraduate majors in SLHS and entry-level graduate students for entry into clinical settings in speech-language pathology. prereq: [1401 OR 3401, 3302, 3303, 3304, 4301 (either before registration for 4402 or concurrent registration is required (or allowed) in 4402)], or grad student, or instr consent

SLHS 4801. Clinical methods in assessing auditory function and disorders. (; 3 cr. ; Student Option; Every Fall)

Have you ever wondered why some people have normal hearing and others do not? This course will cover different methods (i.e. visual, behavioral, and physiological measures) that are used to assess auditory function in the outer, middle, inner ear, and beyond. Students will gain a solid introductory foundation on clinical methods that are used

and how information gained from different assessment methods are combined to assess overall auditory function. In addition, students will also learn about genetic and non-genetic disorders that impact auditory function. prereq: [3302, 3305W] or instr consent

SLHS 4802. Clinical Methods for Treating Hearing Disorders. (; 3 cr. ; Student Option; Every Spring)

Ever wondered how hearing loss is treated? This course will present an introductory foundation on treatment options for individuals with different types of hearing loss. The three Ts of rehabilitating hearing loss are covered. The first T includes how diagnostic visual, behavioral, and physiological tests results are interpreted and used in the design of treatment plans for individuals with hearing loss. The second T will cover technology that is used to treat hearing loss. This section will provide details on how hearing aids, cochlear implants, and other implantable hearing devices work and how clinical decisions are made with regards to who gets a hearing aid vs. a cochlear implant. Hearing assistive technology and wireless devices such as FM, loop and infrared systems will all be covered. The third T will cover treatment options for adults and children with hearing loss. This section will provide details on informational and personal-adjustment counseling, non-technology treatment options, and person-centered and family-centered intervention and training plans for adults as well as children with hearing loss.

SLHS 5401. Counseling and Professional Issues. (; 3 cr. ; Student Option; Every Fall)

Basic counseling principles and current professional issues related to practice in a dynamic multicultural environment. Application of counseling theory to clinical practice. Analysis of regulation, practice, and future direction of communication disorders. prereq: [[concurrent registration is required (or allowed) in 8720 or concurrent registration is required (or allowed) in 8820], grad student] recommended

SLHS 5502. Voice and Cleft Palate. (3 cr. ; Student Option; Every Spring)

Disordered voice and resonance. Presentation and discussion of the nature of etiologies, assessment and management of organic/functional voice disorders and cleft palate to meet clinical competencies for speech-language pathology. prereq: [3305, 4301] or [CDIS 3305, CDIS 4301] or instr consent

SLHS 5503. Stuttering Motor Speech Disorders. (; 3 cr. ; Student Option; Every Fall)

SLHS 5503 is designed for graduate students who wish to increase their understanding of stuttering and motor speech disorders. Its goal is to provide students with a strong foundation on the basics of the physiology, diagnosis, assessment, and treatment of these communication disorders and to provide working knowledge of current trends in related fields. prereq: graduate SLHS student or department permission, [3305, 4301] or instr consent

SLHS 5504. Evaluation and Management of Dysphagia. (3 cr. ; Student Option; Every Fall)

Normal/disordered aspects of swallowing. Nature, etiologies, evaluation, management of swallowing disorders.

SLHS 5602. Speech Sound Disorders: Assessment and Treatment across Languages. (3 cr. ; Student Option; Every Fall)

Nature, assessment, and treatment of speech sound disorders in children. Assessment and treatment of phonological awareness and pre-literacy skills. This course covers cross-linguistic issues in speech sound disorders, including characteristics of speech sound disorders in a variety of languages, and the differential diagnosis of speech sound disorder from the effects of normal second-language acquisition. Emphasis on functional speech sound disorders, with some coverage given to disorders of a clear organic origin, like cerebral palsy, hearing impairment, and cleft palate. prereq: [3303, 3304, 4601] or instr consent

SLHS 5603. Assessment and Intervention of Language Disorders in Children. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Assessment and intervention techniques approaches for treating language impairment in children with disabilities, such as specific language impairment, developmental delays, and autism spectrum disorder. prereq: 3303 or CDIS 3303 or equiv or grad student or instr consent

SLHS 5605. Language and Cognitive Disorders in Adults. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Acquired cognitive and communicative disorders in the adult population specifically including: stroke/aphasia, right hemisphere dysfunction, traumatic brain injury, and dementia. Consideration of neurological substrates, disorder symptomology, assessment, clinical intervention, and functional impact across the lifespan and amongst diverse populations. prereq: [3302, 4301] or [CDIS 3302, CDIS 4301] or instr consent

SLHS 5606. Introduction to Augmentative and Alternative Communication. (; 3 cr. ; Student Option; Every Fall & Spring)

Description of the range of augmentative and alternative communication applications for persons with developmental and acquired disabilities. Topics include assessment, intervention strategies, progress monitoring, generalization, and maintenance; collateral behavior resulting from AAC applications.

SLHS 5609. Child Language Disorders in Diverse Populations. (3 cr. [max 6 cr.] ; Student Option; Every Spring)

This course covers topics across three broad areas of child language: cultural and linguistic diversity, early intervention, and social communication. The first section will address multicultural issues and bilingualism. The second section will focus on assessment and treatment of language disorders from birth through preschool. Finally, we will address the assessment and treatment

of social communication and pragmatic language deficits across disorders and developmental levels, including early prelinguistic communication. The course will include both theoretically and clinically motivated content.

SLHS 5801. Advanced Audiologic Assessment. (; 3 cr. ; Student Option; Every Fall)

Basic audiometric battery, including pure tone thresholds, measures of speech understanding, masking and immittance in adults. Topics include video otoscopy, ototoxicity, functional hearing loss, and identification of middle-ear fluid. Students enrolled in this course concurrently enroll in SLHS 5810. prereq: 4801 or CDIS 4801 or instr consent

SLHS 5802. Hearing Aids I. (; 3 cr. ; Student Option; Every Fall)

Survey of modern hearing aids including history of development, electroacoustic functions, clinic and laboratory measurement techniques, sound field acoustics, techniques for selection. prereq: [[3305, 4801] or [CDIS 3305, CDIS 4801], SLHS grad] or instr consent

SLHS 5803. Pediatric Audiology. (; 3 cr. ; Student Option; Fall Odd Year)

Behavioral, physiological approaches to assessment and identification, development of the auditory mechanism, etiologies of hearing losses in infants, children, principles of case management with children and families. prereq: [[4801 or CDIS 4801], SLHS grad] or instr consent

SLHS 5804. Cochlear Implants. (; 3 cr. ; A-F or Audit; Spring Odd Year)

Implantable auditory prostheses. History of device development, including cochlear implants and auditory brainstem implants. Signal processing. Techniques for selection, fitting, and rehabilitation. Behavioral/physiological changes across life span. prereq: [[4802, 5801, 5802] or [CDIS 4802, CDIS 5801, CDIS 5802], SLHS grad] or instr consent

SLHS 5805. Advanced Rehabilitative Audiology. (; 3 cr. ; A-F only; Spring Even Year)

Analysis of speech perception/production. Communication skills/strategies. Sensory modalities. Rehabilitative techniques in adults, children, and infants with hearing losses. Tinnitus management. Audiology telepractice.

SLHS 5806. Auditory Disorders in Children. (3 cr. ; A-F or Audit; Every Fall)

In this course students learn about assessing hearing and listening difficulties in children ? beyond the audiogram?, as well as the pediatric-specific considerations for intervention and management of identified hearing difficulties. This course covers the anatomy and physiology of the central auditory pathway, assessments to evaluate auditory disorders and processing skills, and techniques to address auditory processing weaknesses and disorders in children. Additional topics include normal and disordered auditory processing abilities, current and historical theories and controversies surrounding auditory assessment beyond the audiogram, and advances in the

assessment and management of childhood hearing disorders. prereq: [4802 or CDIS 4802, SLHS grad] or instr consent

SLHS 5807. Noise and Hearing

Conservation. (; 3 cr. ; A-F or Audit; Every Fall)

Students in this course will learn to: Describe the auditory and nonauditory effects of noise on humans, Design a successful hearing conservation program, Measure noise levels in a variety of settings, Monitor hearing, Measure hearing protection devices, Develop educational materials, and Describe federal and state regulations as they relate to hearing conservation. prereq: [8801, 8802] or [CDIS 8801, CDIS 8802]

SLHS 5808. Pathophysiology of Hearing Disorders. (; 3 cr. ; A-F or Audit; Fall Odd Year)

Disorders of auditory system, including anatomical, physiological, perceptual, and audiological manifestations of pathologies affecting hearing. Focus will be on understanding current data on physiology, pharmacology, and novel treatment alternatives prereq: [[8801, 8802] or [CDIS 8801, CDIS 8802], SLHS grad] or instr consent

SLHS 5810. Laboratory Module in

Audiology. (; 1-2 cr. [max 10 cr.] ; A-F only; Every Fall & Spring)

Intensive study of clinical methods in audiology. Supplements didactic courses in audiology curriculum. Laboratory study, individually or in small groups. Students enroll in this course concurrently with SLHS 5801, 5802, 8801, 8802. prereq: [4801 or CDIS 4801, SLHS grad] or instr consent

SLHS 5820. Clinical Research and Practice: Grand Rounds. (; 1-6 cr. ; S-N or Audit; Every Fall & Spring)

Group discussions of current professional issues in audiology. Case presentations, guest presentations on current technology, clinical/research ethics. Group meets for an hour weekly with faculty coordinator who leads discussion. Integrates academic/clinical education. prereq: [[4801 or CDIS 4801 or equiv], SLHS grad] or instr consent

SLHS 5830. Clinical Foundations in

Audiology. (; 1-8 cr. [max 24 cr.] ; S-N or Audit; Every Fall & Spring)

Clinical foundations in audiology for first year AuD graduate students. prereq: Grad SLHS major

SLHS 5900. Trends in Telepractice in Communication Sciences and Disorders. (; 2 cr. [max 4 cr.] ; Student Option; Periodic Fall & Spring)

Topics listed in Speech-Language-Hearing Sciences office. prereq: SLHS grad student or instr consent

SLHS 5993. Directed Study. (; 1-12 cr. [max 18 cr.] ; Student Option; Every Fall, Spring & Summer)

Directed readings and preparation of reports on selected topics. prereq: SLHS grad or instr consent Students enrolling in this directed study/research course will complete the University's common Directed Study/Research

contract with the faculty mentor/evaluator. The Faculty member will ensure academic standards are upheld, including: *the work proposed is at the appropriate level for the course, academic in nature, and the student will be involved intellectually in the project. *the project scope is reasonable for one semester and the number of credits specified (42 hours of work per credit) *the faculty mentor is qualified to serve in this role *assessment of student learning and grading criteria are clear and appropriate *the student will be working in a respectful, inclusive environment

Sport Management (SMGT)

SMGT 1701. Introduction to Sport

Management. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Scope/motive of the study of sport from sociological, psychological, historical, economic, and scientific perspective. Issues in sport.

SMGT 2751. Sport and Wellness in China.

(3 cr. ; A-F only; Every Summer)

Course covers international and governing body selection of host market, economic impact of hosting a sport event, media, communications, working with athletes, marketing, event operations, host politics and culture. Students will also participate in wellness and rec as presented by our Chinese partners.

SMGT 3111. Sports Facility and Event

Management. (; 3 cr. ; A-F only; Every Fall & Spring)

This course is designed to provide the student with knowledge pertaining to the various aspects of managing a sport facility and the events which take place within these facilities. Some of the topics discussed include operations, scheduling, marketing, ticketing, finance, sponsorship, risk, security, and event management. Students will have the opportunity to discuss and present viewpoints as it relates to the management of sport facilities and event management. In addition, students will have the opportunity to apply knowledge gained through lecture and in class exercises by viewing a sports event and critiquing various facility management functions during the event, and by developing a sports event management plan. prereq: SMGT major or SMGT minor or CEHD IDP or instructor consent and 45 credits completed or in progress.

SMGT 3143. Organization and Management of Sport. (; 3 cr. ; A-F only; Every Fall & Spring)

This course is designed to provide the student with knowledge pertaining to the various aspects of organization, management, and administration within the sport industry. Students will have the opportunity to hear, learn, and share viewpoints as they relate to sport management through lectures, discussions on current events, and case study analysis. prereq: SMGT major or SMGT minor or CEHD IDP or instructor consent, and 45 credits completed or in progress.

SMGT 3421. Business of Sport. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

This course is designed to provide students with an introduction to the business activity of the sports industry. Topics include sports and its business ecosystem, basic economic principles, revenue management, ticketing, sponsorships and other revenue sources, and expenditure management. prereq: SMGT or KIN or REC major or SMGT minor or CEHD IDP or instructor consent and 45 credits completed or in progress.

SMGT 3501. Sport in a Diverse Society.

(DSJ,SOCS; 3 cr. ; A-F only; Every Fall & Spring)

Relationship between sport and contemporary social institutions. Groups/individuals who have historically been marginalized or excluded from sport participation. Race, sex, social class, sexual orientation, physical (dis)abilities.

SMGT 3501H. Sport in a Diverse Society:

Honors. (DSJ,SOCS; 3 cr. ; A-F only; Every Fall & Spring)

Pervasive and significant relationships between social constructions of sport and physical activity to contemporary social institutions such as politics, religion, economics, education, and mass media. Social issues related to sport. How specific social categories (e.g., age, gender, race, social class) intersect to influence participation/experiences of individuals within sport/physical activity contexts. prereq: Honors student

SMGT 3601. Ethics and Values in Sport. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

In sport management we have many opportunities to ask questions regarding acts and decisions as right or wrong. What does it mean to act in a way that characterizes good behavior? How do we develop morally? What are our personal values and moral orientations? Does sport perpetuate violence in society? What is moral and ethical conduct in sport management? What is meant by the term social responsibility? Do professional sport team owners have a responsibility to the community? How do we make decisions that are good, right and authentic? These questions and other ethical issues in sport will be explored from historical, philosophical, and sociological perspectives. The process of critical reading, thinking, writing, and discussion will be emphasized. Thoughtful reflection and respectful dialogue are encouraged. Critical thinking is a learned process and two activities are central to this process: 1) identifying and challenging assumptions and 2) exploring and imagining alternatives (Brookfield, 1987). prereq: SMGT major and 60 credits completed or in progress.

SMGT 3631. Sport Marketing. (; 3 cr. ; A-F only; Every Fall & Spring)

This course provides an overview of sport marketing management in sport organizations. The most basic objectives of the course provide you with a broad introduction to sport marketing concepts, the role of sport marketing in society, and the various factors that influence marketing decision making. Like other introductory survey courses, you

will be exposed to and expected to learn the "language" of the industry (i.e., terms, concepts, and frameworks) used by practicing marketing professionals. However, it is also expected that by the end of the course you will have a solid understanding of the major decision areas under marketing, the basic interrelationships of those decision areas, and an appreciation of how to apply key frameworks and tools in analysis of customers, competition, and marketing strengths and weaknesses. With this combination, the course should help you develop insight about creative selection of target markets and blending decisions related to product, price, promotion, place, and PR (i.e., the marketing mix) to meet the needs of a target market. It is important that sport management students understand the vital role of marketing within the sport industry. Marketing may take several forms in sport businesses. Students must be able to differentiate between use of marketing to sell sport products and/or services (marketing of sport) from the use of sport and sport personality marketing to sell general or sport-related products or services (marketing through sport). These objectives can only be achieved through a joint effort. I will work to stimulate your interest and learning in these areas, but you will be expected to display initiative and a program of self-study. In that sense, a complementary objective of the course is to provide you with an environment that will encourage and reward your own intellectual effort, while simultaneously maintaining rigorous standards that identify those who are motivated to pursue excellence in their own educational preparation for a sport business career. prereq: SMGT Major or SMGT Minor, or instructor consent AND 45 credits completed or in progress.

SMGT 3632. Sport Sales and Fund-raising. (; 3 cr. ; A-F only; Every Fall & Spring)
Foundation of revenue production in sport management. Necessary skills related to revenue production and sales processes as they apply to the business of sport. prereq: Sport Management major or minor or instr consent

SMGT 3826. Research Methods in Sport Management. (3 cr. ; A-F only; Every Fall & Spring)
A solid understanding of research methods in sport management is becoming more and more important for students pursuing their career in the world of sport. This course is intended to provide students with an overview of research philosophy and useful research methods in Sport Management in academia and in practice. Students will have the opportunity to learn appropriate skills to conduct effective research on problems facing the decision-makers and practitioners in the sport industry. This course will begin with an overview of research concepts and topics in sport management, along with a discussion of the ethical issues with research projects. It will move on to examine the research process, including selecting a topic, reviewing the literature, formulating research questions, developing a conceptual framework,

and establishing the research design. The course will then address qualitative research in sport management, including introducing basic qualitative data collection methods and analysis/coding strategies. The course will then shift to discussing quantitative research paradigms and introducing basic quantitative data analysis techniques.

SMGT 3861. Sport and Recreation Law. (3 cr. ; A-F only; Every Fall & Spring)
This course is designed to acquaint the students to the US legal system, structure, process and terminology. The course provides an introduction of the legal aspects of contract law, tort law, statutory law, negligence, and constitutional law. A student upon completion of the course will understand basic legal aspects of sport and physical activity and will be able to provide managerial analysis and decision making based upon a legal aspects of sport knowledge, therefore providing a competitive advantage of the organization of which are involved. The course instruction relies heavily on court case studies and the legal implications in a sport setting. prereq: SMGT major or REC major or SMGT minor or Health and Wellness Promotion minor and 60 credits completed or in progress.

SMGT 3881W. Senior Seminar in Sport Management. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)
This course addresses the applicability of research in the management of sport through the culmination of a senior research project as well as providing students with career development. The course will engage participants in the systematic inquiry into their own understanding of various components in delivering a sports program. A major segment of course work involves working with a team of peers on a collaborative research project that will address an organization's key business/management problem. Each group will identify a sport organization and work collaboratively with them to develop a plan that addresses the respective problem the organization is experiencing.

SMGT 3993. Directed Study in Sport Management. (; 1-4 cr. ; A-F only; Every Fall, Spring & Summer)
Students have the opportunity to earn credit while working in a lab or field research setting to carry out scholarly or creative activities while under the guidance of a School of Kinesiology Sport Management faculty member. Students can assist with faculty scholarship or carry out projects of their own. To earn credit in this course, students must talk with the faculty member and then fill out a Directed Activity Contract (z.umn.edu/Directed_Activity) online. This contract is an agreement between the student and faculty member and should establish expectations, credits, and the grading basis for the work.

SMGT 3996. Practicum: The Sport Experience. (; 2-8 cr. ; S-N only; Every Fall, Spring & Summer)
Practical experience in one or more sport settings. prereq: 3881, SMGT major, instr consent

Statistics (STAT)

STAT 1001. Introduction to the Ideas of Statistics. (MATH; 4 cr. ; Student Option; Every Fall, Spring & Summer)
Graphical/numerical presentations of data. Judging the usefulness/reliability of results/inferences from surveys and other studies to interesting populations. Coping with randomness/variation in an uncertain world. prereq: Mathematics requirement for admission to University

STAT 3011. Introduction to Statistical Analysis. (MATH; 4 cr. ; Student Option; Every Fall, Spring & Summer)
Standard statistical reasoning. Simple statistical methods. Social/physical sciences. Mathematical reasoning behind facts in daily news. Basic computing environment.

STAT 3021. Introduction to Probability and Statistics. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)
This is an introductory course in statistics whose primary objectives are to teach students the theory of elementary probability theory and an introduction to the elements of statistical inference, including testing, estimation, and confidence statements. prereq: Math 1272

STAT 3022. Data Analysis. (4 cr. ; Student Option; Every Fall & Spring)
Practical survey of applied statistical inference/computing covering widely used statistical tools. Multiple regression, variance analysis, experiment design, nonparametric methods, model checking/selection, variable transformation, categorical data analysis, logistic regression. prereq: 3011 or 3021 or SOC 3811

STAT 3032. Regression and Correlated Data. (4 cr. ; Student Option; Every Fall & Spring)
This is a second course in statistics with a focus on linear regression and correlated data. The intent of this course is to prepare statistics, economics and actuarial science students for statistical modeling needed in their discipline. The course covers the basic concepts of linear algebra and computing in R, simple linear regression, multiple linear regression, statistical inference, model diagnostics, transformations, model selection, model validation, and basics of time series and mixed models. Numerous datasets will be analyzed and interpreted using the open-source statistical software R. prereq: STAT 3011 or STAT 3021

STAT 3301. Regression and Statistical Computing. (4 cr. ; A-F only; Every Fall & Spring)
This is a second course in statistics for students that have completed a calculus-based introductory course. Students will learn to analyze data with the multiple linear regression model. This will include inference, diagnostics, validation, transformations, and model selection. Students will also design and perform Monte Carlo simulation studies to improve their understanding of statistical concepts like coverage probability, Type I error probability, and power. This will allow

students to understand the impacts of model misspecification and the quality of approximate inference. prereq: Stat 3021 and (CSci 1113 or CSci 1133), and co-requisite (CSci 2033 or Math 2142 or Math 2243 or Math 2373)

STAT 3701. Introduction to Statistical Computing. (4 cr. ; A-F only; Every Fall & Spring)

Elementary Monte Carlo, simulation studies, elementary optimization, programming in R, and graphics in R. Prerequisites: (MATH 1272 or 1372 or 1572H), CSCI 1113, and STAT 3032

STAT 3896. Internship for Academic Credit. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

An applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals, which may be related to a student's major field or area of interest. The work can be full or part time, paid or unpaid, primarily in off-campus environments. Internships integrate classroom knowledge and theory with practical application and skill development in professional or community settings. The skills and knowledge learned should be transferable to other employment settings and not simply to advance the operations of the employer. Typically the student's work is supervised and evaluated by a site coordinator or instructor.

STAT 4051. Applied Statistics I. (4 cr. ; A-F or Audit; Every Fall & Spring)

This is the first semester of the Applied Statistics sequence for majors seeking a BA or BS in statistics. The course introduces a wide variety of applied statistical methods, methodology for identifying types of problems and selecting appropriate methods for data analysis, to correctly interpret results, and to provide hands-on experience with real-life data analysis. The course covers basic concepts of single factor analysis of variance (ANOVA) with fixed and random effects, factorial designs, analysis of covariance (ANCOVA), repeated measures analysis with mixed effect models, principal component analysis (PCA) and multidimensional scaling, robust estimation and regression methods, and rank tests. Numerous datasets will be analyzed and interpreted, using the open-source statistical software R and Rstudio. prerequisites: (STAT 3701 or STAT 3301) and (STAT 4101 or STAT 5101 or MATH 5651)

STAT 4052. Introduction to Statistical Learning. (4 cr. ; A-F only; Every Fall & Spring)

This is the second semester of the core Applied Statistics sequence for majors seeking a BA or BS in statistics. Both Stat 4051 and Stat 4052 are required in the major. The course introduces a wide variety of applied statistical methods, methodology for identifying types of problems and selecting appropriate methods for data analysis, to correctly interpret results, and to provide hands-on experience with real-life data analysis. The course covers basic concepts of classification, both classical methods of linear classification rules as well as modern

computer-intensive methods of classification trees, and the estimation of classification errors by splitting data into training and validation data sets; non-linear parametric regression; nonparametric regression including kernel estimates; categorical data analysis; logistic and Poisson regression; and adjustments for missing data. Numerous datasets will be analyzed and interpreted, using the open-source statistical software R and Rstudio. prerequisites: STAT 4051 and (STAT 4102 or STAT 5102)

STAT 4101. Theory of Statistics I. (; 4 cr. ; Student Option; Every Fall & Spring)

Random variables/distributions. Generating functions. Standard distribution families. Data summaries. Sampling distributions. Likelihood/sufficiency. prereq: Math 1272 or Math 1372 or Math 1572H

STAT 4102. Theory of Statistics II. (; 4 cr. ; Student Option; Every Fall & Spring)

Estimation. Significance tests. Distribution free methods. Power. Application to regression and to analysis of variance/count data. prereq: 4101

STAT 4893W. Consultation and Communication for Statisticians. (WI; 3 cr. ; A-F only; Every Fall & Spring)

This course focuses on how to interact and collaborate as a statistician on a multidisciplinary team. Students will learn about all aspects of statistical consulting by performing an actual consultation. This includes: understanding the needs of the researcher, designing a study to investigate the client's needs, and communicating study results through graphs, writing, and oral presentations in a manner that a non-statistician can understand. Students will also discuss how to design research ethically (respecting the rights of the subjects in the research), how to analyze data without manipulating results, and how to properly cite and credit other people's work. Students will also be exposed to professional statisticians as a means of better understanding careers in statistics. prereq: Senior Statistics Major

STAT 5021. Statistical Analysis. (; 4 cr. ; Student Option; Every Fall & Spring)

Intensive introduction to statistical methods for graduate students needing statistics as a research technique. prereq: college algebra or instr consent; credit will not be granted if credit has been received for STAT 3011

STAT 5052. Statistical and Machine Learning. (3 cr. [max 4 cr.]; A-F only; Every Fall)

The material covered will be the foundations of modern machine learning methods including regularization methods, discriminant analysis, neural nets, random forest, bagging, boosting, support vector machine, and clustering. Model comparison using cross-validation and bootstrap methods will be emphasized.

STAT 5101. Theory of Statistics I. (; 4 cr. ; Student Option; Every Fall)

Logical development of probability, basic issues in statistics. Probability spaces. Random variables, their distributions and expected values. Law of large numbers, central limit theorem, generating functions, multivariate

normal distribution. prereq: (MATH 2263 or MATH 2374 or MATH 2573H), (CSCI 2033 or MATH 2373 or MATH 2243)

STAT 5102. Theory of Statistics II. (; 4 cr. ; Student Option; Every Fall & Spring) Sampling, sufficiency, estimation, test of hypotheses, size/power. Categorical data. Contingency tables. Linear models. Decision theory. prereq: 5101 or Math 5651

STAT 5201. Sampling Methodology in Finite Populations. (; 3 cr. ; Student Option; Every Spring)

Simple random, systematic, stratified, unequal probability sampling. Ratio, model based estimation. Single stage, multistage, adaptive cluster sampling. Spatial sampling. prereq: 3022 or 3032 or 3301 or 4102 or 5021 or 5102 or instr consent

STAT 5302. Applied Regression Analysis. (; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Simple, multiple, and polynomial regression. Estimation, testing, prediction. Use of graphics in regression. Stepwise and other numerical methods. Weighted least squares, nonlinear models, response surfaces. Experimental research/applications. prereq: 3032 or 3022 or 4102 or 5021 or 5102 or instr consent Please note this course generally does not count in the Statistical Practice BA or Statistical Science BS degrees. Please consult with a department advisor with questions.

STAT 5303. Designing Experiments. (; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Analysis of variance. Multiple comparisons. Variance-stabilizing transformations. Contrasts. Construction/analysis of complete/incomplete block designs. Fractional factorial designs. Confounding split plots. Response surface design. prereq: 3022 or 3032 or 3301 or 4102 or 5021 or 5102 or instr consent

STAT 5401. Applied Multivariate Methods. (; 3 cr. ; Student Option; Periodic Fall)

Bivariate and multivariate distributions. Multivariate normal distributions. Analysis of multivariate linear models. Repeated measures, growth curve, and profile analysis. Canonical correlation analysis. Principal components and factor analysis. Discrimination, classification, and clustering. pre-req: STAT 3032 or 3301 or 3022 or 4102 or 5021 or 5102 or instr consent Although not a formal prerequisite of this course, students are encouraged to have familiarity with linear algebra prior to enrolling. Please consult with a department advisor with questions.

STAT 5421. Analysis of Categorical Data. (; 3 cr. ; Student Option; Every Fall & Spring)

Varieties of categorical data, cross-classifications, contingency tables. Tests for independence. Combining 2x2 tables. Multidimensional tables/loglinear models. Maximum-likelihood estimation. Tests for goodness of fit. Logistic regression. Generalized linear/multinomial-response models. prereq: STAT 3022 or 3032 or 3301 or 5302 or 4051 or 8051 or 5102 or 4102

STAT 5511. Time Series Analysis. (; 3 cr. ; Student Option; Every Fall)

Characteristics of time series. Stationarity. Second-order descriptions, time-domain representation, ARIMA/GARCH models. Frequency domain representation. Univariate/multivariate time series analysis. Periodograms, non parametric spectral estimation. State-space models. prereq: STAT 4102 or STAT 5102

STAT 5601. Nonparametric Methods. (; 3 cr. ; Student Option; Every Fall & Spring)
Order statistics. Classical rank-based procedures (e.g., Wilcoxon, Kruskal-Wallis). Goodness of fit. Topics may include smoothing, bootstrap, and generalized linear models. prereq: Stat classes 3032 or 3022 or 4102 or 5021 or 5102 or instr consent

STAT 5701. Statistical Computing. (3 cr. ; A-F or Audit; Every Fall)
Statistical programming, function writing, graphics using high-level statistical computing languages. Data management, parallel computing, version control, simulation studies, power calculations. Using optimization to fit statistical models. Monte Carlo methods, reproducible research. prereq: (Stat 5102 or Stat 8102) and (Stat 5302 or STAT 8051) or consent

STAT 5731. Bayesian Astrostatistics. (4 cr. ; A-F only; Every Fall)
This course will introduce Bayesian methods for interpreting and analyzing large data sets from astrophysical experiments. These methods will be demonstrated using astrophysics real-world data sets and a focus on modern statistical software, such as R and python. Prerequisites: MATH 2263 and MATH 2243, or equivalent; or instructor consent Suggested: statistical course at the level of AST 4031, AST 5031, STAT 3021, or STAT 5021

STAT 5931. Topics in Statistics. (; 3 cr. ; Student Option; Periodic Fall)
Topics vary according to student needs and available staff.

STAT 5993. Tutorial. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Directed study in areas not covered by regular offerings. prereq: instr consent

Stem Cell Biology (SCB)

SCB 5051. Stem Cell Biology Practical Training Module. (1 cr. ; A-F only; Every Fall)
Intensive two-week course. Hands-on instruction in techniques of tissue culture. Conventional, fluorescence, and confocal microscopy. Flow cytometry for both analysis of cell populations and sorting of cells. prereq: Acceptance into stem cell biology master's program

SCB 5054. Stem Cell Institute Research Seminar and Journal Club. (; 2 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)
Students attend weekly Stem Cell Institute research seminars and journal clubs, write brief summaries, participate in journal club, and present original research paper. prereq: Acceptance into stem cell biology [master's prog or PhD minor prog] or instr consent

SCB 5900. Master's Plan B Research Paper and Presentation. (; 2 cr. ; A-F only; Every Fall, Spring & Summer)

Students write research paper based on primary literature on stem cell biology topic of interest, mentored by faculty member. prereq: Admission to stem cell biology master's plan B program

Studies in Cinema Media Cultur (SCMC)

SCMC 1201V. Honors Course: Cinema. (AH,WI; 4 cr. ; Student Option; Every Fall & Spring)

Introduction to the critical study of the visual in modernity, presented through sustained analysis of the cinema and cinematic codes. Emphases on formal film analysis and major film movements and conventions in the international history of cinema. Students develop a vocabulary for formal visual analysis and explore major theories of the cinema. *Students will not receive credit for SCMC 1201V if they have already taken CSCL 1201V, CSCL 1201W, SCMC 1201W, ARTH 1921W, CSCL 1921W, CSCL 1201 or SCMC 1201

SCMC 1201W. Cinema. (AH,WI; 4 cr. ; Student Option; Every Fall & Spring)

Introduction to the critical study of the visual in modernity, presented through sustained analysis of the cinema and cinematic codes. Emphases on formal film analysis and major film movements and conventions in the international history of cinema. Students develop a vocabulary for formal visual analysis and explore major theories of the cinema. *Students will not receive credit for CSCL 1201W if they have already taken SCMC 1201W, ARTH 1921W, CSCL 1921W, CSCL 1201 or SCMC 1201

SCMC 1202W. Media: Word, Image, Sound. (AH,WI,TS; 4 cr. ; Student Option; Every Fall & Spring)

Introduction to the critical and theoretical study of media and technology from Aristotle to the modern world. The first half of the course emphasizes theoretical readings in dialogue with historical apparatuses (printing press, photography, radio, cinema, television) and various expressive objects (the bible, early film, ethnographic sound recordings). The second half turns to the modern culture industry since World War II, and introduces students to the critical study of mass culture, the concept of ideology, and of the relationship between corporate power and media conglomerates.

SCMC 3001W. History of Cinema and Media Culture. (WI; 4 cr. ; Student Option; Every Fall)

Genealogy of cinema in relation to other media, notably photography, radio, television/video, and the Internet. Representative films from decisive moments in global development of cinema. Rise/fall of Hollywood studio system, establishment of different national cinemas, cinematic challenges to cultural imperialism, emergence of post-cinematic technologies.

SCMC 3201. Fundamentals of Digital Filmmaking. (; 4 cr. ; A-F only; Every Fall)

Practice of digital filmmaking. Digital techniques, practical tools required to produce films. Optical/digital devices as artistic tools. Historical/theoretical issues of cinema, its relation to other art forms.

SCMC 3202. Intermediate Digital Filmmaking. (; 4 cr. ; A-F only; Every Spring)

Students complete a film of any length, 24 frames or feature-length. Emphasizes formal analysis of frames, shots, sequences, and relations of unit (frame or shot) to whole. prereq: 3201 or instr consent

SCMC 3210. Cinema and Ideology. (AH; 4 cr. ; Student Option; Every Fall & Spring)

The cinema as a social institution with emphasis on the complex relations it maintains with the ideological practices that define both the form and the content of its products. Specific films used to study how mass culture contributes to the process of shaping beliefs and identities of citizens.

SCMC 3211. Global and Transnational Cinemas. (GP; 4 cr. ; Student Option; Every Fall & Spring)

This course explores Global and Transnational Cinemas as alternative traditions to the dominant Hollywood-centered accounts of film history. Students will grapple with the historical, social, and political motivations of cinematic projects that critique traditions of national cinema, or that resist the hegemonic force of neocolonial cultural centers. Italian Neo-realism and the French New Wave will be examined as movements that challenge politics and mass culture. Third Cinema in Latin America and pan-African cinematic movements will be examined through their struggles with both colonialism and the rise of post-colonial dictatorships. Indian and Japanese cinemas of the 50s & 60s will mark out new possibilities of filmmaking and distribution. Finally, counter-hegemonic and experimental movements in U.S.-based film, such as the L.A. Rebellion and Fluxus, will allow students to understand how opposition to Hollywood style could exist within the very centers of cultural power while also reaching out to larger global communities.

SCMC 3212W. Documentary Cinema: History and Politics. (AH,WI,CIV; 4 cr. ; Student Option No Audit; Periodic Fall & Spring)

This course explores the ethics and aesthetics of documentary cinema, arguably the very first genre of film. We will track the way documentary has widened from largely instructional and experimental uses early in its history to become a distinct genre among today's familiar feature films. We will screen early documentaries, which may include shocking ethnographies (Nanook of the North, The Mad Masters). Over the course of the term, the syllabus makes its way to recent exemplars of the genre (films may include: Amy, American Teen, I Am Not Your Negro, A Jihad for Love, Generation Wealth, Fetish, Blackfish and so on). One of our aims will be to explore students' relations as viewers and documentarians themselves (via smartphones, Instagram, etc.) to this participatory, revelatory, and always controversial, politically fraught film

practice. Documentary Cinema includes both full class lectures and discussions as well as small group discussion of films and readings, and may include the opportunity for students to create their own personal documentary. Intellectually, the course balances out a study of the grammar of documentary as an artistic practice with explorations of the ways the genre reflects broader currents of cinematic and cultural history. By the end of the semester, students should have a stronger understanding of the ways documentary cinema opens our senses to the world around us.

SCMC 3220W. Screen Cultures. (AH,WI,TS; 3 cr. ; Student Option; Every Spring)

Screens increasingly define the ways that we communicate with one another and how we encounter the world. This course will offer a critical, historical approach to the emergence of "screen cultures" from the beginning of photography and cinema to our own age of ubiquitous touch screen displays. We will pay a great deal of attention to the ways that such technologies drive our patterns of consumption and production as well as how they create and define our social environments.

SCMC 3221. On Television. (CIV; 3 cr. ; Student Option; Every Fall & Spring)

We will study writings on television and specific TV shows from a variety of angles to understand the rise of American broadcast technologies, how race and class are crafted on TV, representations of gender and the home, postmodernity and late capitalism, the rise and demise of taste, global television and the public sphere, the production of "reality" in our present historical moment, and changes in televisual technologies. Throughout the course, we will also consider what constitutes television? the technology, the form, and the content? and learn to read these three facets of it concurrently.

SCMC 3896. Internship for Academic Credit. (; 1-4 cr. ; Student Option; Every Fall, Spring & Summer)

An applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals, which may be related to a student's major field or area of interest. The work can be full or part time, paid or unpaid, primarily in off-campus environments. Internships integrate classroom knowledge and theory with practical application and skill development in professional or community settings. The skills and knowledge learned should be transferable to other employment settings and not simply to advance the operations of the employer. Typically the student's work is supervised and evaluated by a site coordinator or instructor.

SCMC 3910. Topics in Studies in Cinema and Media Culture. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Topics specified in Class Schedule.

SCMC 3993. Directed Study. (1-3 cr. [max 6 cr.] ; Student Option; Every Fall & Spring)
Guided individual reading or study.

SCMC 4993. Directed Study. (1-3 cr. [max 6 cr.] ; Student Option; Every Fall & Spring)

Guided individual reading or study.

SCMC 5001. Critical Debates in the Study of Cinema and Media Culture. (; 4 cr. ; Student Option; Every Fall)

This course serves as a capstone within the Studies in Cinema and Media Culture program as well as an advanced seminar in cinema and media theory. It covers such topics as contemporary cinema, transnational television, video games, digital networks, and surveillance technologies. It builds on the knowledge of cinema and media studies that students have developed over their undergraduate education. Students are given the resources and encouragement to construct larger reading and viewing lists that will further develop their knowledge of media and cinema. The final grade is based on participation, critical essays, weekly viewing assignments, and an individualized project that can include creative and professional interests.

SCMC 5002. Advanced Film Analysis. (; 4 cr. ; A-F only; Every Spring)

Application of textual analysis to the reading of a film. Students work collaboratively to discern and interpret all component aural/visual elements of what the film says and how it says it.

SCMC 5303. Sound Studies. (3 cr. ; A-F or Audit; Fall Odd Year)

What is sound? Among the various ways of absorbing the world through the senses (looking, reading, watching, touching, tasting), what is unique to the actions of listening and hearing? And over the course of human history, how has sound been variously deployed, framed, and constructed? This course covers a diverse range of topics in the fast-developing interdisciplinary field of Sound Studies from the philosophy of sound to psychoanalytic theories of the voice, the gendered histories of telephones, accounts of radio and decolonization, film sound, sonic expressions of race, the politics of global popular music, mobile media technologies, and cutting-edge approaches to sound art.

SCMC 5993. Directed Study. (1-3 cr. [max 6 cr.] ; Student Option; Every Fall & Spring)
Guided individual reading or study.

Study Abroad in Argentina (ARGN)

ARGN 1000. Language and Culture in Buenos Aires Program. (; 1-18 cr. [max 54 cr.] ; A-F only; Every Fall & Spring)

ARGN 1001. Beginning Spanish I. (; 5 cr. ; A-F only; Every Fall & Spring)
Listening, speaking, reading, writing. Some cultural readings.

ARGN 1002. Beginning Spanish. (; 5 cr. ; A-F only; Every Fall & Spring)
Listening, speaking, reading, writing. Some cultural readings.

ARGN 1003. Intermediate Spanish III. (; 5 cr. ; A-F only; Every Fall & Spring)
Conversation, comprehension proficiency. Reading/writing through literary analysis and grammar review.

ARGN 1004. Intermediate Spanish IV. (; 5 cr. ; A-F only; Every Fall & Spring)
Conversation, comprehension proficiency. Reading/writing through literary analysis and grammar review.

ARGN 1022. Alternate Second Semester Spanish. (; 5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad.

ARGN 3000. Language and Culture in Buenos Aires Program. (; 1-18 cr. [max 54 cr.] ; A-F only; Every Fall & Spring)

ARGN 3001. Colloquial Spanish. (; 3 cr. ; A-F only; Every Fall & Spring)
Spanish language in its spoken colloquial form. Variations based on age, social status, and regional background. Vocabulary, grammar, language characteristics.

ARGN 3003. Politics and Society in Latin America. (; 3 cr. ; A-F only; Every Fall & Spring)

Comparative analysis of social/political structures of Argentina and Latin America in 20th century. Taught in English.

ARGN 3004. Latin American Economy: The Argentine Perspective. (; 3 cr. ; A-F only; Every Fall & Spring)

Privatization, industrialization, and economic reforms in Latin America and Argentina. Inflation, structural change, poverty, changes in the external/rural sector. Taught in English.

ARGN 3005. Buenos Aires: City of the Arts. (; 3 cr. ; A-F only; Every Fall & Spring)
Unique artistic side of Buenos Aires. Theory classes, art/literature workshops. Excursions to museums, theaters, tango clubs, and opera houses. European and Latin American influences that make the city unique. Taught in English.

ARGN 3006. Topics in Argentine History. (; 3 cr. ; A-F only; Every Fall & Spring)
Study Argentina's history. Main topics include the legacy of Peron, the army in politics and government, the return of democracy, and current events. Taught in English.

ARGN 3008. Latin American Literature and Cinema. (GP,LITR; 3 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)
Offered jointly by Fundaci?n Jose Ortega y Gasset and Learning Abroad Center. Located in downtown Buenos Aires. Spanish language. Global/cultural issues. Sampling food, reading literature, experiencing music/dance. Argentine culture.

ARGN 3009. Argentina: Stereotypes and Identity. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)
Intercultural perspectives on Argentina. How others perceive Argentines and how Argentines perceive themselves, through literature, humor, art, music, and history. prereq: 1004

ARGN 3011. Buenos Aires - City of the Arts: Spanish. (3 cr. ; Student Option; Every Fall, Spring & Summer)
This course focuses on the art and architecture of Argentina. Learn about the different artistic movements in the country and visit museums,

private art collections, and public monuments. The city becomes your classroom. At the same time, get a broader perspective of world art that serves as a background for a better understanding of the art and architectural scene in Argentina throughout the past 300 years.

ARGN 3012. Paradox of Mental Health - Biological or Cultural?. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course looks at the biological basis for mental health, applying basic concepts of neurobiology. It explores the causal mechanisms of various mental health issues from autism to anxiety. The course will compare Argentina's and the United States' approaches to mental health, exploring the relationship between culture and mental health (e.g., ?culture-bound syndromes?) over time. In addition, the course will compare the use of therapy versus pharmacological approaches in treating mental illness, looking at the medicalization of mental health in Argentina as compared to the United States.

ARGN 3015W. Spanish Composition and Communication. (WI; 4 cr. ; Student Option; Every Fall, Spring & Summer)

Writing, speaking, reading, and understanding modern Spanish at level of majors/minors. Students generate compositions and read texts from Spain and Latin America. Grammar review, audio tape exercises, paired work, small group work, discussion, oral presentations, peer editing, process writing.

ARGN 3104W. Introduction to the Study of Hispanic Literatures. (WI; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) Study abroad course.

ARGN 3301. Cross-Cultural Psychology. (GP,SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course's aim is to understand how cultural factors influence human behavior and development. Additionally, the course may discuss interaction between different cultures and how to solve the difficulties that may arise during the acculturation process. The course studies the vision and treatment of mental disorders in different cultures, especially the differences and similarities between Argentinian and North American cultures. It will also analyze and compare mental health systems of both countries.

ARGN 3302. Understanding Argentina. (1 cr. ; Student Option; Every Fall, Spring & Summer)

This course seeks to provide students with an intercultural understanding of contemporary Argentina through classes, site visits, and critical analysis, all of which will allow them to draw comparisons to their own home country. The syllabus also focuses on the different spheres where the individual and the social intersect in Argentina: the private space, the public space, the political space (which may differ from the students' home country). The departing point of this course will be a synchronic overview of Argentina nowadays. The fact that students will be culturally immersed in the host country for

a whole semester will strengthen their self-awareness and global perspective. Students will learn about the interplay of some issues in today's Argentinian society: identity, politics, gender, ethnicity, migrations, education, culture, power relations, and similarities and differences with the USA.

ARGN 3640. Service Learning in Buenos Aires: ENG. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Students work with non-governmental and community service organizations devoted to helping children/adults in impoverished urban areas, immigrants from border countries, and groups at high risk (women, children, seniors).

ARGN 3641. Service Learning in Buenos Aires: SPANISH. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Students work with non-governmental organizations and community service organizations to help children/adults in impoverished urban, immigrants from border countries, and groups at high risk (women, children, seniors).

ARGN 3752. International Marketing. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

ARGN 3896. Internship in Buenos Aires. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

The Buenos Aires internship course is designed to provide students with the opportunity to become more knowledgeable regarding the local culture, organizational cultures, and the professional environment. Through practical internship experiences as well as readings, discussions, and written assignments, students will deepen their understanding of the host country's cultural context and critically examine their own worldview. The course is designed to guide students in the internship experience and create a foundation for a successful professional career. In addition to gaining a cross-cultural comparative view on work, the topics and assignments will deepen students' insights about themselves, professional expectations, and being successful in the workplace. Students are expected to make a valuable contribution to the internship site through the completion of major projects or tasks. This course focuses on themes students are expected to develop and enhance over the course of the semester through class seminars and on-the-job experience, particularly characteristics of work dynamics in Argentina; work relations, work protocol, and hierarchy; differences between Argentina and the US, notions of leadership in Argentina, and local cultural traits that are unique to the country; and multiculturalism, age, gender, and communication in the workplace.

ARGN 4621. The Global Economy. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

DBLN 1101. University College Dublin Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin and Business in Dublin study abroad programs to represent a course taken at University College Dublin. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 1102. University College Dublin Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin and Business in Dublin study abroad programs to represent a course taken at University College Dublin. The specific course title will appear for each student in the Notes field directly underneath this course on their UMN transcript.

DBLN 1103. University College Dublin Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin and Business in Dublin study abroad programs to represent a course taken at University College Dublin. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 1104. University College Dublin Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin and Business in Dublin study abroad programs to represent a course taken at University College Dublin. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 1105. University College Dublin Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin and Business in Dublin study abroad programs to represent a course taken at University College Dublin. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 1201. Dublin City University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin study abroad program to represent a course taken at Dublin City University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 1202. Dublin City University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin study abroad program to represent a course taken at Dublin City University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

Study Abroad in Dublin (DBLN)

DBLN 1203. Dublin City University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin study abroad program to represent a course taken at Dublin City University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 1204. Dublin City University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin study abroad program to represent a course taken at Dublin City University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 1205. Dublin City University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin study abroad program to represent a course taken at Dublin City University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 2051. Financial Accounting. (GP; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This course is concerned with providing students with an understanding of and ability to apply the fundamentals of accounting. It presumes no prior knowledge of accounting from previous levels, however there is material that students who have studied the subject before will find challenging. The student is introduced to the key concepts underlying accounting and recording business transactions. It also encompasses the preparation of financial statements for different business entities. It sets the foundation for further study in the area and assist with the student underlying understanding of accounting. There is also a strong emphasis on financial statement analysis and understanding annual reports.

DBLN 2551. Business Statistics, Data Sources, Presentation and Analysis. (GP,MATH; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This course is concerned with providing students with an understanding of and ability to apply (1) exploratory data analysis, (2) basic inferential procedures, (3) regression analysis, and (4) experimental design. The methods to be covered have been selected for their relevance to managerial decision making, and problem solving, and to other courses in the undergraduate curriculum. Beyond simply teaching the application of these methods, a primary objective of the course is to improve students' "statistical thinking abilities."

DBLN 3010W. The Playwright in Practice: Writing for the Stage in 21st Century Ireland. (WI; 3 cr. ; Student Option; Every Fall & Spring)

Irish playwrights have contributed disproportionately to the output of English-language drama over the course of the 20th

century, creating some of the most memorable dramatic literature of the last hundred years.

With that in mind, this intensive practical playwriting course will interrogate the tradition of theatrical writing in the Irish capital of Dublin by engaging comprehensively with a variety of modes and disciplines specific to the act of writing for the Irish stage. Contemporary Dublin has undergone an unprecedented process of modernization rarely seen in the developed world, with the city becoming in just twenty years a multicultural, cosmopolitan space that is embracing provocative ways of seeing and creating work meant for theatrical performance. Questions about the relevancy of the practice of writing in creating performance, how authorship of a play is determined, and the slipperiness of language are now at the heart of Irish theatre's drive to redefine itself. Challenged by a wide range of disciplinary approaches to writing and rewriting, students will be exposed to a host of methodologies for creating dramatic literature for the stage specific to this unique moment in Irish theatrical history and, in the process, gain an appreciation for the important role writers still play in making theatrical performance.

DBLN 3011. Storytelling: Writing Irish Cultural Narratives. (3 cr. ; Student Option; Every Fall & Summer)

Study abroad course. What does it mean to tell a story? Does it matter why or how someone tells a story? Storytelling is an Irish oral tradition that dates back to Celtic mythology, but is also important to modern day Ireland. This course will examine how storytelling brings Ireland to life, and how Dublin and Ireland are represented in stories. How can you use a building, a street, a painting, or a performance to construct a story that can be shared with others, and that creates a narrative that resonates with the specific time and history of that place? The course will look at the tradition of the short story in Irish writing, and also the development of the Irish novel. Students will also think about their own stories, and how they can be told.

DBLN 3012. Engaging Ireland: Past, Present and Future. (3 cr. ; Student Option; Every Fall & Summer)

Study abroad course. All students studying in Dublin will take this course, regardless of their track choice. This course has three main components: gain knowledge of Ireland past and present through modules focused on areas such as economics, religion, language, sports, and education; engage with the host-country with activities such as internship, research, performance, volunteer, sports team, or teaching practicum; and explore Ireland through a range of study tours to Western Ireland and Northern Ireland.

DBLN 3013. Performance in Irish Context.

(3 cr. ; Student Option; Every Fall & Summer) Study abroad course. Students will study and actively participate in the art of performance, focusing on Irish writers like Samuel Beckett, Brian Friel, Conor McPherson, Martin McDonough and more. Actor training, and so this course, is physical, emotional and

intellectual. The work will include vocal training and expression, dynamic conditioning of the instrument of the body, and textual analysis. In addition the course will help actors unlock the specific voices of Irish playwrights. Students will work on scenes and monologues as well as their own improvisations. This will be an acting class, and will require one previous fundamentals of acting or performance class at your home institution, or permission by the instructor.

DBLN 3014. Dublin Internship: Learning through Experience. (3 cr. ; Student Option; Every Fall & Summer)

Study abroad course. This course explores the world of work in Ireland and how students respond to the challenges that they can expect to encounter while interning in Dublin.

DBLN 3015. Irish Literature and Film. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course will examine dominant images of Ireland in film and literature from Romantic Ireland and the images of the Celtic Revival, to the harsher realities of Irish life and the transformations of Irish society under modernity and globalization. Issues discussed will include emigration and immigration; nostalgia and loss; gender, family and community; Church and State; politics and violence; language and communication, and the country and city.

DBLN 3016. International Marketing. (3 cr. ; A-F only; Every Fall, Spring & Summer)

This International Marketing course will help you develop an understanding of the scope and challenges of marketing in the international context. The course examines how the global dimensions technology, research, capital investment, and production impact marketing, distribution, and communication networks. The breadth of this course will provide insights into the increasingly interdependent global economic and physical environment and its impact on international marketing. Globalisation has led to increasing interdependence. ? Connecting the dots? has thus become essential to the survival and success of businesses, even those not operating in the international arena. By examining these linkages, students will gain an understanding of how companies develop strategic plans that are competitive to survive and succeed in these global markets. The unique localised content provided by the CAPA centres will present further regional insights into the key issues surrounding marketing from an international perspective. With its global presence, CAPA offers students the opportunity to enrich their academic experience by exposing and exploring the localised context of the CAPA Dublin Centre. Ireland is a small open economy, and its financial well-being depends largely on international trade and influenced by global markets. As one of the 27 member states of the European Union (EU), Ireland has a modern economy based on free trade and foreign direct investment (FDI) as the pathways to growth. Ireland's high competitiveness ranking is attributed to three key areas, including access to talent, openness to foreign ideas, and agility to respond to new challenges.

Dublin is an entrepreneurial city and home to many of the world's top players in technology, finance, professional services, and science and health. The vibrant culture, creative economy, and business-friendly environment make it the ideal location for students to immerse themselves while exploring a city that consistently ranks as one of the top European cities of culture and competitiveness.

DBLN 3017. International Economics. (3 cr. ; Student Option; Every Fall, Spring & Summer)

The International Economics module provides an understanding of the key economic issues in the global business environment. The course provides an understanding of how global businesses are impacted by real world developments in economics, politics, and finance. The business environment is dynamic in nature. The course coverage is therefore updated periodically to include current real-world evidence as well as recent academic and empirical findings. The five broad topics covered in the course are: Globalisation, Country Differences, Cross-Border Trade and Investment, the Global Monetary System, and Competing in a Global Market Place.

DBLN 3018. Analyzing and Exploring the Global City. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Cities around the world are striving to be ? global.? This interdisciplinary course focuses on the physical, socio-economic, political, and cultural development of Dublin through space and time. Before students explore the city, chronologically they will examine ancient Ireland's globality in terms of its educational and religious influences, particularly on mainland Europe. Then, starting from the 10th Century, students will retrace the Viking city through to the city's current form that is characterised by urban sprawl, multiculturalism, and its connection to Europe and the global economy. Much of the first half of the course will explore the creation of the colonial city (Georgian Dublin) and, following independence from Britain, the creation of the postcolonial city. Each of these phases in the city's morphology can be witnessed/read through an examination of the city's architecture, nomenclature, museums, art, and in relation to the post-colonial city, oral histories, which requires an interdisciplinary toolkit for city exploration and analysis. The second section of the course will explore the policies that fostered the rapid speed at which Dublin grew from being a sparsely populated, non-industrial and disconnected urban space in the 1970s to a post-industrial/post-modern relatively highly populated dense plural space in the 1990s. Students will investigate the relationship between these policies and the devastating recession of the 2000s. Students will also explore the result of these rapid physical and socio-economic and cultural changes in terms of gentrification, immigration, and the complicated and contested nature of inner city residents' notions of place, space, and identity. Students will also explore the creation of new multiethnic spaces and the city's rebranding as a literary-cultural space (tourist Dublin). Finally,

students will investigate the processes that occur in most global cities, which contribute to the creation of invisible spaces and subcultures that are found on the physical and cultural margins.

DBLN 3019. Ethics in the Media. (CIV; 3 cr. ; Student Option; Every Fall, Spring & Summer) This course will address the principal ethical issues facing journalism, advertising, entertainment media, and online content. It will examine the moral obligations of the producers as well as the responsibilities borne by consumers. The course will provide an overview of the applicable ethical principles and philosophies, then apply these to present-day cases in the media through case studies. Finally, students will learn to critically engage with the content to analyse for themselves the ethical issues that are present in the production and consumption of the media on an individual and societal level.

DBLN 3101. University College Dublin Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin and Business in Dublin study abroad programs to represent a course taken at University College Dublin. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 3102. University College Dublin Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin and Business in Dublin study abroad programs to represent a course taken at University College Dublin. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 3103. University College Dublin Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin and Business in Dublin study abroad programs to represent a course taken at University College Dublin. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 3104. University College Dublin Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin and Business in Dublin study abroad programs to represent a course taken at University College Dublin. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 3105. University College Dublin Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin and Business in Dublin study abroad programs to represent a course taken at University College Dublin. The specific course title will appear for each student in the

Notes field directly underneath this course on their transcript.

DBLN 3201. Dublin City University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin study abroad program to represent a course taken at Dublin City University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 3202. Dublin City University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin study abroad program to represent a course taken at Dublin City University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 3203. Dublin City University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin study abroad program to represent a course taken at Dublin City University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 3204. Dublin City University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin study abroad program to represent a course taken at Dublin City University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 3205. Dublin City University Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study Abroad in Dublin study abroad program to represent a course taken at Dublin City University. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

DBLN 3375. Global Internship: Dublin. (3-6 cr. ; Student Option; Every Fall, Spring & Summer)

The Global Internship Course (GIC) provides a unique and innovative opportunity for students to engage in an internship (and living abroad experience) while supported by academic in class and online educational sessions to further develop their personal and professional skills while earning academic credit. GIC students also partake in out-of-class guided and self-guided activities and excursions that have been devised to enable students to become more comfortable with, and knowledgeable of, their internship locations/neighbourhoods. Furthermore, a day-long field trip illustrates how socio-political and economic factors, such as the effects of housing costs in global cities, necessitate commuting and changing work practices such as flexible working hours and working remotely that embody best practice in well-being. Field excursions vary and may

also include a focus on, for example, corporate social responsibility and sustainability. The GIC fits in with CAPA's philosophy and practice of enabling students to learn about the social and cultural context of their internship placement and the host region and country, as well as other GIC themes, through comparative global analysis. At times, this analysis will be facilitated through a small selection of CAPA Masterclasses and our ?In Conversation with:_____? series given by leading professionals from a diverse range of fields. The in-class active learning approach gives students the opportunity to discuss and analyze theories and models of work, organizational behavior and management in a cross-cultural context. COVID-19 has, by necessity, and in time, by choice, increased the extent to which employees work remotely. The GIC will help students to work effectively in a partial and/or, if required, full-time remote capacity should the need arise and to demonstrate to students the competencies and skills that they will gain and demonstrate through remote engagement. A variety of teaching and learning activities will be used; for example: lecture, workshop, discussion, informal and formal presentations, self-guided and guided research, and mock (recorded) interviews. The assessment mechanisms are all designed to support learning, using the internship and living abroad experience as a vehicle. Above all, the in-class CAPA sessions give students the opportunity to listen to individual experiences, compare and contrast activities with others, and consider the experience in terms of their personal and professional development. At the beginning we focus on self-reflection, and at the end of this process we challenge each student to focus on self-projection. At its core, GIC provides an opportunity for students to unpack, synthesise, and articulate (the value of) their learning. It is, therefore, our intention that students will treat these on-site sessions with the same dedication and professionalism that we expect the students to display at their internships. Students will undertake an intensive orientation session to help them prepare for and integrate into their placements. Additional resources and readings to aid students' personal and professional development will be provided. Central to the pedagogy of GIC is self-reflection and collaboration; we value the diverse socio-cultural and academic backgrounds our students bring to the course and see the multi- and interdisciplinary nature of GIC as a plus for discussion and collaboration. Students with prior knowledge of certain topics covered in class are encouraged to share their knowledge in a mentoring capacity with their peers and to build upon their knowledge by considering such topics from other academic disciplines and global and practical perspectives. The content of this course is arranged around three key themes: Personal and Professional Development, Intercultural Competence, and Comparative Analysis.

Study Abroad in Florence (FLOR)

FLOR 1001. Beginning Italian. (; 3 cr. ; Student Option; Every Fall & Spring)

Listening, speaking, reading, communicative competence.

FLOR 1002. Beginning Italian. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)

This second beginning level course of Italian uses a communicative approach to help you quickly develop the ability to communicate in Italian in everyday practical situations as well as to acquire the skills necessary to read and write effectively in Italian. From the start, you will be expected to comprehend and produce some Italian by actively engaging in communicative activities that have real world relevance. Role-plays, pair and group work, and specific tasks and assignments carried out in and out of class will provide you with numerous opportunities for learning the language while interacting with locals and other learners in Italian. Listening, reading, speaking, and writing are integrated into all activities and are tested in compositions, oral presentations, grammar tests, and exams. Special emphasis is placed on the expansion of communicative functions and of the vocabulary. Finally, class and home assignments and projects will encourage you to become acquainted with various aspects of Florentine life and with the culture and society of Italy at large.

FLOR 1003. Intermediate Italian. (; 5 cr. ; Student Option; Every Fall & Summer)

This communication-based intermediate course of Italian helps you develop the ability to communicate effectively in everyday, practical situations and to read authentic materials in Italian. The course reviews and completes all basic grammar structures, reinforces the mastering of these elements in real life situations, and expands your vocabulary and knowledge of more complex grammar and syntax structures. As the language learning progresses, you will be expected to produce more Italian while actively engaging in communicative activities that have real world relevance both in and out of class, and practice all four linguistic abilities. You will be encouraged though a variety of in- and out-of-class activities to explore the city of Florence and engage in guided interactions with the local culture. You will also be exposed to a variety of registers and uses of the language. Site visits and authentic materials in a variety of media are used extensively in order to facilitate your communication and comprehension skills and with the culture and society of Italy at large.

FLOR 1004. Intermediate Italian. (; 5 cr. ; Student Option; Every Fall, Spring & Summer)

This communication-based intermediate course of Italian helps you develop the ability to communicate effectively in everyday practical situations and to read authentic materials in Italian. The course reviews and completes all basic grammar structures, reinforces the mastering of these elements in real life situations, and expands your vocabulary and knowledge of more complex grammar and syntax structures. As the language learning progresses, you will be expected to produce more Italian while actively engaging in communicative activities that have real world relevance both in and out of class, and

practice all four linguistic abilities. You will be encouraged though a variety of in- and out-of-class activities to explore the city of Florence and engage in guided interactions with the local culture. You will also be exposed to a variety of registers and uses of the language. Site visits and authentic materials in a variety of media are used extensively in order to facilitate your communication and comprehension skills with the culture and society of Italy at large.

FLOR 1201. Beginning Drawing Studio. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

FLOR 3004. Photography: Exploring Society Through the Camera's Lens. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

FLOR 3005. History and Sociology of Modern Consumerism. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

FLOR 3006. Cross Cultural Psychology. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

FLOR 3007. Made in Italy: Retail Merchandising in Florence. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

FLOR 3008. Entrepreneurship: Small Businesses in Florence. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad.

FLOR 3009. Internships in Florence: A Comparative Approach to the Italian Workforce. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

FLOR 3010W. Literary Representations of Florence: Space, Self & Other. (WI); 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

FLOR 3012. Florence and the Mediterranean: A Sea of Culture. (3 cr. ; Student Option; Every Fall, Spring & Summer)
During the Middle Ages and in the early Modern Age, three great civilizations clashed for the control of the Mediterranean basin: the Latin West, the Byzantine Empire, and the Muslim world. But the sea was not just a theatre of war, it was also a lively economic area, with trade routes crossing it from north to south, from east to west. Moreover, it was the place where different cultures met: This course will explore their reciprocal influence, with a special focus on art history and a mainly Italian and Florentine point of view. Topics will include: the impact of Islamic art on Western culture; the role of Byzantine art in the development of Florentine painting; the rediscovery of Greek classical culture and its importance in Renaissance civilization; the consequences of the fall of Constantinople

and of the expansion of the Ottoman Empire. Students will explore Florentine churches, palaces, and museums in search of visual evidence of the links between the city and the diversity of Mediterranean culture.

FLOR 3014. Fashion & Arts Communication. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course was structured out of four core ideas: how fashion designers and artists communicate and market their art; how institutions communicate and market the fashion items and artworks they have on display; how the audience communicates their experience of fashion and of art and how this influences marketing and promotional strategies; and how these three processes are implemented through communication and marketing channels and for which purposes. The course will explore its core ideas integrating theoretical and experiential-learning approaches. Starting from the fundamentals of communication theory, with a focus on listening skills and effective storytelling, students will draw from case studies to understand the underlying core of communication activities in fashion and the arts. The promotional process in both industries will be analyzed in its main parts (research, planning, execution, evaluation), as well as in its ethical and legal implications. Students will experiment with promotional tools to understand the connection between public relations and the media, and explore the blurred line between public relations and marketing when dealing with social media contents and strategic planning. Ultimately, they will learn the fundamentals to develop and design a communication campaign.

FLOR 3015. Food & Identity in the Mediterranean: A Cultural History. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course is an investigation into how the identities of different peoples in the Mediterranean can be understood through the lens of the food they cultivate, trade, and eat. After an introduction to different definitions of identity, with a particular focus on the formation, maintenance, and evolution of group identity through cultural practices, the course will analyze the history and culture of food in different civilizations of the Mediterranean basin: Phoenicians, Ancient Hebrews, Greco-Romans, and others. Study of the different diets of the Byzantines and the Venetian merchants, and the influence of the spice trade and nascent Islam during the Middle Ages, will show how identities are formed, consolidated, and changed through food. The Renaissance, especially in Florence, will be the object of an in-depth analysis as a pivotal time in Western food culture and in the arts. The course will then investigate the relationship between Florentine and French elite identities via the birth of modern table manners (and dishes) and their connection with the rise of the first nation states. The last part of the course will consider modern states, migration, and how these interconnect with agricultural practices and industrial food processes that

have changed the nature of food production in the Mediterranean.

FLOR 3016. Photography for Social Media. (AH; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course introduces students to the principles of photography for social media and how essential it is to learn about storytelling. Students will also learn about the power of imagery and its wider impact in the digital world. While an increasing amount of people carry around a phone every day, how many really know the potential of these powerful cameras, and how to use them to create and share images that make an impact with social media audiences? The course will appeal to students majoring in communication, marketing, design, journalism, and sociology and to all students interested in learning practical skills in photography, including compositional and technical information about apps, smartphone settings, and gear. There will also be time dedicated to analyzing social media impact on data, privacy, image protection, and intellectual property. This is not a social media marketing course but is designed as a creative exploration that will help students develop their eye for exciting imagery and improve their shooting skills.

FLOR 3017W. The Traveling Self: Writing Autobiography in Italy & Florence. (WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

?I did not then represent to myself towns, landscapes, monuments, as pictures more or less attractive, cut out here and there of a substance that was common to them all, but looked on each of them as on an unknown thing, essentially different from all the rest, a thing for which my soul thirsted and which it would benefit from knowing.? (Marcel Proust, *Swann's Way*. In *Search of Lost Time*. Volume 1) ?What I write about myself is never the last word: the more ?sincere? I am, the more interpretable I am.? (R. Barthes, *Roland Barthes* by Roland Barthes, trans. R. Howard, McMillan, London 1977) Travel experience in Italy has been for centuries an inspirational path for writers, novelists, and journalists from all over the world. The deep history and the most significant places in this relevant European country?connected both to the Northern cultures and at the crossroads with the Mediterranean ones?has prompted new narrative strategies, peculiar fictional characters, and innovative plots. Authors have been travelling the country by different means of transportation?carriages, trains, but also on foot?that have influenced their perspectives. They have walked into churches, squares, gardens, and museums to explore a flourishing collection of symbols and values from the past and to foresee the complexity of the future of Western civilization. They have tasted delicious and repellent flavors in Italian markets, shops, and restaurants and discussed Italian society and its issues. They have changed their personal mindsets, exploring new maps of their own cultural identity. Traveling abroad has always been, in fact, an experience of enrichment,

enhancement, and transformation of a traveler?s identity and intimate self. Starting from this assumption, this creative writing course will use the narrative strategies offered by modern and contemporary autobiography to draw inspiration from the students? Italian and European travel experience. At the same time, a ?classic? field in literature and a flourishing contemporary trend, the genre of autobiography defies categories. It allows us to experiment with innovative forms?from diary to travelogue, from literary nonfiction to the so-called ?autofiction??that are also currently evolving under the influence of the social networks and the possibilities of augmented experience offered by the Web.

FLOR 3100. Advanced Italian Grammar and Conversation. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) Study abroad course.

FLOR 3201. Intermediate Drawing Studio. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) Study abroad course.

FLOR 3346. Sociology of Crime: Mafia and the Media in Italy. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) Study abroad course

Study Abroad in London (LNDN)

LNDN 1101. Queen Mary University of London Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in London study abroad program to represent a course taken at Queen Mary University of London. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

LNDN 1102. Queen Mary University of London Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in London study abroad program to represent a course taken at Queen Mary University of London. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

LNDN 1102. Queen Mary University of London Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

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LNDN 1103. Queen Mary University of London Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in London study abroad program to represent a course taken at Queen Mary University of London. The specific course title will appear for each student in the Notes

field directly underneath this course on their transcript.

LNDN 1104. Queen Mary University of London Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in London study abroad program to represent a course taken at Queen Mary University of London. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

LNDN 1105. Queen Mary University of London Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in London study abroad program to represent a course taken at Queen Mary University of London. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

LNDN 3101. Queen Mary University of London Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in London study abroad program to represent a course taken at Queen Mary University of London. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

LNDN 3102. Queen Mary University of London Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in London study abroad program to represent a course taken at Queen Mary University of London. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

LNDN 3103. Queen Mary University of London Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in London study abroad program to represent a course taken at Queen Mary University of London. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

LNDN 3104. Queen Mary University of London Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in London study abroad program to represent a course taken at Queen Mary University of London. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

LNDN 3105. Queen Mary University of London Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in London study abroad program to represent a course taken at Queen Mary

University of London. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

LNDN 3201. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad.

LNDN 3202. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad.

LNDN 3203. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad.

LNDN 3204. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad.

LNDN 3205. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad.

LNDN 3210. Historical Backgrounds of English Literature. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

LNDN 3211. Terror and the Witch: Fictions of Witchcraft from Shakespeare to Harry Potter. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

LNDN 3212W. Travel Writing: Topics in Composition. (WI; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

LNDN 3213. 20th and 21st Century Art. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)
Art movements and major artists of Modern period, 1900-1970. Various visual media in relation to theories, historic events, scientific/technological changes, and literature. Emphasizes European art. Influences from other cultures.

LNDN 3214. Modern Acting. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

LNDN 3215. British Theatre Now and Then. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

LNDN 3216. Practical Shakespeare Acting. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

LNDN 3217W. Writing the City: London. (WI; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

LNDN 3218. Contemporary British Film. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

LNDN 3219. London Across History, Literature and Film. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad.

LNDN 3220W. Contemporary World Architecture in London. (WI; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

LNDN 3221W. Writing a Play. (WI; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

LNDN 3222. Detective Fiction: Crime and the City. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

LNDN 3223. Special Studies in Economics: Globalization Studies. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

LNDN 3224. International Dimensions of Organizational Behavior. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

LNDN 3225. Issues in Global Economic Development. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

LNDN 3226. Religion in Modern Britain: A Comparative Perspective. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

LNDN 3227. Global Workforce Management. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

LNDN 3228. Managing Global Supply Chains. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

LNDN 3229. Dateline London: Reporting and News Writing in a European Context. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

LNDN 3230. The Aesthetics of Power, Prestige and Social Change: A Survey of Renaissance through Modern Art Hist. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

LNDN 3231. Internet 2.0. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

LNDN 3232. Modern Art in London: From the Sublime to the Ridiculous. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

LNDN 3233. Queer Studies and LGBTQ Life in London and the Global World. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

LNDN 3234. Styles of Acting. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course

LNDN 3235. Witchcraft and Magical Performance in London. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course

LNDN 3236. The Law of Wrongful

Convictions. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Wrongful convictions are a universal problem that in recent years has received a great deal of attention from the media, legislatures, and courts around the world. From the Netflix series "The Making of a Murderer" to the NPR podcast "Serial" there is a growing fascination with how people are wrongfully convicted and the processes and procedures used to right these wrongs. This course is taught by a law professor who has spent his career litigating wrongful conviction cases and directing the California Innocence Project. It is designed to provide students with an overview of the issues and case law related to wrongful convictions through the use of interactive exercises, lectures, readings, videos, and case studies.

LNDN 3237. International Comparative Studies of Issues Impacting Education Systems. (3 cr. ; Student Option; Every Fall, Spring & Summer)

The course provides students with an introduction to the school system in their study location and that of the other CAPA study locations. There will then be opportunities to compare it to the American system and to other learning communities in the world to better understand how they reflect and perpetuate the cultural values and identity of a country. Students will explore current educational issues from an intercultural perspective and develop their own informed views. At the end of the course, students are expected to have acquired a basic knowledge and understanding about the structure and content of contemporary school systems and a capacity to use this knowledge for cross-national comparisons. The insights gained will allow students to consider a key question: how can we all contribute to the school of the future? This course is designed as a CAPA Globally Networked Programme (GNL) connecting CAPA students in different study locations in order to examine issues from a transnational perspective. It will provide a unique opportunity to broaden critical understanding of the school system role in the identity building process at an individual, social, political, and national level. Through collaborative and comparative learning processes in both local environments and transnational communities, students will develop a deeper understanding of the school system role in shaping values, societies, and cultures.

LNDN 3238. Literature and the Environment. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course examines the ways in which writers in English have engaged with the natural environment. We will read a range of

authors, from the advent of industrialization in the late eighteenth century up to the present age of climate change, to consider how they have celebrated the "natural world," and looked critically at human effects on ecosystems. Throughout, we will be attentive both to the literary qualities of writings about the environment and to their historical and political contexts. We will be studying a range of genres, including poetry, fiction, nonfiction, websites and photographic texts. The course will be organized chronologically, with units on key ideas in the study of literature in relation to the environment: pastoral, wilderness, pollution, apocalypse, and ecosystems. Since the course will be set in London, we will also consider the design and representation of "urban nature," including parks, gardens, zoos, riverbanks, and art exhibits. There will be some out-of-class visits and walks (with attention to accessibility, as needed).

LNDN 3239. Theatre in the City. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Plays are written to be appreciated in performance, not only to be read; a play does not truly come to life until it appears on a stage. The course will introduce students to the current variety of theatre being produced in London. The course aims to provide multiple levels of theatre appreciation, and is therefore open to students who both have a background in theatre and those who have a general interest in expanding their knowledge.

LNDN 3240. Arts Administration: The Creative Industries in a Digital World. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Arts and culture are rapidly growing sectors of the economy in the UK and worldwide. This course will focus on the ways in which the Creative Industries are structured, and how arts administrators successfully share creativity with the public and leverage the commercial opportunities of creative production. Key topics to be explored will include the arts as a business; managing financial imperatives and the artistic process; promoting and presenting cultural products. Case studies will be drawn from a variety of fields such as film, digital media, gaming, theatre, museums, and publishing, and students will have the opportunity to engage directly with practitioners successfully working in various fields of arts and culture and those managing the interface between creativity and business in London. It is an industry that is growing year on year, but it can be a difficult market to navigate and capture economical value, as "cultural goods" are less fixed, or less concrete than other measurable areas of exchange. Students will examine the history of the Creative Industries to understand the current environment in an historical context. They will focus specifically on the shifting creative industries in a digital world with the advent of social media, streaming services, revolutionary marketing techniques, crowd-sourcing, and audience creation. Students will explore key concepts and theories, but they will also explore the practical applications of the industries in action. They will gain a deeper

understanding of the media they consume via interaction with professionals, venues, and event opportunities highlighted in this module. Throughout this course, students will be encouraged to explore their own interests of the Creative Industries. By bringing personal experience and interest into an analytical environment, this module will allow students to gain a deeper understanding of media artifacts, and provide them with the tools and skills to expand their understanding and engagement with their chosen sectors.

LNDN 3241. Integrating Character through Voice and Movement. (3 cr. ; Student Option; Every Fall, Spring & Summer)

In this performance-based theatre course, students will engage in acting techniques that utilize psycho-physical training, integrating their voice and body as they create characters from modern and contemporary texts. Students will begin by examining and building awareness of their own vocal and physical apparatus through solo and ensemble exercises. Students will learn the anatomy, physiology and physicality of the voice and build healthy and effective methods of vocal projection through a progression of exercises developed by Kristin Linklater and Patsy Rodenburg. Students will be concurrently introduced to various physical theatre training techniques such as Michael Chekhov, Jacques Lecoq, and Vsevolod Meyerhold. For the final project, students will integrate these vocal and physical techniques through creating characters from selected scenes. Throughout the course, the actor-student's journey will be focused on mind-body connection, self-awareness, relaxation, presence, emotional vulnerability, and clarity in verbal and non-verbal communication.

LNDN 3242. Global Perspectives on Human Rights in Action. (3 cr. ; Student Option; Every Fall, Spring & Summer)

The notion of human rights has become central to global politics today. It is not a single subject but a broad field of potential investigation: this intensive seminar provides a multi-disciplinary introduction to the topic, critically examining the politics of human rights, their contentious nature and uneven global implementation. Throughout, the focus will be on practical issues and the contested politics of human rights in action through a range of topical case studies. Students will evaluate key debates about the politics and morality of human rights, analyze and explore the theoretical foundations of human rights concepts and topical issues relating to human rights from a variety of global, regional and local perspectives. The course critically examines the history and development of concepts of human rights and the philosophies underpinning them, as well as current frame-works of international human rights law and the relationship among current debates in human rights, political power and social injustice. Topics to be covered will include human rights and international relations; humanitarian intervention and the responsibility to protect; postcolonial and feminist critiques of human rights; the intersection of human rights with gender,

sexuality, ethnicity and class; the relationship between human and civil rights; women's, children's and indigenous peoples' rights; and the practical implementation and enforcement of human rights.

LNDN 3243. London Museums: Introduction to British Museology, Society and Culture. (3 cr. ; Student Option; Every Fall, Spring & Summer)

In the early twenty-first century, museums are becoming increasingly more relevant to all parts of society, exhibition displays are often controversial and politically charged. This course is an introduction to both British society, culture and museology. The course considers museums as reflections of the British psyche, unique cultural constructs that help us understand "Britishness". We will also be looking at museums as institutions of "global" heritage in the context of a global city, with a unique British perspective. As an introduction to museology, the course will look at the development of the modern museum and its operation, as well as interrogate the different types of museums. We will look at the impact British history, society and politics have had on London museums, their creation and their day to day operations and audiences. Taking advantage of our location, we will do field work in eight different museums, from the famous and vast "global" British Museum to the small and privately-owned Saatchi Gallery. Students will analyze the ways in which imperialism and its legacy, as well as Britain's global relationships have influenced museum development and how this gives rise to the politics of patrimony. We will look at questions of cultural appropriation and the political debate on repatriation versus protection. This debate has recently been energized by the depredations of IS on what many would call the global heritage of Iraq and Syria. We will also be looking at material culture and what it says about individuals and society. Students will examine the choices, ethics and political and social meanings of both creating material culture and collecting it, and the ethics of preservation and restoration. While the creation of material culture has specific psychological, social and often political meanings; collecting, preserving and displaying one particular object involves a very complex decision-making process which is influenced by the cultural values of the decision maker. We will examine, for example, the impact of the Classical period on British society in the past and present, its importance to class and education in Britain, and how this is reflected in museum collections. Students will also look at the complex decision making of conservators and restorers. These decisions have social and political impact, choosing to emphasize one period and use over another. The course will also look closely at decision makers and their role in the museum industry, the origins of museums from individuals to trade exhibitions and current museum professionals, as well as the impact museum audiences have on the work of museums. Students will also examine the impact of communities on museum development, on exhibition creation, how engaged museums are with their communities,

and how the unique diversity of London is reflected (or not) in its museums.

LNDN 3244. Shakespeare at Play: Performing the Bard using Folio and Physical Techniques. (3 cr. ; Student Option; Every Fall, Spring & Summer)

In this performance-based theatre course, students will engage in acting techniques that utilize mind/body awareness as well as analyzing acting clues from the First Folio (the first printed collection of plays published in 1623). Using vocal and physical exercises, students will perform hands-on practical activities to playfully engage with their acting partners and the text, immediately putting into practice these clues in a similar style as Shakespeare's company working at the Globe Theater of the 16th century. In addition to textual analysis, students will engage in physical theatre techniques such as those used by Meyerhold, Lecoq and Boal to engage in story, character and to physicalize the given circumstances of the text. Topics covered in this class include: breathing and phrasing on the line, punctuation, capitalization, rhythm & meter, line endings, rhetoric, antithesis, and caesura. Students will work on one monologue and two scenes, both in verse and in prose, as well as attend performances and events at the Globe and the Royal Shakespeare Company in Stratford.

LNDN 3245. Comparative Health Systems. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Health care systems are having to respond to a number of competing challenges. The pressures of globalization, aging populations, increasing patient demands and the rising costs of research and medical treatments are forcing us to look more critically at how healthcare is delivered to devise changes for the future. Changes made to health systems are often based on economic and political rationale and with many countries currently experiencing significant changes to the way in which health care systems have historically been funded and delivered. This course will introduce students to the healthcare system in the UK and the context within which it operates. It will start by looking at the introduction of the National Health System (NHS) in 1948 and take students through the key changes that have taken place right up to the present day. Drawing on a series of cases studies, students will be able to compare the UK model of healthcare with other healthcare systems such as in the USA, France, Sweden and/or from low and middle-income countries. Students will explore a range of key concepts and themes in comparative healthcare from a multidisciplinary perspective. They will also develop critical appraisal skills to assess the quality of evidence used to support developments in healthcare policy and practice and help students to look critically at the role that governmental and non-governmental organizations play in healthcare. Throughout this course, special attention will be paid to comparisons between the UK, USA and low and middle-income countries to allow students to directly relate their learning to

their own educational and healthcare setting and contrasting health systems worldwide. Emphasis will be placed on the multiple factors that determine health at the individual and population levels. By comparing patterns of health across different demographic groups, immigration status and so on, students will explore a range of different intersections to expand their understanding of impacts of health inequalities on different populations, and how different countries have sought to address these inequalities.

LNDN 3246. Global Perspectives on Nursing and History of Midwifery. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course is an exciting opportunity to experience nursing and midwifery history in the UK and further afield. The course will focus on major influences in the development of nursing and midwifery practice from the perspectives of medical, nursing and midwifery history. Case studies will be drawn from London, the UK and continental Europe, with comparative perspectives from the rest of the world where appropriate. Topics will include the impacts of social change, evolving attitudes to social care, and the role of the Enlightenment, French revolution and American Independence, as well as the transition from Agrarian to Industrial Society in shaping cultures and practices of nursing care. The course will also consider the contributions made by Florence Nightingale, Mary Seacole and Mrs. Bedford-Fenwick to nursing practice. It will also look at pioneers like Sir Frederick Truby King who set up the Plunket Society in New Zealand in 1907, from which sprung Plunket nurses, maternity and childcare still in practice today. The course will examine the ways in which medical breakthroughs, public health, epidemiology (social determinants of health), religion, philosophy, ethics, law, sociology and economics have played a part and influenced and affected clinical practice and in turn the influences on the professional role and practice of nurses and midwives. Students will be encouraged to reflect on the historical changes that have had a particular impact on patients, their families and the wider public. This will enable students to gain a deeper understanding of historical reasoning and insight into a variety of forms of historical evidence. In turn, this will enable students to consider the ways in which history has underpinned past healthcare provision, and the potential that exists for history to affect healthcare in the future and if and how far lessons can be incorporated into modern clinical practice. Speakers will include staff from Public Health and Epidemiology at a major London University and Medical school. The course will also enable students to access a broad range of distinctive museums and galleries to consider a wide range of healthcare history.

LNDN 3247. Communicate: Basic Acting Techniques for Confidence-Building and Better Presentations. (AH,GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course introduces the student to the basic skills of acting and shows how acting

techniques can be used to improve self-confidence, presence, and vocal presentation in a range of different work and life scenarios. Over the semester, students will learn to improvise, undertake creative challenges and begin to master a range of techniques. Students will keep a developmental journey during the semester, and also perform a dramatic monologue. For the final assessment, students will write a 5-10-minute speech about something they feel passionate about, then deliver it at Hyde Park's famous Speaker's Corner to fellow students and an audience of Londoners.

LNDN 3248. Community Engagement: Service-Learning in London. (3-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is an interdisciplinary course providing a unique opportunity to become directly involved in the realities of community engagement and grassroots activism and project work. It is designed to stimulate critical thought and reflection on the challenges and opportunities of community service and support your personal and professional development, as well as introducing you to topical debates about how best to manage and respond to the challenges of a diverse, unequal city. The course will explore the historical, sociological, and political context of community and service in the United Kingdom (UK) and theories and models of leadership, organizational behaviour, and management in the context of community work. It will also examine in depth forms of social, economic, and political exclusion, such as uneven access to health care, education, financial resources, and political representation, and analyse the social dynamics within and between the multiple communities which co-exist in London.

LNDN 3249W. Experiencing Globalization: Society, Space and Everyday Life in London. (CIV,WI,SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

What is globalisation? How is it transforming the world and everyday life, and why has it become so controversial? Who are the winners and losers in a globalising world and what are the implications for our shared global future? How do developments in London relate to major shifts in the workings of the world over the last four decades? As a city with complex global connections, London has been enmeshed in deepening global social, political and ecological crises, as well as becoming an important arena of conflict over efforts to address them. This course critically explores these issues by examining the city's complex relationship with the forces of globalisation and the ways in which everyday life and experience in London, as well as its people, institutions, and organizations, have been shaped by - and are contributing to - global change. Emphasis will be placed on critically examining the effects of neoliberal globalisation, the growing (though uneven) global dominance of projects promoting increasing freedoms for capital under the banners of 'free markets' and 'free trade.' This course also highlights a variety of collective challenges to these projects, some of which operate largely within the confines

of London, others organized along trans-local and transnational lines. Their economic, political, cultural, and ecological aspects will be analyzed, examining the importance of class dynamics and their intersection with gender, ethnicity and other processes of hierarchical ordering. Theoretical and conceptual concerns will also be addressed, such as relations between the local and the global, the workings of power and contestation under neoliberal conditions, the interplay of space, class, and gender, and questions of responsibility within and beyond the limits of community and place.

LNDN 3251. Strategic Communication and Social Media: Theory and Practice. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This class combines theoretical analysis, case studies, and hands-on practice to understand and execute traditional and online communications strategies. The course will begin with a literature review of theories and principles relevant to the practice of strategic communication and social media practices including media effects, Internet effects, and uses and gratification theory. Second, cases studies will be utilized to investigate the effectiveness of messaging strategies employed by not-for-profit and commercial organizations as well as individual actors such as businesses, politicians, and influencers. Finally, students will work for a real-world client and their own portfolios to formulate an overarching communication strategy inclusive of recommendations for messaging strategies across all platforms (traditional messaging, website, Facebook, YouTube, Instagram, press releases, e-blasts, and speeches.)

LNDN 3252. Childhood's Books. (GP,LITR; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course examines writing for young people, with a focus on children's books about cities. We will consider how representations of childhood in literature change over time and in response to specific historical and cultural events, with special focus on literary representations of children in urban environments and the role of the city in the development of children's literature as a genre. We will explore the relationship between books for children and the historical experiences of children in London. Readings will include classic and contemporary children's literature by British, American, and African authors, including Peter Pan; The Lion, the Witch and the Wardrobe; and Zarah the Windseeker, including novels and picture books. The class will take field trips to notable sites in London relevant to the history of childhood and children's literature. Students will write regularly in response to course readings, field trips, and lectures, and they will conduct original research about the relationship between the history of children's literature and the city of London, then present that research in class.

LNDN 3253W. Contemporary Issues through Community Engagement: Social Dynamics of London. (CIV,WI,GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This is an interdisciplinary course with a sociological focus, as well as a unique opportunity to become directly involved in the realities of community engagement and grassroots politics. It is designed to stimulate critical thought and reflection on urban inequalities in London and to introduce students to topical debates about how best to manage the challenges of a diverse city. The course will explore the historical, sociological, and political context of community and service in the United Kingdom (UK). It will also examine in depth forms of social, economic, and political exclusion, such as uneven access to health care, education, financial resources and political representation, and analyse the social dynamics within and between the multiple communities which co-exist in London. The course therefore combines classroom learning with practical exposure in placements to foster knowledge and understanding of community service in the UK today. Weekly seminars and readings enable participants to understand contemporary social dynamics and illuminate such issues as the history of welfare provision, urban regeneration, political power, social deprivation, and the interplay of class, gender, and ethnicity in the city. Three key interrelated themes will be followed throughout the semester in order to provide a structured reflection on questions which affect society today: urban life including topical issues such as social polarization and neighbourhood change; super-diversity/multiculturalism and the impact of immigration on identity politics and community relations; welfare and exclusion/marginalized groups, uneven access to services, the changing role of the state, poverty, housing, and homelessness.

LNDN 3254W. Introduction to Science Fiction. (LITR,WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

What lies beyond? The Final Frontier? Why does it matter if androids dream of electric sheep? What will our future look like and who will be there to enjoy it? What role do technology, ethics, and/or politics play in imagining our future? Why has science fiction become such a central metaphor for our daily, lived experiences? Introduction to Science Fiction discusses them all. This course is designed to expose students to a broad spectrum of science fiction. We will examine representative texts from each of the modern, roughly defined 'periods' of the genre. The class will discuss the ongoing debate surrounding the 'work' performed by the genre, as well as its themes, and stylistic movements.

LNDN 3255. Moving Images Editing: Theory and Practice. (AH; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Moving images are ubiquitous. As one of the most pervasive manifestations of the digital age, they broke out with the confines of the cinema theatre and show up on the multitude of screens around us. Just as we are surrounded by many forms of the audio-visual, we also encounter a multitude of editing practices. From blockbusters to YouTube videos, we experience images that are carefully selected

and artfully cut in a way that is entertaining, persuasive, or simply moving. The course is designed to introduce students to the theory, practice, and art of editing. It intertwines historical accounts of editing practice with media analysis and hands-on exercises. Each of the first nine sessions is devoted to one of the key concepts that illuminates intersections between media and culture: conversation, gaze, action, persuasion, story, beat, humour, metaphor, and voice. Each session is then divided into three distinctive parts. The first uses film excerpts to showcase editing devices employed in relation to the theme of the class. The second introduces a theoretical understanding of the pertinent editing procedures and instigates a discussion around them. In the last part of the session, students will use a pre-selected set of clips to create their own edit. The course is based on an innovative approach to editing techniques that sees them in a close dialogue with the underlying cultural phenomena that shape the current media landscape.

LNDN 3256. Digital Media Practice. (3 cr. ; Student Option; Every Fall, Spring & Summer) Digital media permeate most social and economic interactions of today. Still and moving images not only serve entertainment but also inform the way we communicate, learn about the world, purchase goods, and express our identities. This course focuses on digital media as a contemporary means of communication placing them in the context of remix culture. It will take students through the core themes of narrative, rhetoric, remix, and voice, exploring them through two areas of practice-based investigation: composition and audio-visual techniques. This intensive and comprehensive course will allow students to create their own portfolio, including a selection of digital media techniques used in a wide range of settings, from marketing videos to audio-visual essays. Quickly and efficiently students will learn how to produce videos for social media, conduct interviews, and present themselves in front of the camera. The course will offer basic skills in digital photography, camerawork, editing and podcast production. Students will also be able to choose one of the four specialised areas which include VR production, social media advertising, audiovisual essay filmmaking, and digital journalism. The content of the students' portfolios will be produced as part of weekly assignments throughout the course, as students develop their skills, with a final project in their area of specialisation. While the emphasis is on practice, each class includes a theoretical discussion that provides a critical framework for working with visual media. Topics explored include copyright and political aspects of the online, as well as its business and marketing side. This will allow students to both understand the cultural context of digital media and use them effectively.

LNDN 3257. Cybersecurity and Privacy Regulation. (3 cr. ; Student Option; Every Fall, Spring & Summer) Cybercrime is a global threat to national security, essential services, businesses,

and private individuals, costing billions of dollars in damage around the world. Recent years have seen significant growth in the scale and complexity of cyber criminality as cybercriminals are becoming more sophisticated in exploiting security vulnerabilities online, such as the massive breach of personal data stored online and recent coordinated ransomware campaigns against organisations around the world. Cybercrime is also transnational, with criminals and technical infrastructure operating across and between national jurisdictions, requiring international collaboration to combat multiple threats. This course examines current frameworks of US cyberlaw, procedures, and key legal cases and their implications for future practice and policy, and compares and contrasts US, UK, and EU law at the interface of criminal law, technology, and information sciences.

LNDN 3258. Introduction to Astronomy: British Contributions and Developments. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course will explore human knowledge of the solar system and of the night sky, as well as the growth of astronomy as a science. The development of astronomy in England has been influenced by many factors and represents a rich microcosm of the evolution of astronomy in the western world. British contributions to astronomy will be used to exemplify the progress and achievements of this field of science. Throughout history astronomy has been intertwined with both time-keeping and navigation, and we will explore these connections in and around London. The passage of time is manifested through the motions of the sun which we will investigate when we visit sundials throughout London. More elaborate structures, like Stonehenge (which we will discuss and visit), can be used to mark the passage of time on greater scales. The importance of astronomy to time-keeping also made it invaluable to navigation. When we visit the National Maritime Museum, we will examine and discuss the instruments in their Astronomical and Navigational Collection to elucidate the link between astronomy and navigation. This link between the two areas meant that the interests of astronomers intersected with the interests of the government, leading to the development of the Royal Observatory at Greenwich, which we will also visit and explore. Lastly, when we visit Westminster Abbey, we will see that the importance of the work of astronomers was so valued that the scientists themselves were esteemed.

LNDN 3259. Finance for Entrepreneurs and Start Ups. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course provides an understanding of how new ventures founded by entrepreneurs obtain financing in their quest to expand. In a global world dominated by high tech ventures of the likes of Apple, Amazon, Facebook, Netflix, Google, Alibaba, and TenCent to name but a few, how do these ventures become so successful in the marketplace and have

a market value worth in excess of hundreds of billions of dollars? Apple is the world's 1st \$2 trillion company. The course exposes you to the opportunities and risks associated with new entrepreneurial ventures, how to obtain financing, who are the venture capital investors, and the stages of a successful venture. Localized Context: With its global presence, CAPA offers the opportunity to enrich your academic experience by exposing and exploring the localized context of the CAPA London Centre. London is the leading venture capital of Europe and second only behind Silicon Valley as a world-renowned venture capital center. London has the benefit of being host to the financial center of the City of London with a host of world-class universities in London such as University College London, Imperial College, and London School of Economics producing world class research. Together with the cities of Cambridge and Oxford, London is at the heart of the Golden Triangle of leading universities, entrepreneurs and a global financial center. You will be expected to develop and expand your understanding of this local context of the UK's role in the global and European venture capital marketplace. The 'Business Plan for New Venture' project provides you an opportunity to explore the opportunities for creating a new venture in this localized context and to demonstrate your learning outcomes from this unique opportunity provided through studying Entrepreneurial Finance at the CAPA London Centre while the 'Group Pitch to Investors' hopes to simulate the tension of a real live pitch for funds to investors.

LNDN 3261. Principles of International Business. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course explores the important concepts and perspectives for international business in the 'age of coronavirus.' It examines the external and internal conditions that multinational enterprises must recognize, interpret, and steer to prosper and thrive. Globalization will be introduced and interpreted alongside the world's systems, frameworks, structures, patterns, strategies, approaches, and channels for achieving organizational success in the global marketplace. In addition to examining the established theory and application behind the management of political, economic, socio-cultural, and technological factors, the course will investigate the effects of the coronavirus pandemic on global commerce. Emerging concepts around crisis response management, black risk management, and preparedness will be covered for each topic. You will be expected to increase your understanding of international business across all theoretical areas in the context of global events of the last 12 months. Localized content: The United Kingdom (UK) and mainland Europe offer interesting perspectives to understand and appreciate the demanding challenges of global management. In addition to the 'wicked' problems posed by the 2020 pandemic, the UK and Europe must navigate economic, political and social issues problems of a scale not witnessed since the middle of the 20th Century. London, with the presence

of British, other European, American, and Asian global corporations, its multicultural environment, and diverse population, provides an ideal setting for exploring international business. Multinational enterprises both define and are defined by their host national and city cultures and are the mechanism by which commercial enterprises have become increasingly interlinked through connection, collaboration and competition. The course explores the most important and influential multinational enterprises for the host city and country, through case studies, group work, and field studies.

LNDN 3262. City Symphony: Experimental Cinema. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Painters of every nationality depict the city, but only a succession of images can bring it to life. Alberto Cavalcanti, *Rien que les heures* (1926) The city symphony film emerged in the 1920s, when filmmakers were experimenting with the mobility of viewpoint enabled by the portable film camera and more sensitive panchromatic film stock. The city, in particular its interwar technologies of urban transport and machinery, provided the ideal testing ground for the newly sensitive and mobile camera. It demanded to be seen, and shown, in a new mode that for Brazilian director Alberto Cavalcanti, only film could provide. The city has been an integral part of the filmmaker's vocabulary since cinema's genesis in the late 19th Century. The urban environment and the craft of film grew up together in the 20th Century. This course takes examples of city films from throughout that century and encourages you to investigate the urban contexts and subjectivities explored therein.

LNDN 3263. Feminist London: Activism in the City. (3 cr. ; Student Option; Every Fall, Spring & Summer)

The 21st Century is witnessing a remarkable resurgence of feminism around the globe. In London, the annual Women's March unites feminists from across the UK and internationally, highlighting the dynamic nature of their voices and campaigns. Such events pay homage to the women's suffrage demonstrations in the city a hundred years earlier, not only reinforcing the connections between historical and contemporary campaigns for gender equality, but also revealing the diversification and progression of feminism. Throughout London's history, feminists of various classes, races, nationalities, and cultural backgrounds have utilized the city as a space, physical and imaginary, to devise and implement their ideas through a series of campaigns, crusades, and political movements. This course investigates the relationship between feminism and London: how feminists drew their inspiration from its slums, alleyways, and workplaces; its markets and marketplaces; its domestic spaces; its artistic hubs; and its private members-only clubs. Focusing on the period from the mid-18th Century to the present, it examines both individual activists and writers as diverse as Mary Wollstonecraft, Annie Besant, Olive Morris, and Bernadine Evaristo, as well as

collective campaigns around issues such as workers' rights, birth control, and racial discrimination to chart the ways in which feminists appropriated the terrain of urban space to advance their appeals for equality. Topics we will explore include: women's writing, sexuality, consumerism, class dynamics, campaigns for political rights and representation, fashion and style, imperialism and its legacies, feminism and popular culture, Black & Asian feminisms, and the impact of social media upon feminist activism and discourse.

LNDN 3264. Political Media. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Broadly this class focuses on how media are used to facilitate and sustain exploitative political and economic practices?e.g., how media helped facilitate imperialism and, dialectically, how media have been used by individuals and groups to contest or speak back to power. Our focus traverses history but increasingly comes to focus on the present moment, which is characterized by rapid changes in media practices such as the relatively recent emergence of social media and complexly related transformations in political and economic practices and systems (e.g., the election of Donald Trump, the Brexit? referendum, the rise of new forms of popular? nationalism, and new practices of propaganda). This course focuses more closely on these contemporary transformations as they happen in front of our eyes with bewildering pace. Our goals are to foster interesting explorations and conversations about media and our political and economic realities. Our (expansive) goals are to understand the role film and media plays in the orchestration of power, and how this has been contested and transformed. The film material and scholarship will also enable us to learn about political struggles mostly occluded in mainstream corporate media. In the midst of these broad agendas, the class pursues some pragmatic objectives: it will expand knowledge of cinema history, including different histories of production, distribution, and exhibition. (We understand ?cinema? here broadly to refer to the production and dissemination of moving pictures, and cinema to be a form of mass media that is inherently inter-medial.) It will explore different forms of this cinema (documentary, experimental, propagandistic, fictional) and lead us to examine the politics of form across history. It will explore the writings of cultural activists and academics as they examine questions about media, power, and influence. It will produce knowledge about past political struggles as mediated through film (and push us to learn about the socio-political contexts in which the films were made and circulated). Plus it will necessarily prompt questions about how different state systems engage with media and how the production and regulation of media are political acts that shape the possible public sphere. In pursuing these lines of enquiry our work will necessarily be interdisciplinary, and we will draw in particular (but not exclusively) from scholarship in political history and political science, public policy, film, media, and cultural studies, history,

and broadly progressive traditions of historical, cultural, and media analysis. The class contributes to larger curricular goals in various ways: It explores the international history of cinema, in its political contexts in particular, draws on concepts across the humanities and social science of use to the study of cinema, and it will encourage and foster the production of scholarly work that clearly and coherently addresses issues important to the study of cinema and the modern world.

LNDN 3265. Urban Scavenger. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course in critical filmmaking?the exercise of the camera and the edit suite in the service of ideas and analysis. A degree of familiarity with DSLR cameras and editing software is assumed, but support will be on hand for those who are new to filmmaking. The main objective of the course is to produce a 5- to 10-minute essay film about some aspect of London. We combine practical exercises in filming and editing with a close look at the tradition of the essay film, and a consideration of how the essayistic might also infuse contemporary screen culture. By closely integrating practical elements with theoretical sessions, we hope to draw connections between the discourse on urban consumer society and the images surrounding it, between collecting objects and editing, between the order of things and creating a political narrative. You will be asked to gather ? fragments??one or several shots and/or audio recordings?in response to themes. The fragments will be uploaded to a dedicated video blog and reviewed by the whole group at different points during the term. We aim to build a habit of constructive criticism so that you are comfortable sharing work-in-progress and improving it. You will then move on to planning and producing your essay film, with a number of deadlines built in for footage reviews and rough-cut screenings to ensure progress and development. Your essay films will be screened for a final assessment with all faculty in the last session of term. The final assessment is a critical text documenting the experience of making, refining, and screening the film, so that you can reflect on your process.

LNDN 3266. A City Made Strange: London on Screen in Horror and Science Fiction Cinema. (AH; 3 cr. ; Student Option; Every Fall, Spring & Summer)

London has existed for more than two thousand years, and the ghosts of the recent and ancient past remain in its streets and its culture. This course aims to explore the deep funds of strangeness and otherness that permeate London's places and spaces, through examining films and television series that show the city as a brimming reservoir of past and future shocks. The course will examine science fiction, horror, and noir/neo-gothic cinema and television from all eras, with a particular emphasis on works that take London itself as a major part of their story. These might be disaster or alien invasion films that see the city as a site of destruction or devastation, horror films which render a familiar city frightening and strange, or noir explorations

of London's underbelly that expose sides of the city that are normally hidden. The course will both present an alternative history of London on film and provide you with rich possibilities for the analytic study of film and television. Horror and science fiction are notorious as vessels for the expression of both social and political anxieties, and the selection of films would encourage analyses of both psychological content and broader contexts (areas might include, for instance, Cold War-era fears, body horror, racial or class concerns). Readings will be both critical and complementary, and hope to locate uncanny London on film in relation not only to American cinematic tropes in genres such as horror, but also to the large fictional and occult literature which features London as a place of archaic energies and occult forces. All students develop their basic skills in analyzing film texts and will also develop a good grasp of long-trends and recent themes in British horror and science fiction cinema. You will gain insight into the ways that film can reflect and respond to contemporary social and political conditions and events, and the way that film and television relate to literature. You will gain an understanding of horror and science fiction as key genres in British film, and gain awareness of some key points at which these genres in British cinema and television differ from their counterparts in US film.

LNDN 3267. Diversity in British Cinema, Race, Gender and Class. (AH; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This intensive and comprehensive course will allow students to take an innovative approach that sees race, gender, and class in close dialogue with the underlying cultural phenomena that shape the British cinematic landscape. The course is designed to introduce students to British cinema whilst engaging in theory, practice, and analysis. It intertwines historical accounts with film screenings and lectures as well as discussions with filmmakers and curators. This course introduces students to the question of diversity in relation to Britain and British cinema over the last 50 years. There are three different emphases in the course: race, gender, and class, although we will be closely looking at their intersectionality. The first section of the course will examine race and multiculturalism in British film with an emphasis on the works of Isaac Julien. This section will cover the last forty years in British cinema with some of its major participants in the form of historians, filmmakers, and curators. The second section of the course will look at films dealing with questions of gender and class and their modes of representation. The final section of the course will introduce students to the British class system through its modern representations and contestations.

LNDN 3268. New World (Dis)order: The State and Society in an Age of Populism and Protest. (CIV; 3 cr. ; Student Option; Every Fall, Spring & Summer)

The year 2020 saw America and most of the world convulsed by two major events: the global health pandemic of the COVID-19 virus, which was worldwide in scope; and

the spontaneous spread of protests for racial justice in America and many other countries in the democratic world that were triggered by the killing of George Floyd by police in the city of Minneapolis. Both these events, coming as disrupting forces to the established political and economic order, underscore longstanding questions for political, economic, and philosophical debate: Where should power and decision-making take place? Is human nature noble, but enchained by corrupted institutions or is it brutish and violent, requiring a social contract with an authority to safeguard the rights of all? If we accept the second proposition, who guards the guards? The tensions between national and supra-national governance, exemplified by the US withdrawal from the World Health Organisation, appear to echo the trend to increasing nationalism, autonomy and populism that influenced the UK decision on Brexit (Britain exiting the European Union). The organic and viral movement of activism in support of Black Lives Matter may share some of the characteristics of Extinction Rebellion inasmuch as the concerns for immediate action on racial injustice, the climate crisis, and other issues, have seen large numbers of people, including a significant proportion of the youth demographic, take to the streets, and mobilise for direct action for social change. This course will explore historic, recent, and contemporary trends in the political authority invested in the nation-state and its agencies and contrast this with social and political forces expressing discontent with the status quo. One section of the syllabus will examine ideas for greater global governance, such as the League of Nations, the UN, and new bodies such as the International Criminal Court. The second section of the syllabus will explore ideas for local autonomy, and radical action on such matters as policing, systemic racism, carbon consumption, the rising use of surveillance technology, and the free-market assumptions that underpin Western societies. Other modules in the course will examine the phenomenon that has been labelled ? populism? and the discontent with current form of globalization, both from the political right and the political left. A further module will explore the fragmentation of the West-centric global order in light of an increasing multipolar world and the rising economic and political dynamism of China.

LNDN 3323. Shakespeare in London. (; 3 cr. ; A-F only; Every Fall, Spring & Summer) Representative sampling of Shakespeare, including the four major tragedies. Some attention to English Renaissance period and Shakespeare's time.

LNDN 3324. 20th Century British Fiction. (; 3 cr. ; A-F only; Every Fall, Spring & Summer) Responses to colonialism, impact of World War I, changing conditions for women and for contemporary multicultural Britain. Literary movements/styles (realism, modernism), narrative techniques/perspectives (1st/3rd person, limited point-of-view, stream of consciousness). Use of symbolism, imagery, irony, etc. Role of author/reader. Problems of interpretation.

LNDN 3328. British Cinema. (; 3 cr. ; A-F only; Every Fall, Spring & Summer) Major works of 20th century British drama. Focuses on postwar period. Students read/see plays.

LNDN 3333. Understanding Modern Britain. (; 3 cr. ; A-F only; Every Fall, Spring & Summer) Introduction to social/cultural differences between Britain and the United States. British class/culture, monarchy/aristocracy, education system, media.

LNDN 3342. European Economic History. (; 3 cr. ; A-F only; Every Fall, Spring & Summer) European economic history, 1000 AD to today. Industrial revolution, development of capitalism from feudalism. Reasons Europe took world technological lead during Middle Ages. Factors affecting economic growth, prosperity, and technological change.

LNDN 3343W. Post War Popular Culture. (WI; 3 cr. ; Student Option; Every Fall, Spring & Summer) London as center for international popular culture, from WWII to present.

LNDN 3355. London Through Internships. (; 3-6 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer) British work and social structure. Cross-cultural issues surrounding integration into workforce. Internships from various fields of study.

LNDN 3375. Global Internship Course: London. (3-6 cr. ; Student Option; Every Fall, Spring & Summer) 3 Credit Course: The Global Internship Course (GIC) provides a unique and innovative opportunity for students to engage in an internship (and living abroad experience) while supported by academic in-class and online educational sessions to further develop their personal and professional skills while earning academic credit. GIC students also partake in out-of-class guided and self-guided activities and field studies that have been devised to enable students to become more comfortable with, and knowledgeable of, their internship locations/neighbourhoods. Furthermore, a day-long field trip illustrates how socio-political and economic factors, such as the effects of housing costs in global cities, necessitate commuting and changing work practices such as flexible working hours and working remotely that embody best practice in well-being. Field studies vary depending on location and may also include a focus on, for example, corporate social responsibility and sustainability. The GIC fits in with CAPA's philosophy and practice of enabling students to learn about the social and cultural context of their internship placement and the host region and country, as well as other GIC themes, through comparative global analysis. Where appropriate, this analysis will be facilitated through a small selection of CAPA Masterclasses given by leading professionals from a diverse range of fields. The in-class active learning approach gives students the opportunity to discuss and analyse theories and models of work, organisational behaviour, and management in a cross-cultural context. 6 Credit Course: The Global Internship

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LNDN 3412. British Broadcasting Today. (; 3 cr. ; A-F only; Every Fall, Spring & Summer) Introduction to international broadcasting. Social, cultural, and political conditions that have created selected world broadcasting systems. Focuses on broadcasting system of host country. Current system trends, governmental relationships, administration, domestic/foreign programming.

LNDN 3432. Western European Government and Politics. (GP,SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer) Where and what is Europe? Who are the Europeans? What is Europe's future? ? Europe? has been a cultural idea that European elites have struggled to impose on the chaotic diversity of their continent. How has the concept ?European? been defined historically, and in relation to whom? This interdisciplinary course addresses these fundamental questions of geography, society and identity by tracing the history of ? Europe? as a cultural and political idea and the cultural, political and economic factors that have shaped modern Europe. Such issues have been brought into close focus by the implications of European integration, destabilising assumptions about the territorial extent of Europe and the scales at which government, sovereignty, and citizenship should operate. This course investigates the various processes that have made Europe such a distinctive, dynamic, and highly varied region and examines the historical roots of current tensions between ? and within - the nation-states of Europe, such as ethnic nationalism and imperial competition.

LNDN 3500. CAPA Seminar in London. (3 cr. [max 6 cr.] ; Student Option; Every Summer) Study abroad course

LNDN 3501. Telling the Story - London. (1 cr. [max 2 cr.] ; Student Option; Every Summer) Study abroad course

LNDN 3523. Theatricality: Understanding the Possibilities in Theater. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) In-depth understanding of art of theater via survey of historical influences, changing styles/approaches to theater. Concept of theatricality.

LNDN 3524. Theatre Production Management. (; 3 cr. ; A-F only; Every Fall, Spring & Summer) Lecture/seminar from professional theatre practitioner on their job specialization. Structure of theatrical organizations. Development/marketing of theatrical productions. Wider factors that influence theatrical organizations/productions. Workshops. Visits to various venues to see how they operate.

LNDN 3530. Ethical Issues and the Media. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer) Principal ethical issues facing print/broadcast journalism. Practical dilemmas, moral framework. Real time arguments that arise in media coverage of matters of public controversy. Regulation, codes of practice. Case studies, visits, guest lectures.

LNDN 3531. Advertising and Marketing in Britain. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer) Forms of advertising and public relations techniques used by organizations to communicate with stakeholders. Consumer motivation/appeal. Media structures, effectiveness. Target audiences. Print/broadcast production, budgeting and promotion mix planning. Students design, cost, and implement an advertising campaign, and project the likely success rate.

LNDN 3532. Visualizing Britain: Film and Television Documentaries. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer) Canon of British film/television documentary from end of the 19th century to beginning of 21st Century. Drama-documentaries tackling/attracting major public controversies.

LNDN 3533. Women in Britain in the 21st Century. (; 3 cr. ; A-F only; Every Fall, Spring & Summer) Momentous changes in women's lives during 20th Century. Impact of two world wars, economic dislocation/recovery, revolutions in colonial states, super power rivalry, proxy wars, end of cold war, new international alliances/collectivities.

LNDN 3534. Criminal London: Aspects of Crime and Criminal Justice in Britain. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer) Late Middle Ages, Tudor/Stuart periods. Eighteenth, nineteenth, and twentieth centuries. Evolution of courts/criminal procedure. Debates, including death penalty

and jury system. Visits to courts and places of interest.

LNDN 3536. Child Development in a British Context. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer) Scio-cultural approach to contemporary issues of children's development. How life in the UK shapes children's development. Early attachments. Development of the self. Emergence of consciousness. Role of play. Origins of disturbing behavior.

LNDN 3613. Analyzing and Exploring the Global City: London—Modernity, Empire, and Globalization. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) Study abroad course.

LNDN 3614. Citizenship and Gender in Modern Europe. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) Study abroad course.

LNDN 3615. Urban Underworlds in Medieval and Early Modern London: A Literary Exploration. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) Study abroad course.

LNDN 3616. Global Mental Health Professions: A Comparison of U.S. and U.K.. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer) Study abroad course.

LNDN 3650. Research Methods: Directed Research Project - London. (3 cr. ; Student Option; Every Fall, Spring & Summer) This course provides undergraduate students with the opportunity to undertake a research project in the context of their international education experience. Students opting for this course will be guided towards opportunities recommended by CAPA and determined by local resources and expertise. In most cases, CAPA will define potential projects generated by senior academic staff and faculty on site and suggest relevant sources: students will apply to do those projects. This would not preclude student proposals or projects suggested by home universities for individual or group study. Students will be introduced to core research concepts and will develop research skills through designing, executing, writing, and presenting their own research project within frameworks designed by CAPA. The topics that students will explore will be consistent with their majors and their own individual interests but will exploit the overseas experience. A variety of research methods employed in geographical, historical, political, sociological, cultural studies, and digital humanities will be introduced that may be applied to multidisciplinary topics, including qualitative and quantitative methods, as well as mixed methods research as appropriate to students' research themes. In collaboration with their instructor, students will develop appropriate research methodologies that will engage with a range of local sources, as well as online resources. These will include archival documents such as official records, maps, and personal accounts as well as basic ethnographic techniques such

as questionnaires, interviews, and oral histories. Students will also be introduced to contemporary social investigation and the use of artistic/fictional representations of place and environment, and the use of photographs and other multimedia sources as tools for analysis.

LNDN 3733. International Finance. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)
Focuses on Europe. International marketing strategies of European companies. Special features of European Common Market, business environment.

LNDN 3752. International Marketing. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)
Focuses on Europe. International marketing strategies of European companies. Special features of European Common Market and business environment.

LNDN 3753. International Economics. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)
Comparative advantage, classical/neoclassical models, distribution consequences of trade. Resource endowments, technological gaps, economies of scale, product differentiation, location. Tariffs, quotas, other forms of intervention. Preferential trading arrangements.

LNDN 3754. Creative Writing. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)
Creative writing course for the Study and Internships in London program.

LNDN 3756. Topics in London. (; 3 cr. [max 12 cr.]; A-F only; Every Fall, Spring & Summer)
Topics course for the Study and Internships in London program.

LNDN 3757. British History in the 20th Century. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)
British history course for the Study and Internships in London program.

LNDN 3758. International Business Environment. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)
Study abroad course on Study and Internships in London program.

LNDN 3759. Islam, Politics, and Britain: A Case Study of London's East End. (; 3 cr. [max 6 cr.]; A-F only; Every Fall & Spring)
Study abroad course.

LNDN 3975. Social Dynamics of London: Contemporary Issues Through Service-Learning. (; 3-6 cr. [max 12 cr.]; A-F only; Every Fall, Spring & Summer)
Study Abroad Course

Study Abroad in Montpellier (MONT)

MONT 1000. Intensive French Session Lower Division. (; 3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad.

MONT 1001. Beginning French. (5 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)
Study Abroad Course

MONT 1002. Beginning French. (5 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 1003. Intermediate French. (5 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 1004. Intermediate French. (5 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 1151. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1152. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1153. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1154. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1155. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1156. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The

specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1157. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1158. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1159. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1251. University of Montpellier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1252. University of Montpellier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1253. University of Montpellier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1254. University of Montpellier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a

course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1255. University of Montpellier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1256. University of Montpellier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1257. University of Montpellier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1258. University of Montpellier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1259. University of Montpellier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 1301. Intermediate French Grammar. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course will help students to improve their written and oral skills in French and train them to develop an approach to various writing assignments. This is designed to broaden the range of options available to them for expressing themselves in the language.

MONT 1302W. Intermediate Academic Writing in French. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This class is designed to introduce students to the techniques and tools required for both academic and personal writing. Over the

course of the semester, students will learn how to write a variety of different types of texts including: the description, the compte rendu universitaire, the journalistic portrait, and other textual genres.

MONT 1309. Intermediate French Conversation. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This class is built as a series of discussion sessions. Throughout group discussions about news and precise topics (gastronomy, French music, immigration) students will acquire basic vocabulary and learn more about social and cultural facts and French contemporary civilization. We will study topics such as immigration in France, the French social system, cinema, leisure and provide the students with basic information in everyday life. Learning will be based on listening and speaking with material such as songs, TV shows, and movie extracts. A vocabulary sheet will provide basic vocabulary about the topic studied. Focus will be put on correct vocabulary and pronunciation.

MONT 1401. Integrated Course. (; 1-8 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 1402. Integrated Course. (; 1-8 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 1403. Integrated Course. (; 1-8 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 1404. Integrated Course. (; 1-8 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 1405. Integrated Course. (; 1-8 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 1501. Special Course for Americans. (; 0-10 cr. [max 20 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad.

MONT 1502. Special Course for Americans. (; 0-10 cr. [max 20 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad.

MONT 1503. Special Course for Americans. (; 0-10 cr. [max 20 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad.

MONT 1504. Special Course for Americans. (; 0-10 cr. [max 20 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad.

MONT 1505. Special Course for Americans. (; 0-10 cr. [max 20 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad.

MONT 1506. Special Course for Americans. (; 0-10 cr. [max 20 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad.

MONT 1507. Special Course for Americans. (; 0-10 cr. [max 20 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad.

MONT 1601. Institute Course. (; 1-8 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 1602. Institute Course. (; 1-8 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 1603. Institute Course. (; 1-8 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 1604. Institute Course. (; 1-8 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 1605. Institute Course. (; 1-8 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3000. Intensive French Session Upper-Division. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course

MONT 3010. French Expression. (; 3-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3014. French Phonetics. (2-3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3015. Advanced French Grammar and Communication. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3016. Advanced French Composition and Communication. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3017. French Communication. (; 1-2 cr. [max 4 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3018. French Oral Communication. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3020. French Comprehension. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3021W. Medieval French Literature: Mysteries, Marvels, & Monsters. (LITR,WI; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

The focus of this course is an exploration of the creative work of a period of history that remains to this day shrouded in mystery. There are strong parallels between the Medieval era and the present day: It is a time when many live in fear. Power, often wielded tyrannically, lies in the hands of a fortunate few, and those at the

bottom of the social pyramid are cowed into submission. The Church, seeking to expand its social control, reinforces that terror through cryptic and troubling iconography. Just as in the present day, fear drives superstitions about marvels and monsters to society's surface. Yet at the same time, a developing curiosity for the world but also a desire for conquest emerge and encounter the Other. Understanding the context and forces at work in this period will provide students with tools to analyze contemporary societal shifts; in other words, exploring the myths of the past will shed a light on those that govern the present. During the semester, students will discover the mysteries, marvels, and monsters of this period through literature and visual media. The goal will be to study these works from diverse perspectives, but also to see how this imagery and these legends have persisted through the ages to the present day (for example Victor Hugo's 19th-Century romantic poetry and Alexandre Astier's popular 21st-Century series *Kamelott*). Students will explore changes in the literature from the past to the present (theater, poetry, prose) as well as architecture and the arts in an attempt to access a deeper comprehension of this often misunderstood time that can inform our understanding of the present. This is a writing-intensive course, offering a broad introduction to the critical methods, standards of scholarship, and body of knowledge specific to the discipline of French and francophone studies. The course will train students to understand and analyze texts and visual media, including sculpture, painting, manuscript illuminations, and film. Since it is writing intensive, particular attention is given to the content, style, and format of written assignments.

MONT 3022. France and its Mediterranean Neighbors: A Relationship of Exchange. (3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course

MONT 3023. History of Theater. (3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course

MONT 3024W. Medieval French Literature: The Once & Future King. (LITR,WI; 3 cr.; Student Option; Every Fall, Spring & Summer)
Who was King Arthur? How is it that a legendary figure from such a distant time still exists today in such a vibrant manner within the collective mind? From the Middle Ages to the present day in such popular works as George RR Martin's *Game of Thrones*, the myths and folklore surrounding the king have been ceaselessly renewed. Beginning with the pseudo-historical origins of Arthur and his knights in the old French literary tradition as depicted by Chr?tien de Troyes and in iconic works of the *mati?re de Bretagne*, and ending with Alexandre Astier's wildly popular television series, *Kamelott*, this course will seek to shed light on the popularity and the mystery surrounding le roi Arthur. Over the course of the semester we will explore the legendary material in detail, constantly

comparing and contrasting contemporary works with their Medieval forbears with the ultimate goal of understanding how these creations function within a socio-cultural framework.

MONT 3025W. French [R]evolutions: Transformations in French Society from 1945-Now through the Eyes of Filmmakers. (AH,WI,GP; 3 cr.; Student Option; Every Fall, Spring & Summer)

Through the lens of cinema and documentary film, this course explores the changes in French society from the period of the Second World War to the present day. Beginning with the trauma of the Nazi occupation, students will look at how French cinema over the years has served as a mirror on society, reflecting cultural, social, and political evolutions. Students will examine key moments in France's history that have left a mark: the period of Nazi occupation and the conflict between collaborators and resistance fighters (as portrayed in Louis Malle's *Au Revoir les Enfants*, Jacques Audiard's *Un H?ros tr?s discret* or Joseph Losey's *Mr. Klein*), France's departure from Indochina (Pierre Schoendorffer's *Di?n Bi?n Phu*), the Algerian war (Gillo Pontecorvo's *La Bataille d'Alger*), the cultural revolution of May 1968 (Ducastel and Martineau's *N?s en 68*), evolving family models and changing visions of socialism in the 1980s (Pinoteau's *La Boum*), social upheaval and exclusion in the 1990s (Kassovitz's *La Haine*, Lisa Azuelos's *LOL*, Mounia Meddour's *Papicha*). Recent film and text will engage with an exploration of contemporary France (the 2000s and 2010s) around issues such as francophone multiculturalism, societal unrest (the yellow-jacket movement) and the terror attacks (Audiard's *Un Proph?te*, *Ladj Ly's Les Mis?rables*, Houda Benyamina's *Divines*, Emmanuel Leconte's *Humour ? mort? the Charlie Hebdo attacks*), but also France's continuing mission to promote the arts and humanities and make them accessible to every socioeconomic corner of the population (e.g., through nationwide events such as the annual *F?te du Cin?ma*, the *Journ?es du Patrimoine*, and once-a-month free access to museums). The course aims to provide students with tools for understanding a culture through an exploration of its creative artifacts.

MONT 3026W. French Writers: Transformations in Society from 1945-Now through the Eyes of Novelists. (LITR,WI; 3 cr.; Student Option; Every Fall, Spring & Summer)

Through the lens of literature, this course explores the changes in French society from the period of the Second World War to the present day. Beginning with the trauma of the Nazi occupation, students will look at how French literature over the years has served as a mirror on society, reflecting cultural, social, and political evolutions. Students will examine key moments in France's history that have left a mark: the period of Nazi occupation and the conflict between collaborators and resistance fighters (as portrayed in Tatiana de Rosnay's *Sarah's Key*), France in Indochina and the underpinnings of its postcolonial legacy (Marguerite Duras's *Sea Wall*), the

cultural revolution of May 1968 (Annie Ernaux's *The Years*), evolving family models and changing visions of the world in the 1980s (Tahar Ben Jelloun's *The Sand Child*), social upheaval and exclusion from the 1990s to the present day (Edouard Louis's *Ending Eddy*, Michel Houellebecq's *Platform*, Mounia Meddour's *Papicha*). Recent texts and film will engage with an exploration of contemporary France around issues such as francophone multiculturalism, societal unrest (the yellow-jacket movement) and the terror attacks (Marie N?Diaye's *Ladivine*, Jacques?s Audiard's *Un Proph?te*, *Ladj Ly's Les Mis?rables*, Emmanuel Leconte's *Humour ? mort?the Charlie Hebdo attacks*), but also France's continuing mission to promote literature through the Prix Goncourt. The course aims to provide students with tools for understanding a culture through an exploration of its creative artifacts.

MONT 3101. French Cinema. (3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3102. Southern French Civilization. (1.5 cr. [max 3 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3103. French Culture and Heritage. (1.5 cr. [max 3 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3104. French History of Art. (1.5 cr. [max 3 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3105. Scientific French. (1.5 cr. [max 3 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3106. French Literature and Oral Expression. (1.5 cr. [max 3 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3107. French Literature. (1.5 cr. [max 3 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3108. Southern French Literature. (1.5 cr. [max 3 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3109. Business French. (1.5 cr. [max 3 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3110. French for Science and Technology. (3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course

MONT 3119. Learning, Cognition, and Assessment. (3 cr.; Student Option; Every Fall, Spring & Summer)
This course is designed to provide students with the theoretical tools for learning (behaviorism, constructivism, and socio-constructivism) and to understand the link

with specific teaching contexts. In addition, students will learn about various approaches to evaluating students and the notions behind competency acquisition. Finally, students will explore the relevant areas of the field of neurosciences with the goal of developing appropriate methodological tools for learning assessment.

MONT 3121. Language Development from a Cross-Cultural Perspective. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This is an introductory and exploratory course to second language learning for teachers. Students are expected to master basic linguistic concepts to analyze second language productions through the study of their linguistic components. In addition, this course provides an introduction to second language acquisition theories, with attention being given to both child and adult learners. Major debates within the field of second language learning will be discussed and their implications for classroom-based language teaching will be explored. These include the role of implicit and explicit learning mechanisms and teaching approaches, the impact of age of acquisition, the role of learning context, and the impact of individual differences on second language acquisition. In addition, this course will devote time to exploring certain aspects of language learning in the European context, notably with respect to evaluation (CEFR) and as concerns plurilingualism initiatives that have been pursued in the French education system. In addition, a component of this course will explore the importance of incorporating culture in second language teaching and highlight the crucial interaction between language and culture in the classroom. Students will acquire tools for developing lesson plans that incorporate culture and promote cross-cultural comprehension.

MONT 3151. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3152. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3153. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student

in the Notes field directly underneath this course on their transcript.

MONT 3154. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3155. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3156. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3157. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3158. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3159. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3211. Introduction to Elementary School Teaching. (3 cr. ; Student Option; Every Fall & Summer)

This course will provide students with the tools for becoming an effective teacher, by underlining and exploring certain areas of the field of pedagogy. Major topics include: ?

Exploring the field of teaching foreign languages (with focus on English as a Foreign Language) ? Underlying principles related to how teachers learn to teach ? Pedagogical theories ? Personal values impacting the work of a teacher and ethical guidelines for the teaching profession ? Schools and the teacher?s world of work ? Teaching as a career development

MONT 3212. Teaching Practicum. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Under the supervision of University of Montpellier education faculty, students participate in a substantive teaching practicum in the English classroom in the local Montpellier schools. Students are also supervised and mentored by the English teacher in the local school. Group reflection meetings and one-on-one feedback from the University of Montpellier faculty provide context and mentoring.

MONT 3213. Comparative Education and Pedagogy. (3 cr. ; Student Option; Every Fall & Summer)

This course compares educational practices in the United States and in France. Major topics include: the beliefs, practices, and relationships that shaped human experience over time, methods and concepts employed in producing historical knowledge, how to do the interpretive work that makes meaning out of historical materials, and finally uses limitations of certain primary resources.

MONT 3251. University of Montpellier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3252. University of Montpellier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3253. University of Montpellier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3254. University of Montpellier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier.

The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3255. University of Montpellier

Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3256. University of Montpellier

Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3257. University of Montpellier

Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3258. University of Montpellier

Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3259. University of Montpellier

Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at the University of Montpellier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 3301. French Grammar and

Methodology. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3302. Civilization of the South. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3303. Internship. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3304. French Translation 1. (; 1.5 cr. [max 3 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3305. Literature of the Fantastic. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3306. Seminar in French Politics and Culture. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3307. France from All Sides. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3308. French Art History. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3309. French Conversation. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3310. Advanced French Grammar and Translation. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3311W. La France Mosaïque/French Multiculturalism. (WI; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

This course examines the cultural identity of France's inhabitants in detail. After all, why do we call it la France plurielle ? What does it mean to be French? Is that even a valid question? What are the origins of the French, and specifically how might a work of literature or a film reveal the various dimensions of their cultural identity? With these questions in mind, the first third of the course focuses on the history of immigration in France and the complex nature of the issue as it stands at the beginning of the 21st Century. The second third of the course is centered on mainland France, with a particular focus on those regions and populations asserting claims of independence (Pays Basque, La Corse, la Bretagne) or with strong cultural identities; we will also examine the role of minority languages, and a selection of literary works and films will serve to illustrate some of the distinctive features of each region. A similar approach will be used in the final part of the course, which will examine the rich diversity of the francophone world, and consider its influence on France's pluralistic identity. This is a writing-intensive course, offering a broad introduction to the critical methods, standards of scholarship, and body of knowledge specific to the discipline of French and francophone studies. The course will train students to understand and analyze texts and visual media, including sculpture, painting, manuscript illuminations, and film. Since it is writing intensive, particular attention is given to the content, style, and format of written assignments.

MONT 3312. Contemporary French Civilization. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3313. Masculine/Feminine: France through the Lens of Cinema. (3 cr. [max

6 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3401. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3402. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3403. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3404. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3405. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3406. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3407. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3408. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3409. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3410. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3411. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3412. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3413. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3414. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3415. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3416. Integrated Course. (; 1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3417. Integrated Course. (; 1-6 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3418. Integrated Course. (; 1-6 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3419. Integrated Course. (; 1-6 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3501. Special Course for Americans. (; 0-10 cr. [max 20 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad.

MONT 3502. Special Course for Americans. (; 0-10 cr. [max 20 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad.

MONT 3503. Special Course for Americans. (; 0-10 cr. [max 20 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad.

MONT 3504. Special Course for Americans. (; 0-10 cr. [max 20 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad.

MONT 3505W. Writing in French: Tools and Techniques. (WI; 3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)

This class is designed to introduce students to the techniques and tools required for both academic and personal writing. Over the course of the semester, students will learn how to write a variety of different types of texts including: the description, the compte rendu universitaire, the journalistic portrait, and other textual genres. The course consists of an analytic component in which students will be asked to study a text corresponding to a specific style. Students are then asked to explore the writing techniques employed in each type: reformulation, synthesis, rhetorical figures, persuasive language, expressing an opinion via judgment or values, impersonal language, inverted questioning of the reader, etc. and subsequently write in those styles. Students will be expected to complete numerous writing assignments during the semester. These exercises will be collected and graded on a regular basis, with the possibility for students to revise and improve each project. Course objectives include: learning how to write different types of documents, with different content, using different styles, applying the knowledge acquired in the grammar/methodology course, mastering the stylistic tools and techniques for writing in French (e.g., the use of hyperbole, metaphor, personification, diction, symbolism) acquiring the ability to think in French and write directly in the target language without translating.

MONT 3506. Directed Research. (; 1-6 cr. [max 12 cr.]; Student Option; Every Fall, Spring & Summer)

Study abroad course.

MONT 3507. Special Course for Americans. (; 0-10 cr. [max 20 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad.

MONT 3508. Special Course for Americans. (; 0-10 cr. [max 20 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad.

MONT 3509. Special Course for Americans. (; 0-10 cr. [max 20 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad.

MONT 3601. Institute Course. (; 1-8 cr. [max 16 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3602. Institute Course. (; 1-8 cr. [max 16 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3603. Institute Course. (; 0-8 cr. [max 16 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3604. Institute Course. (; 1-8 cr. [max 16 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3605. Institute Course. (; 1-8 cr. [max 16 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3650. Topics in French Culture. (; 3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3701. Sports and Culture in France. (; 3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

MONT 3801. Comparative Business Environment: France, Europe and the US. (3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course

MONT 3802. Global Business and Industry: France at the Crossroads. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course will examine similarities and differences among US, French and global business and industry environments and cultures. Topics will include the European Union (EU), as well as institutional, political, legal and socio-cultural factors at work in the contemporary business and industrial landscape. Students will learn and examine various contexts in business, education, workplace culture, and career pathways and options in France and abroad.

MONT 3886. Community Engagement in Montpellier. (CIV,GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)
This course will explore the historical, sociological, and political context of the French community but also in relation to Europe and

with a comparison with the American system. It will provide an opportunity for students to reflect on their community engagement in the host country environment. Students will engage in charities/French schools and then share their experience in a classroom. They will discuss topics linked to French society at large, approaching diverse subjects such as the youth in French society, the way the education system works in France and how it differs from the US, the French social system, the concept of ?la?cit?? (secularism) in France, the history of immigration from the 19th Century until today with the new waves of immigrant population, and race and gender issues. Students will have a closer look at French charity organization, NGO, and see how they work here in France. They will also examine leadership values in their country and see how they can adapt and develop them in their new environment. This course and students' engagement in the community will deepen their understanding of the host country cultural context and will lead them to critically examine their own worldviews. Topics explored will include ethnic and social responsibility, leadership, French social systems, multiculturalism in the French society, place of secularism (la?cit?) in the French society, history of immigration, and gender equality.

MONT 4151. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4152. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4153. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4154. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpellier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4155. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpelier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4156. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpelier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4157. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpelier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4158. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpelier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4159. University Paul Valery Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpelier program to represent a course taken at University Paul Val?ry. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4251. University of Montpelier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpelier program to represent a course taken at the University of Montpelier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4252. University of Montpelier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpelier program to represent a course taken at the University of Montpelier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4253. University of Montpelier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpelier program to represent a course taken at the University of Montpelier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4254. University of Montpelier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpelier program to represent a course taken at the University of Montpelier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4255. University of Montpelier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpelier program to represent a course taken at the University of Montpelier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4256. University of Montpelier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpelier program to represent a course taken at the University of Montpelier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4257. University of Montpelier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpelier program to represent a course taken at the University of Montpelier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4258. University of Montpelier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpelier program to represent a course taken at the University of Montpelier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4259. University of Montpelier Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on all LAC programs and tracks related to the Study Abroad in Montpelier program to represent a course taken at the University of Montpelier. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

MONT 4303. Adolescent Psychology. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course is designed to provide an introduction to the science of development during the period known as ?adolescence?? from the beginnings of the biological processes involved in puberty to sociocultural adulthood? and applications of that knowledge in practice and policy. Students will gain a foundational understanding of what is currently known about the transformational processes that shape human development as children mature into adults.

MONT 4312. Resilience in Children & Youth:Global Perspectives. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

How do children overcome hazardous experiences to succeed in life? What can be done to protect young people at risk from trauma, war, disasters, and other adversities? This course examines the global literature on resilience in children and youth. We will focus on the origins, methods, findings, controversies, and future of research on how young people overcome adversity, as well as the implications of this body of knowledge for fostering resilience in children and societies. This course combines a classroom seminar with a 6-module massive open online course (MOOC). The MOOC, Resilience in Children Exposed to Trauma, Disaster and War: Global Perspectives, is taught by Professor Ann S. Masten, Ph.D., LP from the University of Minnesota. Students will participate fully in the MOOC (see the detailed MOOC syllabus) in addition to attending seminar sessions in France (see schedule below). Students will experience global interaction by participating in a live MOOC online with other participants around the world combined with face-to-face dialogue in a seminar at the Program Center.

Study Abroad in Sydney (SDNY)

SDNY 1101. University of Technology Sydney Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Sydney study abroad program to represent a course taken at the University of Technology Sydney. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

SDNY 1102. University of Technology Sydney Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Sydney study abroad program to represent a course taken at the University of Technology Sydney. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

SDNY 1103. University of Technology Sydney Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Sydney study abroad program to represent a course taken at the University of Technology Sydney. The specific course

title will appear for each student in the Notes field directly underneath this course on their transcript.

SDNY 1104. University of Technology Sydney Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Sydney study abroad program to represent a course taken at the University of Technology Sydney. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

SDNY 1105. University of Technology Sydney Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Sydney study abroad program to represent a course taken at the University of Technology Sydney. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

SDNY 1201. Integrated Course. (1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SDNY 1202. Integrated Course. (1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SDNY 1203. Integrated Course. (1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SDNY 1204. Integrated Course. (1-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SDNY 3002. Art Down Under: From the Dreamtime to the Present. (; 3 cr. ; Student Option; Every Fall & Spring)
Works of art produced during the last century. Controversial contemporary Aboriginal art. Major 20th century art movements in relation to advances in technology, historical events, and sociological changes.

SDNY 3003. Australian Cinema: Representation and Identity. (; 3 cr. ; Student Option; Every Fall & Spring)
Personal/collective identity via film narratives. Extent to which Australian films reflected/determined Australian identities. What it means to be Australian. Concepts of national identity, imagined community.

SDNY 3004. International Business and Trade: Australia and the Pacific Rim. (; 3 cr. ; Student Option; Every Fall & Spring)
Establishment/growth of Australia's contemporary economic structure. How it relates to history of Australia's relationship with Asia. Dynamic of Australian economy, policies it faces. Changing context of Australia's identity and its political/economic policies toward Asia. Role of wars. Labor market. Immigration.

SDNY 3006. Learning Through Internships in Sydney. (; 3-6 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)

Internship course for Sydney program.

SDNY 3007. The Aboriginal Experience: An Anthropological View. (; 3 cr. ; A-F only; Every Fall & Spring)
Trends in contemporary Australian society. Emphasizes struggles of indigenous peoples.

SDNY 3008. Understanding Australia from a Sociological Perspective. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)
Sociological analysis of peoples, movements, and contemporary issues. Perspectives between culture and society. Constructions of Australian identity. Notions of ethnicity, gender, migration, crime, and the media.

SDNY 3009. Human Resource Management in the Australia/Pacific Rim Context. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)
How Australian and Pacific Rim companies are attempting to achieve competitive advantage in domestic/international markets through HRM. Structural changes HRM is undergoing in Singapore, Hong Kong, and Japan. Increased responsibility of line managers for HRM. Talent/performance/industrial relations management.

SDNY 3011. Australian Government and Politics in the Pacific Rim. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)
History, concepts, and structures of politics/government in Australia. Debates, problems, and changes in relation to Pacific Rim. Discussing these issues critically.

SDNY 3012. Intercultural Communication: Theories, Practices, Factors. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)
Communication between people from different racial, ethnic, and cultural backgrounds within Australia, including Aboriginal, and immigrant populations. Theory/research in intercultural communication. Improving human interaction in study-abroad environment and international contexts.

SDNY 3013. Analyzing and Exploring the Global City: Sydney. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SDNY 3014. Australian History: Aboriginal History to Colonization--Current Issues in Historical Perspective. (GP,HIS; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SDNY 3015. International Marketing. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SDNY 3016. Australian, Asian and Pacific Literatures. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SDNY 3017W. Writing the City - Sydney. (WI; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SDNY 3018. Advertising and Promotions. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SDNY 3019. Advertising and Society. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SDNY 3020. Indigenous Peoples and Modernity: Culture, Rights and Development in a Globalizing World. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

SDNY 3021. International Finance. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

SDNY 3022. International Economics. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

SDNY 3023. International Dimensions of Organizational Behavior. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

SDNY 3024. Global Workforce Management. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

SDNY 3025. Managing Global Supply Chains. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

SDNY 3026. People, Place and Culture: Environmental Debates in Australia, New Zealand and the Pacific. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

SDNY 3027. Investment Management. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

SDNY 3028. Gender, Culture and Society. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

SDNY 3029. Campaigning for Change: Advocacy, Activism and Policy in the Digital Age. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

SDNY 3030. Project Management Practicum. (3 cr. ; Student Option; Every Fall, Spring & Summer)
The Project Management Practicum enables students to apply the principles and practices of project management learned in the Project Management course to a project conducted in an organization by working through the design, implementation, monitoring, completion and evaluation stages of project management for the project. This practicum will run in a primarily concurrent fashion with the Project Management course?the two combine for a total of 90 hours during the intensive program. The two courses (Project management course/ Project Management Practicum) plus an internship form a track, however each course can be separately taken.

SDNY 3031. Skills and Challenges of Project Management. (3 cr. ; Student Option; Every Fall, Spring & Summer)

The project management course is designed as an introductory program specifically targeting students who intend to pursue careers in which the management of projects and/or programs is an area of responsibility. The course is designed to provide potential project managers with a systematic, structured framework and processes for the management of projects through the design, implementation, monitoring, completion and evaluation stages of project management.

SDNY 3032. Sports in Australian Society. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Sports hold a central role in the development of the Australian character and identity, through the interaction with the expanse of the new environment of the early settlers, evolving during the colonial era of the nineteenth century. Sports helped forge and provide a focus for Australian nationalism whether that be individual achievements or as a team, projecting Australians internationally on the global sporting stage. This course studies sports in Australian culture; the historical context through to its importance in today's Australian society; sports as a reflection of the masculine mono culture; Australian identity of 19th Century and early 20th Century through to diversity of modern Australia multiculturalism; and indigenous recognition and social structures will be studied. Themes covered in this course include volunteerism, gender, race, ethnicity, sexuality, amateurism and professionalism, globalization, integrity in sports (drugs in sports, influence of gambling on results, gene manipulation, and bio medical enhancements), trends and challenges of the future of sports, including doping in sports, rise of corporatization of sports, innovation and technology impact on sports, and the impact on Australian sports of the current Asian Century.?

SDNY 3033. Sports Management. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course provides undergraduate students with the critical understanding of the theories, concepts, knowledge and skills for managers in commercialized and community-based sports in the Australian context. The course considers the ranges of challenges facing the 21st-Century sports manager including a complex sociocultural environment, competitive business markets, managing a range of key stakeholders, the future of sports management, and strategic planning to meet future sporting organizations objectives. The course also evaluates how public policy, sports governance, and legislative requirements impact the management of sporting organizations. Finally, the course examines the wider social utility of sport in Australia, such as its role in community and the forming of national identity, as an opportunity for social improvement and general community well-being.

SDNY 3034. Sports Marketing. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course examines in detail the various techniques and strategies of sports marketing. The issue of professionalism and the corporatization of sport will be addressed. The focus on the necessity of securing various revenue streams including sponsorships, investment opportunities, government grants and fundraising potential of individuals, teams, clubs and facilities in the broad arena of sport. Students will examine the promotion of sports through various channels, including traditional media and the rise of digital marketing in its various forms. The ability to develop and implement marketing strategies and plans to present to individuals or organizations will be based around practical application using Australian case studies.

SDNY 3035. The Australasian Nightmare: Horror Films and the Traumatic Imagination on the Pacific Rim. (3 cr. ; Student Option; Every Fall, Spring & Summer)

The classic American horror film is derived from a gothic heritage, an inheritor of a European context and its tropes: the disintegration of civilization through wars, disease, economic collapse, and associated social traumas. The horror that the current, post-9/11 generation has produced is notably different; it plays upon central themes that derive from an Australasian context, driven by the recent horror films of Australia, Japan, and Korea. These influential films have been made and distributed outside of an American context but then repackaged for the West in remakes and variations that awaken an American audience to themes of horror that are decidedly non-European in substance. This course will examine these films, comparing and contrasting European and Australasian tropes for horror as well as their reflection of and impact on society.

SDNY 3036. Race and Ethnicity in Australia and the US. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course examines and compares race and ethnicity in Australia and the U.S. Similarities and differences in racial/ethnic historic and current conditions, causes, consequences, and policies in the two countries will be identified. By the end of the course, students will have greater understanding of the role of race and ethnicity in determining group and individual opportunities, restrictions, and life experiences. Students will become aware of the continuing importance of cultural and political factors in the salience of race/ethnicity in the two societies. Solutions for racial problems will also be emphasized.

SDNY 3037. Australia in the Global Political Context. (GP; 3 cr. ; Student Option; Every Fall & Summer)

This course examines the government and politics of Australia and Australian engagement in the Asia-Pacific region. It does so by surveying similarities with and differences from the North American democratic model and by examining Australia's substantial and abiding interests in the Asia-Pacific region. By the end of the course, students will be aware of the importance of geographical distance and location in the Australian story.

Students will also be aware of the continuing importance of cultural and political inheritance in the development of Australian public and foreign policy. Students will be encouraged to make comparisons with the US system of government and politics.

SDNY 3038W. Immigration: People Moving, Moving People. (CIV,WI,SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course will explore the causes and consequences of migration for communities, personal identities, national identities, politics, ethics, and the environment. The various reasons for people-moving and moving people across borders will be examined, as will the myths and controversies involved. How notions of belonging, citizenship, nationality, nationhood, and 'the other' are constructed, proliferated, and manipulated will be key themes throughout the course. Case studies will be drawn from both Australian and international examples, which field trips will supplement. Grades will be based on class and online participation, evidence of reading and independent research, and assessments both written and oral.

SDNY 3039. Abnormal Psychology. (SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course provides a contemporary overview of the psychological, biological, and experiential factors thought to influence human mental disorders. It will address questions such as 'What is 'abnormal'?' 'What causes mental illness and how do we treat them?' Each week students will explore a different disorder (for example, depression, anxiety, eating disorders, schizophrenia) and discuss the symptoms, causes, and empirically supported treatments.

SDNY 3041. Resilient Cities. (ENV,GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course is an introductory course on urban resilience and concepts in sustainability and its principles and the sustainable development of cities in the global, regional, and local contexts. The course will cover the environmental, socio-economic, and structural problems of contemporary cities and their consequences on natural systems and built communities. It provides a framework to examine the challenges of urbanism, issues facing cities, and an opportunity to evaluate and explore solutions.?

SDNY 3042W. Writing for Environmental Advocacy. (ENV,WI,GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course focuses on writing in response to the natural environment, primarily as a tool to raise awareness of environmental challenges and to advocate for ways to meet those challenges. We'll read a variety of voices and styles of advocacy writing, always with a strong focus on the craft of language: How does the writing reach its target and accomplish its goal? What makes the writing persuasive? Students will practice several modes of advocacy writing, via several shorter assignments, and the writing will be a central text of the course; that is, we will investigate and critique student writing in much the same way we do the assigned

published pieces. Students will devote much of the second half of the term to researching and writing a first-person article and presentation focusing on a specific environmental problem and advocating for a potential solution/s.

SDNY 3043W. Sports as Soft Power.

(GP,WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course examines sports as soft power (persuasion, influence, and attraction) in the attempt to bridge communities and cultures and on the local, national, and global stages. Case studies demonstrate the attraction and effectiveness of sports as a communication strategy utilized by local, national, and international governments and NGOs as part of a strategic communication plan, as well as its role in spontaneous grassroots movements. Critical to our studies is the appreciation that sport may challenge/reinforce social and cultural values at the local, national, and international levels.

SDNY 3044. Innovation and

Entrepreneurship. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This unit introduces you to the nature and characteristics of entrepreneurship and innovation and explores the interrelationship between the two within global and contemporary economies. The nature of enterprise behavior and the characteristics of entrepreneurs in both large and small organizations in Asia-Pacific and Western-based organizations are examined, as are the policy issues associated with encouraging enterprise and innovation within the wider community. The fundamentals of opportunity recognition and screening of new venture ideas are examined from both a local and global perspective.

SDNY 3045. Creative Thinking in New

Product and Service Innovation. (3 cr. ;

Student Option; Every Fall, Spring & Summer)

In increasingly competitive global markets, innovation in new product and service development has become a key success factor in delivering growth for the firm. However, despite a global push by organizations to foster innovation in new product development, many new products and services continue to fail. This highlights the need for managing the creative and commercialization process in new product and service development to optimize in-market success, across global markets. The focus of this unit is to inspire creativity in reframing problems that open disruptive opportunities and inspire novel product and service ideas that cross geographic boundaries. It also explores how to measure purchase intent amongst the desired target audience, identify predictive models of sales forecasting, develop prototyping, and prepare for a successful commercial launch.

SDNY 3046. Australia and The World:

Politics and International Relations. (GP;

3 cr. ; Student Option; Every Fall, Spring & Summer)

This course examines the government and politics of Australia and Australian engagement in the Asia-Pacific region. It does so by

surveying similarities with and differences from the North American democratic model and by examining Australia's substantial and abiding interests in the Asia-Pacific region.

By the end of the course, you will be aware of the importance of geographical distance and location in the Australian story. You will also be aware of the continuing importance of cultural and political inheritance in the development of Australian public and foreign policy. You will be encouraged to make comparisons with the US system of government and politics.

SDNY 3047. Global Health in a Post

Covid-19 World. (GP; 3 cr. ; Student Option; Every Fall, Spring & Summer)

COVID-19 has been described as a "once-in-a-generation" global emergency that has reverberated all aspects of global health practice. This course is designed to increase your awareness and appreciation for the deep and emerging ways in which individual countries and the global community have responded. We will examine the impact of the virus and its management on communications, communities, and health and development systems. Comparisons between the US, Australia, Italy, and China will be made to directly relate learning to your local setting as well as contrasting responses internationally. This will be a Globally Networked Learning experience with experts drawn from Australia, Italy, and China.

SDNY 3048. Locating Social Inequality.

(SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course focuses on the experiences of cultural and socio-economic difference in Sydney, and through global comparative analyses. This includes applied social science approaches to inequality, diversity, community, sense of place, and environmental sustainability in the urban setting. There is an emphasis upon spatial literacy for social scientists (fieldwork, mapping, data analysis, and place description).

SDNY 3101. University of Technology

Sydney Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Sydney study abroad program to represent a course taken at the University of Technology Sydney. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

SDNY 3102. University of Technology

Sydney Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Sydney study abroad program to represent a course taken at the University of Technology Sydney. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

SDNY 3103. University of Technology

Sydney Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Sydney study abroad program

to represent a course taken at the University of Technology Sydney. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

SDNY 3104. University of Technology

Sydney Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Sydney study abroad program to represent a course taken at the University of Technology Sydney. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

SDNY 3105. University of Technology

Sydney Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Sydney study abroad program to represent a course taken at the University of Technology Sydney. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

SDNY 3201. Integrated Course. (1-6 cr. [max

12 cr.]; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SDNY 3202. Integrated Course. (1-6 cr. [max

12 cr.]; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SDNY 3203. Integrated Course. (1-6 cr. [max

12 cr.]; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SDNY 3204. Integrated Course. (1-6 cr. [max

12 cr.]; Student Option; Every Fall, Spring & Summer)

Study abroad course.

SDNY 3375. Global Internship Course:

Sydney. (3-6 cr. ; Student Option; Every Fall, Spring & Summer)

3 Credit Course Option: The Global Internship Course (GIC) provides a unique and innovative opportunity for students to engage in an internship (and living abroad experience) while supported by academic in-class and online educational sessions to further develop their personal and professional skills while earning academic credit. GIC students also partake in out-of-class guided and self-guided activities and excursions that have been devised to enable students to become more comfortable with, and knowledgeable of, their internship locations/neighbourhoods. Field studies vary depending on location and may also include a focus on, for example, corporate social responsibility and sustainability. The GIC fits in with CAPA's philosophy and practice of enabling students to learn about the social and cultural context of their internship placement and the host region and country, as well as other GIC themes, through comparative global analysis. At times, this analysis will be facilitated through a small selection of CAPA Masterclasses given by leading professionals

from a diverse range of fields. The in-class active learning approach gives students the opportunity to discuss and analyze theories and models of work, organizational behavior, and management in a cross-cultural context. A variety of teaching and learning activities will be used, for example: lecture, workshop, discussion, informal and formal presentations, self-guided and guided research, and mock (recorded) interviews. The assessment mechanisms are all designed to support learning, using the internship and living abroad experience as a vehicle. Above all, the in-class CAPA sessions give students the opportunity to listen to individual experiences, compare and contrast activities 6 Credit Course Option The Global Internship Course (GIC) provides a unique and innovative opportunity for students to engage in an internship (and living abroad experience) while supported by academic in-class and on-line educational sessions to further develop their personal and professional skills while earning academic credit. GIC students also partake in out-of-class guided and self-guided activities and excursions that have been devised to enable students to become more comfortable with, and knowledgeable of, their internship locations / neighbourhoods. Field studies vary depending on location and may also include a focus on, for example, corporate social responsibility and sustainability. The GIC fits in with CAPA's philosophy and practice of enabling students to learn about the social and cultural context of their internship placement and the host region and country, as well as other GIC themes, through comparative global analysis. At times, this analysis might be facilitated through a small selection of CAPA Masterclasses given by leading professionals from a diverse range of fields. The in-class active learning approach gives students the opportunity to discuss and analyze theories and models of work, organizational behavior and management in a cross-cultural context such as Australia's historical place within a pan Asian market. A variety of teaching and learning activities will be used, for example: lecture, workshop, discussion, informal and formal presentations, self-guided and guided individual and team research, and mock (recorded) interviews. The assessment mechanisms are all designed to support learning, using the internship and living abroad experience as a vehicle. Above all, the in-class and supplementary on-line CAPA sessions give students the opportunity to listen to individual experiences, compare and contrast activities with others, and consider the experience in terms of their personal and professional development ? at the beginning we focus on self-reflection, and at the end of this process we challenge each student to focus on self-projection. At its core, GIC provides an opportunity for students to unpack, synthesis and articulate (the value of) their learning.

SDNY 3500. CAPA Seminar in Sydney. (3 cr. [max 6 cr.]; Student Option; Every Summer) Study abroad course

SDNY 3501. Telling the Story - Sydney. (1 cr. [max 2 cr.]; Student Option; Every Summer)

Study abroad course

SDNY 3895. Directed Research Project for Study Abroad. (3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) Study abroad course.

Study Abroad in Venezuela (VENZ)

VENZ 1002. Beginning Spanish. (; 5 cr. ; A-F only; Every Fall, Spring & Summer) Reading, speaking, listening, writing. prereq: Span 1001

VENZ 3015. Spanish Composition and Communication. (; 4 cr. ; A-F only; Every Fall, Spring & Summer) Development of communication skills. Comprehending written/spoken texts. Speaking, reading, and writing in Spanish, beyond intermediate level.

VENZ 3512W. Spanish-American Civilization: Modern Latin America. (WI; 3 cr. ; A-F only; Every Fall, Spring & Summer) Summary of history of countries of Latin America. Pre-Hispanic indigenous cultures, principal features of colonial society. Analysis of socio-cultural situation of Latin American countries in 20th century. Emphasizes artistic developments. prereq: Two yrs college-level Spanish

VENZ 3520. Geography of Venezuela in Spanish. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Venezuelan geography in its international context. Outstanding physical features. Socioeconomic patterns. prereq: Two yrs college-level Spanish

VENZ 3705. Structure of Spanish: Phonology and Phonetics. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Theoretical background in phonetics. Practice in oral articulation. Differences between Spanish spoken in Spain and in Hispanic America. Emphasizes Spanish spoken in Venezuela. prereq: Two yrs col-lev Span

Summer Study in Rome (ROME)

ROME 1001. Beginning Italian I. (; 5 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)

Basic listening, speaking, reading, writing, and communication skills. Cultural readings.

ROME 1002. Beginning Italian II. (; 5 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)

Basic listening, speaking, reading, writing, and communication skills. Cultural readings.

ROME 1003. Intermediate Italian I. (; 5 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)

Conversation/comprehension proficiency. Reading/writing skills. Grammar review.

ROME 1004. Intermediate Italian II. (; 5 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)

Conversation/comprehension proficiency. Reading/writing skills. Grammar review.

ROME 1200. Intensive Italian Language and Culture. (; 3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) Study abroad.

ROME 1300. Italian for Design. (1 cr. [max 2 cr.]; Student Option; Every Fall, Spring & Summer) Study abroad course.

ROME 1500. Survival Italian. (1 cr. ; Student Option; Every Fall, Spring & Summer) This course is designed as a survival language course with emphasis on developing the necessary language skills to handle the most frequent situations encountered while staying in Rome. It focuses on communication in everyday practical situations and aims at getting students started in learning Italian.

ROME 3001. Society, Citizenship, and Ethics in Post-Unification Italy. (; 3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) Culture/identity from Italian historical perspective. Students visit Orvieto, a medieval hilltop town famous for its paintings, frescos, and 'underground city' of tunnels/passageways.

ROME 3002. Roman Art. (; 3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) Uses Rome as a campus to address role of patrons, nationality of artists, and actual technical production of works of art. Students visit Pompeii, a city frozen in time that reveals the historical heritage of ancient Rome.

ROME 3003. Made in Italy. (; 3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)

"Made in Italy" as brand and lifestyle. Lectures, site visits, development of a student group marketing plan. Students visit Castello Banfi Winery in Tuscany.

ROME 3004. Italian Communications: Popes, Politicians, and Popular Culture. (; 3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) Study abroad course.

ROME 3005. The History of Art and Design in Italy: From Pompeii to Present. (; 3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) Study abroad course.

ROME 3006. Community Engagement in Rome. (; 3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) Study abroad course.

ROME 3007. Design Theory, Technology, and the Environment. (; 3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) Study abroad course.

ROME 3008. Sustainable Foods of Italy. (; 3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) Study abroad course.

ROME 3009. Italian Cinema. (; 3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) Study abroad course.

ROME 3010. Neighborhoods of Modern

Rome. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

ROME 3011. Roman Design Studio. (; 6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

ROME 3012. Intensive Italian Language and Culture. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

ROME 3013. Internships in Rome: A Comparative Approach to the Italian Workforce. (3-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

ROME 3014. Sport and Society in Modern Italy. (3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course

ROME 3191. Materials and Design: Integrity and Innovation. (2 cr. [max 4 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

ROME 3192. Remapping of a Neighborhood for Students of Architecture. (2 cr. [max 4 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

ROME 3193. Exploring Identity: Community Design for Marginalized Groups. (2 cr. [max 4 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

ROME 3194. As if People Mattered: Architectural & Urban Lessons in the Eternal City. (2 cr. [max 4 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

Summer in Sicily (SCLY)

SCLY 1201. Survival Italian Language. (1 cr. ; Student Option; Every Fall, Spring & Summer)

The course is designed for college students who are approaching the study of the Italian language for the first time. Lessons are held exclusively in Italian and take into consideration the need to combine the study of lexis and grammar with the development of communication skills and cultural awareness. The instructor encourages students to put the language structures and vocabulary studied in class into practice in real-life situations, thus accelerating the learning process and bringing students into contact with local society so that they may fully appreciate the way of life and cultural differences. This knowledge is an integral part of linguistic competence.

SCLY 3201. Sicily Design Lab. (3 cr. ; Student Option; Every Fall, Spring & Summer)
Physical making remains central to how we understand and design the world around us, even as we become a more digitally connected,

global world. These project-based, making-intensive courses celebrate the act and craft of individual hand-making in community with other makers. The specific theme and project change each year and are determined by the expert instructors in consultation with MADE Academy leadership. They are taught by international designers at the MADE Academy, at the Academy of Fine Arts in Syracuse, Italy. Students in these workshops will learn in the tradition of the expert and apprentice, working side by side with peers and expert art and design instructors from around the world. Each workshop will focus on a single team project; the prompt is issued at the start of the week, students work through the design and making throughout the week, and the project is reviewed five days later. At mid-week, students have a brief, independent assignment that extends the specific ideas of the workshop in the context of the learning abroad experience and the concurrent summer MADE Academy symposium content.

SCLY 3202. Migration, Human Rights & the Media. (CIV; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course is offered to undergraduate students interested in furthering their knowledge on migration, asylum, and human rights in Europe and in the Mediterranean. The course engages students through an interactive learning approach which takes place in Sicily, as one of the most crucial locations to directly observe, live, and experience migration challenges in the Mediterranean, as well as get the real sense of what managing migration ? crises? practically means. Located in the heart of the Mediterranean Sea, Sicily in recent years has become a critical southern borderland at the crossroad of migratory flows and one of the main gateways to Italy and the European Union (EU). While Italy is among the EU Member States that received the highest number of sea arrivals, within Italy Sicily was the major disembarkation location, accounting for 68% of the total number of sea arrivals in the country between 2014 and 2018. By receiving a large flow of people on the move, Sicily stands out as a crucial venue where to interact and engage with contemporary migration challenges and narratives. It offers the opportunity to study the many aspects of migration in Europe and in the Mediterranean in terms of politics, policies, and polity and in terms of the convoluted interaction among different narratives, discourses and actors (migrants and civil society?s voices, politicians, border guards, sea rescuers, human smugglers, media, etc.). Moreover, it allows comparative reflections with other critical southern borders.

SCLY 3203. Entrepreneurship in Southern Italy: Small Businesses as the Drivers of Social Development. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Building a new business is a difficult endeavor anywhere in the world; tenacity, creativity, and endless intrinsic motivation are needed to drive the entrepreneurial spirit. Successful entrepreneurship also requires government and institutional support, infrastructure, and investment. This is clear in the development

of ?hubs? ?tech, finance, AI, etc.?in urban centers around the globe. Such factors create business ecosystems where new entrants to a specific field can thrive. This is also true in Italy. As one of the world?s most industrialized economies, Italy has important manufacturing, finance, and agricultural hubs that foster entrepreneurial growth. However, in Southern Italy, the obstacles to entrepreneurship are outsized in comparison to Northern Italy. Poor infrastructure, low cooperation, and a lack of entrepreneurial education have helped to perpetuate the slow development of the South. Young people often move north or abroad to study and work. This phenomenon, oftentimes dubbed the ?brain drain,? can also be seen replicated in other highly industrialized countries, where capital, knowledge, and labor end up concentrating in specific geographical areas creating social divides. Nonetheless, entrepreneurship in Southern Italy is growing. In recent years, over 50% of new small businesses registered in Italy were concentrated in the South and Island regions of the country. Thanks to focused national and regional funding initiatives and collective advocacy movements for business development in Southern Italy, new companies have been able to take root.

SCLY 3204. Ethics & Integrity in Supply Chain: Fair Trade, Corruption, & Labor Rights in Sicily. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Ethics and integrity in supply chain management (SCM) are continually coming into question as global discussions of fair trade, labor practices, and corruption are more frequently exposed to be connected to business-as-usual practices. Sicily can be viewed as a microcosm of global supply chain challenges and as a laboratory for ethical business practices. From international labor market competition and inequality to the logistics of operating from an island and the implications of corruption and organized crime, businesses of all scales find themselves benefitting from the island?s geopolitical integration in the European Union but also struggling with poor infrastructure, transnational competition, complex transportation logistics, and shifting cultural beliefs. This course focuses on the language and tools of sustainability and responsibility as new standard currencies in business and challenges students to consider complex issues of ethics and integrity within real-world business cases in the Sicilian economic and socio-cultural context. As a result of this analysis, students will better understand the realities of applying ethical frameworks to complex, global business environments, and also recognize the medium- and long-term impacts of corporate decisions that can lead to not only thriving businesses ready to adapt to the demands of new and evolving markets, but also to sustain local communities and address complex economic and social challenges through innovation.

SCLY 3895. Research in Sicily. (4 cr. ; Student Option; Every Fall, Spring & Summer)
This course is an intensive research program offered to undergraduate students interested

in furthering their knowledge on migration, asylum, and human rights in Europe and willing to take part in a comparative research experience through field-based learning. The course engages students through an interactive learning approach which takes place in Sicily, as one of the most crucial locations to directly observe, live, and experience migration challenges in the Mediterranean, as well as get the real sense of what managing migration? crises? practically means. Moreover, it offers the chance to develop comparative research designs with other countries, regions, or critical southern borders elsewhere (e.g., US-Mexico border; Myanmar-Thailand border, etc.). Building on this background, this research program aims to introduce undergraduate students to some of the main research methods that are used to explain and do research on migration, asylum, and human rights in the Mediterranean. As there are many ways to do research on these topics, methodologies here included are not intended to be exhaustive. The program delves into the methodology and the research process and offers students the opportunity to learn some of the analytical methods and data collection techniques adopted to investigate migrants and asylum seekers, as well as to implement comparative research designs. Moreover, the course focuses on the ethical challenges which arise for researchers engaged in the study of migration and conducting fieldwork with migrants, including the vulnerability of the research subjects, the issue of transparency, the kind of language adopted, the potential unintended negative consequences for vulnerable actors, and the delicate relationship between the research and the migrant. Overall, the course aims to bridge the gap between theory and practice, giving students some guidance to understand, learn and experience some of the main appropriate research approaches, methodological and data-collection techniques in relation to the many aspects of migration. Moreover, students will have the possibility to shape their own questions and ensuing analysis, taking advantage of resources in Sicily as well as, possibly, analyzing data and sources in the US and implement a comparative research approach. Note that the Migration, Human Rights, & the Media course is a co-curricular course to this one. Any students taking this research course will also need to take the Migration, Human Rights, & the Media course to gain the relevant contextual knowledge of this complex topic.

SCLY 3896. Internship in Sicily. (3 cr. ; Student Option; Every Fall, Spring & Summer) The Sicily internship course is designed to provide students with an opportunity to reflect on the intercultural context of the host country's work environment. Through practical work experiences as well as readings, discussions, and written assignments, students will deepen their understanding of the host-country cultural context and critically examine their own worldview. The course is designed to provide students with the opportunity to become more knowledgeable regarding the local culture, organizational cultures, and the Italian

business environment in the urban context. It also offers them the unique opportunity to master teamwork and communicate in Italian and/or English. The course is designed to guide students in the workplace/internship experience and create a foundation for a successful professional career. The topics and assignments will help students gain a cross-cultural comparative view on work and deepen their insights about themselves, their area of study, and professional practice. This course focuses on themes students are expected to develop and enhance over the course of the program through class seminars and the internship experience, particularly work ethic; leadership; communication; multiculturalism; media and politics; and gender and the workplace.

Supply Chain and Operations (SCO)

SCO 3001. Sustainable Supply Chain and Operations. (3 cr. ; A-F or Audit; Every Fall & Spring)

Sustainable Supply Chain and Operations Management focuses on the design and management of transformation processes to provide products and services to create value for the people, planet, and firm prosperity. On the one hand, supply chain and operations management involves the integration of activities and processes, to facilitate the flows of materials, services, finances, and information to convert inputs into the firms' primary products and services. Operational issues include the design of products and processes, the procurement of raw materials, the control of inventories, the maintenance of quality, the planning of human resources and facilities, and the delivery of products or services, so that customer expectations and needs are met. Operations also have significant interactions with other functional areas of the firm (e.g., finance, marketing, strategy, and accounting). Therefore, understanding the role of the operations function and its impact on the competitiveness of the firm from both tactical and strategic aspects is an important part of any manager's training. This course will introduce students to the fundamental concepts, operations practices, and models in both manufacturing- and service-oriented firms. The course will cover both quantitative and qualitative methods.

SCO 3041. Project Management. (2 cr. ; A-F or Audit; Every Fall)

Principles and methods useful for planning and controlling a project, including development of project plan, resource planning and scheduling, and project monitoring and control. Selected computerized packages are studied, including PERT and CPM, and examples of different types of projects from manufacturing and service industries are used. prereq: 3000 or instr consent

SCO 3045. Sourcing and Supply Management. (2 cr. ; A-F only; Every Fall & Spring)

Strategic/operational role of purchasing/supply. Supply management. Supplier-selection criteria such as quantity, quality, cost/price considerations. Buyer-supplier relationships. prereq: 3001

SCO 3048. Transportation and Logistics Management. (2 cr. ; A-F only; Every Fall & Spring)

Linkages between logistics/transportation and marketing, operations, and finance. How different industries integrate logistics, warehousing, transportation, and information systems. prereq: 3001

SCO 3051. Service Management. (2 cr. ; A-F only; Every Fall)

Issues unique to managing service processes. Identifying service needs, designing services, and managing services. prereq: 3001

SCO 3056. Supply Chain Planning and Control. (4 cr. ; A-F or Audit; Every Fall & Spring)

This course teaches the essential tools and tasks to design an efficient supply chain planning and control system, including ERP, integrated business planning, forecasting, inventory management, capacity/production/material planning, and scheduling. prereq: 3001 or instr consent

SCO 3059. Quality Management and Lean Six Sigma. (4 cr. ; A-F or Audit; Every Fall & Spring)

Concepts and principles of Quality Management and Lean Six Sigma. Process improvement is an important part of every manager's job. Both the managerial and the technical aspects of quality improvement are considered. Three tiers of the quality field are presented including; quality frameworks, quality methodologies, and quality tools. The foundation starts with learning the overarching quality frameworks such as the Malcolm Baldrige Performance Excellence framework, Six Sigma process improvement, and ISO 9001. Next the course examines quality methodologies such as the six sigma DMAIC methodology, Rummler-Brache process improvement methodology, Lean Thinking, Plan-Do-Check-Act, and the Theory of Constraints. Applications of process improvement are conducted using the many tools of process improvement; SIPOC diagram, Critical-to-Quality Tree, cross-functional process maps, project charter, affinity diagram, quality function deployment, cycle of service, moments of truth, service recovery plan, control plan, statistical process control, control charts, process capability, balanced scorecard, performance metrics matrix, design of experiments. Lean tools such as; Kaizen, Kanban, Five Why, Andon, 5S, Gemba, 8 wastes, Takt time, standardized work, bottleneck analysis, poka-yoke, root causal analysis, and visual control. prereq: 3001 or equiv or instr consent

SCO 3072. Managing Technologies in the Supply Chain. (2 cr. ; A-F only; Every Fall & Spring)

Technologies and technological change within/between firms as opportunities for professional

leadership. Selecting technologies, nurturing their adoption, and ensuring their exploitation. prereq: 3001

SCO 4065W. Supply Chain and Operations Strategy. (WI; 4 cr. ; A-F only; Every Fall & Spring)

Senior capstone. How to achieve/sustain competitive advantage through consistent decisions in manufacturing/service operations. Marketing/business strategy in global context. Vertical integration, capacity, facilities, technology/infrastructure. prereq: 3001, 3056, 3059, 4 [OMS or SCO] elective cr

Sustainability Studies (SUST)

SUST 3003. Sustainable People, Sustainable Planet. (ENV; 3 cr. ; Student Option; Every Fall & Spring)

Introduction to interdisciplinary Sustainability Studies minor. Scientific, cultural, ethical, and economic concepts that affect environmental sustainability and global economic justice. Key texts. Participatory classroom environment. prereq: Soph or jr or sr

SUST 3017. Environmental Justice. (DSJ; 3 cr. ; A-F only; Every Spring)

With a focus on understanding environmental justice, including interconnections between health, economic and environmental disparities, this course shows students how they can take action for sustainability. Students synthesize multiple disciplinary perspectives and participate in small group collaborative activities, service learning, and digital mapping, all related to contemporary challenges.

SUST 3480. Topics in Sustainability. (; 1-4 cr. [max 24 cr.] ; A-F only; Every Fall, Spring & Summer)

Topics in sustainability encompass special courses related to issues such as renewable energy, food and waste systems, sustainable planning, water and climate change.

SUST 3501. Environmental and Cultural Diversity in China. (ENV,GP; 3 cr. ; A-F only; Every Spring & Summer)

This Global Seminar takes place in southwest China's Yunnan Province, a region of natural beauty and home to 26 ethnic minority groups. The program explores how an emerging international ecotourism sector affects the livelihoods and culture of remote ethnic communities at the edge of the Tibetan plateau. The ecology of the communities the class will visit, which are among the most biodiverse in the world, will be a focus for the program. Spectacular snow-capped mountains, alpine meadows, river gorges and grasslands are present. The climate is moderate and the air is clean in this region of China. A trek to a village not accessible by road and a homestay with a Tibetan farm family will be highlights for students in the course.

SUST 4004. Sustainable Communities. (; 3 cr. ; A-F only; Every Fall & Spring)

Students synthesize multiple disciplinary perspectives and integrate insights gained from various approaches/methods. Concepts/scholarship related to sustainability. Applying

knowledge/experience to real sustainability problems. prereq: [3003 or GLOS 3304, [jr or sr] in sustainability studies minor] or instr consent

SUST 4096. Sustainability Internship. (; 2-4 cr. [max 8 cr.] ; A-F only; Every Fall & Spring)

Four to ten hour per week internship experience related to a sustainability theme or approach, such as sustainable foods, green building, renewable energy or environmental justice. Intern in a nonprofit, governmental, educational or business organization, from choices provided or approved by instructor. prereq: Familiarity with sustainability concepts through academic work or other experiences

SUST 5480. SUST 5480 Topics in Sustainability. (; 1-4 cr. [max 24 cr.] ; A-F only; Every Fall, Spring & Summer)

Topics in sustainability encompass special courses related to issues such as renewable energy, food and waste systems, sustainable planning, water and climate change.

Sustainable Agricultural Syst (SAGR)

SAGR 4096. Professional Experience Program: Internship in Sustainable Agriculture. (1-3 cr. [max 6 cr.] ; S-N or Audit; Every Fall, Spring & Summer)

Professional experience in sustainable agriculture attained through supervised practical experience. Students create a learning agreement specific to their internship host and project, consulting with faculty advisers/hosts. This course meets the internship requirement for the Undergraduate Minor in Sustainable Agriculture. Prereq: Undergraduate minor in sustainable agriculture

Sustainable Systems Management (SSM)

SSM 1004. Sustainable Systems Management Orientation. (1 cr. ; S-N only; Every Fall)

Students will receive an introduction to the Sustainable Systems Management Major. They will learn about internships in the field and about career paths that they may follow. There will also be presentations and assignments on preparing resumes and finding jobs in this area. Graduates and professionals in the related fields of sustainable systems will present for the class. Combining course work and field trips, this class will provide students with the opportunity to meet their fellow students and to form a cohort of students with similar interests and career aspirations. prereq: None

SSM 2003. Systems Thinking: Development and Applications in Sustainability. (3 cr. ; A-F only; Every Fall)

This course will provide introduction to basic systems thinking fundamentals: defining a systems perspective about any situation or problem, solving problems with that perspective, describing and modeling problems, and designing and improving upon system solutions.

SSM 3093. Directed Study. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

SSM 3094. Directed Research. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

SSM 3301. Global Water Resource Use and Sustainability. (ENV; 3 cr. ; Student Option; Every Fall & Spring)

What is the value of clean water? Explore the many facets of water, earth's most abundant resource. Ponder the value water for you, society, a region or nation; the complexities of ownership and protection; the influence of culture and traditions; and potential impacts of climate change. Consider realistic and holistic solutions to water issues.

SSM 3503. Marketing of Bio-based Products. (; 4 cr. ; A-F or Audit; Every Fall)

Intro to marketing function as it relates to current/emerging bio-based products industries (building materials, paper, fuels, etc.). Product positioning, pricing, promotion, and channel management within strategic planning and environmental marketing management.

SSM 3612. Systems Approach to Building Science and Construction. (; 4 cr. ; Student Option; Every Fall)

Dynamic/interrelated issues of energy, moisture control, indoor air quality in residential bldgs. Design, construction, and operational aspects for energy efficient, durable structure/ healthy living environment. Interaction between moisture and wood products within building system. prereq: Upper div or instr consent

SSM 4407W. Sustainable Manufacturing Principles and Practices. (WI; 3 cr. ; A-F only; Every Fall)

In this course students will learn about ways in which companies are embracing sustainability in their strategy and operations to increase growth and global competitiveness, including manufacturing processes for major sustainable products and biobased products. This includes

processes and approaches for environmental mitigation and "green" manufacturing, reduce industrial waste and emissions, environmental footprint, and associated costs through more efficient manufacturing practices and incorporate bio-based product formulation. Students will acquire a working knowledge of management policies, tools and techniques to improve operational and environmental performance. prereq: Junior/Senior Status, Introductory Chemistry or instr consent

SSM 4416. Building Testing and Diagnostics. (; 2 cr. ; Student Option; Spring Even Year)

Theoretical basis for performance testing. Diagnostics applications for residential structures. Existing structures, retrofit/remedial applications. Digital differential pressure gauges, blower doors, airflow hoods/grids, duct pressure testing, infrared thermography. Hands-on equipment use, problem solving. prereq: 4413

SSM 4504W. Sustainable Products Systems Management. (WI; 3 cr. ; A-F only; Every Spring)

Concepts of new-product development and product management, their application to biobased products. prereq: Jr or Sr or instr consent

SSM 4506W. Sustainable Systems Management Capstone. (WI; 3 cr. ; A-F only; Every Spring)

This course provides students with an opportunity to conduct solutions-driven research in sustainable systems management. Students will work in groups on real-world problems that will require them to integrate the knowledge and skills they have developed in their previous coursework and internship experiences. Project topics will be solicited annually from industrial, corporate, governmental, and other external partners. All projects will require that students take an interdisciplinary systems thinking approach. Strong analytical and communicative skills will be emphasized and developed through iterative assignments. The course will be run by faculty teaching in the Sustainable Systems Management major. prereq: ESPM 3603 concurrent registration is required (or allowed) in Major seniors within two semesters of graduation.

SSM 4616. Building Science I: Fundamentals. (4 cr. ; Student Option; Fall Even Year)

Theory, advanced applications for residential buildings. Focuses on heat/mass transfer. Prereq: SSM 3612/5612 & SSM 4614/5614

SSM 4618. Building Science II: Applications. (3 cr. ; A-F or Audit; Spring Odd Year)

A capstone applications course, where students will learn how to apply key building science principles (from SSM 4616/5616 Building Science I: Fundamentals) to common building enclosure and mechanical system problems. Students will be guided to develop both qualitative and quantitative solutions for many common energy, moisture, and indoor air quality problems facing contemporary buildings. prereq: SSM 4616/SSM 5616

SSM 5093. Directed Study. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

A course in which a student designs and carries out a directed study on selected topics or problems under the direction of a faculty member; eg, literature review. Directed study courses may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed study will be required to use the University-wide on-line directed study contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed study counts towards CFANS major requirements.

SSM 5094. Directed Research. (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

An opportunity in which a student designs and carries out a directed research project under the direction of a faculty member. Directed research may be taken for variable credit and special permission is needed for enrollment. Students enrolling in a directed research will be required to use the University-wide on-line directed research contract process in order to enroll. Prereq: department consent, instructor consent, no more than 6 credits of directed research counts towards CFANS major requirements.

SSM 5407. Sustainable Manufacturing Principles and Practices. (3 cr. ; A-F only; Every Fall)

In this course, students will learn about ways in which companies are embracing sustainability in their strategy and operations to increase growth and global competitiveness, including manufacturing processes for major sustainable products and biobased products. This includes processes and approaches for environmental mitigation and "green" manufacturing, reduce industrial waste and emissions, environmental footprint, and associated costs through more efficient manufacturing practices and incorporate bio-based product formulation. Students will acquire a working knowledge of management policies, tools and techniques to improve operational and environmental performance.

SSM 5503. Marketing of Bio-based Products. (; 4 cr. ; A-F or Audit; Every Fall)

Introduction to marketing function as it relates to current/emerging bio-based products industries (building materials, paper, fuels, etc.). Product positioning, pricing, promotion, and channel management within strategic planning and environmental marketing management.

SSM 5504. Sustainable Products Systems Management. (3 cr. ; A-F only; Every Spring)

Concepts of new product development and product management and their application to bio-based products.

SSM 5612. Systems Approach to Building Science and Construction. (; 4 cr. ; Student Option; Every Fall)

Dynamic/interrelated issues of energy, moisture control, indoor air quality in residential

bldgs. Emphasizes design, construction, and operational aspects to provide an energy efficient, durable structure, and healthy living environment. Interaction between moisture and wood products within building system. prereq: Graduate Student

SSM 5614. Building Systems Performance: Testing & Diagnostics. (; 2 cr. ; Student Option; Spring Even Year)

Theoretical basis for performance testing. Diagnostics applications for residential structures. Focuses on existing structures and retrofit/remedial applications. Digital differential pressure gauges, blower doors, airflow hoods/grids, duct pressure testing, infrared thermography. Hands-on sessions for equipment use, problem solving. prereq: Grad student or instr consent

SSM 5616. Building Science I: Fundamentals. (; 4 cr. ; Student Option; Fall Even Year)

Building science theory, advanced applications for residential buildings. Focuses on heat/mass transfer. prereq: Grad student or instr consent

SSM 5618. Building Science II: Applications. (3 cr. ; A-F or Audit; Spring Odd Year)

This course is intended to be a capstone applications course, where students will learn how to apply key building science principles (from SSM 4616/5616 Building Science I: Fundamentals) to common building enclosure and mechanical system problems. Students will be guided to develop both qualitative and quantitative solutions for many common energy, moisture, and indoor air quality problems facing contemporary buildings. prereq: Graduate Student

Swahili (SWAH)

SWAH 1221. Beginning Swahili, Semester I. (; 5 cr. ; Student Option; Every Fall)

Comprehension, speaking, reading, writing.

SWAH 1222. Beginning Swahili II. (; 5 cr. ; Student Option; Every Spring)

Continuation of skill development from 1221. prereq: 1221 or equiv

SWAH 3225. Intermediate Swahili. (; 5 cr. ; Student Option; Every Spring)

Readings of contemporary Swahili texts. Review of grammar and complex verb forms. Vocabulary, communication skills. prereq: 1 yr Swahili or equiv

SWAH 3226. Intermediate Swahili II. (; 5 cr. ; Student Option; Every Spring)

Continuation of skill development from 3225. prereq: 3225 or equiv

SWAH 3425. Advanced Swahili. (5 cr. ; A-F only; Every Fall)

Speaking, reading, writing. An emphasis on vocabulary development and refining of grammar points and cultural issues. The materials to supplement the standard textbook include literary texts, film, music, newspaper articles, radio and TV broadcasts, audio, video and computer interactive material, and government documents. This course presumes

completion of intermediate level Swahili or its equivalent.

SWAH 4221. Beginning Swahili for Graduate Research I. (; 5 cr. ; Student Option; Every Fall)

Comprehension, speaking, reading, writing. Meets with 1221.

SWAH 4222. Beginning Swahili for Graduate Research II. (; 5 cr. ; Student Option; Every Spring)

Comprehension, speaking, reading, writing. Continuation of skill development from 1221. Meets with 1222.

SWAH 4225. Intermediate Swahili for Graduate Research. (; 5 cr. ; Student Option; Every Spring)

Readings of contemporary Swahili texts. Review of grammar and complex verb forms. Vocabulary, communication skills.

SWAH 4226. Intermediate Swahili for Graduate Research II. (; 5 cr. ; Student Option; Every Spring)

Continuation of skill development from 4225. prereq: 4225 or equiv

SWAH 4225. Advanced Swahili for Graduate Research. (5 cr. ; A-F only; Every Fall)

Speaking, reading, writing. An emphasis on vocabulary development and refining of grammar points and cultural issues. The materials to supplement the standard textbook include literary texts, film, music, newspaper articles, radio and TV broadcasts, audio, video and computer interactive material, and government documents. This course presumes completion of intermediate level Swahili or its equivalent.

Swedish (SWED)

SWED 1001. Beginning Swedish. (; 5 cr. ; Student Option; Every Fall)

Emphasis on working toward novice-intermediate low proficiency in all four language modalities (listening, reading, speaking, writing). Topics include everyday subjects (shopping, directions, family, food, housing, etc.).

SWED 1002. Beginning Swedish. (; 5 cr. ; Student Option; Every Spring)

Continues the presentation of all four language modalities (listening, reading, speaking, writing), with a proficiency emphasis. Topics include free-time activities, careers, and Swedish culture. prereq: 1001

SWED 1003. Intermediate Swedish. (; 5 cr. ; Student Option; Every Fall)

Emphasis on intermediate proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is combined with authentic readings and essay assignments. prereq: 1002

SWED 1004. Intermediate Swedish. (; 5 cr. ; Student Option; Every Spring)

Emphasis on developing intermediate mid-high proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is supported by work with authentic readings and essay assignments. prereq: 1003

SWED 4001. Beginning Swedish for Graduate Research. (; 5 cr. ; Student Option; Every Fall)

Emphasis on working toward novice-intermediate low proficiency in all four language modalities (listening, reading, speaking, writing). Topics include everyday subjects (shopping, directions, family, food, housing, etc.). Meets concurrently with 1001.

SWED 4002. Beginning Swedish for Graduate Research. (; 5 cr. ; Student Option; Every Spring)

Continues the presentation of all four language modalities (listening, reading, speaking, writing), with a proficiency emphasis. Topics include free-time activities, careers, and Swedish culture. Meets concurrently with 1002.

SWED 4003. Intermediate Swedish for Graduate Research. (; 5 cr. ; Student Option; Every Fall)

Emphasis on intermediate proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is combined with authentic readings and essay assignments. Meets concurrently with 1003.

SWED 4004. Intermediate Swedish for Graduate Research. (; 5 cr. ; Student Option; Every Spring)

Emphasis on developing intermediate mid-high proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is supported by work with authentic readings and essay assignments. Meets concurrently with 1004.

Theatre Arts (TH)

TH 1101V. Honors Section: Introduction to the Theater. (AH,WI; 3 cr. [max 4 cr.]; A-F only; Every Fall & Spring)

What is theatre? And what can it be? In this introductory course, we investigate the idea that while theatre is art, it also has consequences. Theatrical performance reflects, resists, and rewrites culture; it can (and does) perform the political by reimagining and transforming society. Through exciting examples of plays and productions from around the world, we investigate the history, politics, and aesthetics of theatre. We explore how the different components of theatre (from directing to acting, costume, and lighting design) come together to create powerful impact on stage. We read and discuss plays in class, see performances on stage, and hear from some of the Twin Cities's most dynamic and committed artists. And we work on valuable writing skills that help us to deepen our understanding of theatre and communicate our insights to others. At the end of the class, we bring together everything we have been learning to make theatre in small groups. No previous theatre experience is needed. Prereq: Honors student

TH 1101W. Introduction to the Theatre.

(AH,WI; 3 cr. [max 4 cr.]; Student Option; Every Fall & Spring)

What is theatre? And what can it be? In this introductory course, we investigate the

idea that while theatre is art, it also has consequences. Theatrical performance reflects, resists, and rewrites culture; it can (and does) perform the political by reimagining and transforming society. Through exciting examples of plays and productions from around the world, we investigate the history, politics, and aesthetics of theatre. We explore how the different components of theatre (from directing to acting, costume, and lighting design) come together to create powerful impact on stage. We read and discuss plays in class, see performances on stage, and hear from some of the Twin Cities's most dynamic and committed artists. And we work on valuable writing skills that help us to deepen our understanding of theatre and communicate our insights to others. At the end of the class, we bring together everything we have been learning to make theatre in small groups. No previous theatre experience is needed.

TH 1102. Stage, Screen, Society: Performance in the Media Age. (AH,CIV; 3 cr. ; Student Option; Every Fall)

From viral memes to 'fake news,' from video-gaming to vlogging, our rapidly changing media-scape is at the center of public debates about everything from mental health to the future of democracy. This course engages with these debates to understand the power of new media to shape our identities and values, our cultural habits and communities, our economy and political life. We discuss how we 'perform ourselves' through media, giving rise to social anxieties about truth, authenticity, equality, and belonging, but also to tremendous opportunities for self-expression and connection. And we investigate how our performances are monetized or instrumentalized by governments, social movements, or corporations. How did our current media system develop, and whose interests has it served? How, for better or worse, has the social media age changed us and the world we live in? And how can we make sure that in the future that change is for the better?

TH 1301. Acting/Non-Majors. (; 3 cr. ; Student Option; Every Fall & Spring)

Background/techniques of acting as viewed/practice in theatre, society, and student's own relationships.

TH 1321. Fundamentals of Acting & Performance. (; 3 cr. ; Student Option; Every Fall & Spring)

A fundamental overview of acting that focuses on strengthening the vital connection between physical and vocal expression and uniting instinct and intellectual analysis. Classes focus on ensemble awareness, situation and script analysis, character development and dramaturgical skills. In this course students develop their 'acting instrument': body, voice and imagination; they learn to make bold, specific choices in scripted and improvisational circumstances, they explore a range of physical and vocal expression, they develop the ability to respond and adapt to other performers onstage, and intensify their focus and presence in performance. Technique, theory and structured improvisation are incorporated with

scene work and collaborative performance projects, offering an opportunity to assimilate the principles covered. The course explores scripted scenes and monologues as well as original-student generated work.

TH 1322. Creating the Performance. (; 3 cr. ; Student Option; Every Fall & Spring)

An introduction to techniques of creating and directing performance, this course introduces students to the multiple paradigms of creating new and scripted work. Students examine the shifting role of the playwright, actor, and director as primary creator, interpreter, collaborator, and interdisciplinary artist and their relationship to a variety of performance modes. Students will direct traditional scripted scenes and collaborate to devise new work, exploring acting, writing, directing, and design to create solo and group performances. This course may be taken concurrently with some upper division courses. Specific approach may vary by instructor.

TH 1361. Singing for Musical Theatre. (; 3 cr. ; A-F or Audit;)

Beginning singing, interpretation, part singing, phonetics, and audition techniques for Musical Theatre. Solo and ensemble presentations at final class performance.

TH 1362. Dance for Musical Theatre. (; 2 cr. ; A-F or Audit;)

Movement based lab. Dance skills in musical theatre performance. Focuses on various styles/disciplines of dance throughout its culturally diverse heritage. Character development necessary to execution of various dance styles.

TH 1381. New Voices. (; 1 cr. ; S-N only; Every Fall)

Instructors lead students in four Saturday workshop intensives. Student forge interdisciplinary collaborations as they journey through their respective programs. prereq: [Fr or transfer] student from BFA actor training or BA or BFA dance or BA theater

TH 1391. BFA Acting I. (; 3 cr. ; A-F or Audit; Every Fall)

Acting. prereq: Accepted into BFA acting program

TH 1392. BFA Voice and Speech I. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Study/practice in breath centering/expansion; vocal resonance, musicality, placement; ear training; strengthening and making more flexible the muscles of speech. prereq: Accepted into BFA acting program

TH 1393. BFA Movement I. (; 2 cr. ; A-F or Audit; Every Fall)

Focuses on building a foundation for further work in program. prereq: BFA-acting major

TH 1395. BFA Acting II. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Continuing the process of interpreting dramatic material. prereq: 1391

TH 1396. BFA Voice and Speech II. (; 2 cr. ; A-F or Audit; Periodic Fall & Spring)

Building a foundation for further work in the program. Emphasizes practicing the sounds

of good American speech and of the written phonetic alphabet. prereq: 1392

TH 1397. BFA Movement II. (; 2 cr. ; A-F or Audit; Periodic Fall & Spring)

May include sections such as African dance, yoga, movement for actors, and circus techniques. Focuses on building a foundation for further work in the program. prereq: 1393

TH 1501. Introduction to Design for the Theatre. (; 3 cr. ; A-F only; Every Fall & Spring)

Introduction to Design for the Theatre explores the collaborative process of theatre making with a focus on theatrical design. Students will investigate scenic, costume, lighting, and sound design in an active environment through lectures, discussions, reading assignments, writing exercises, workshops, and experiential projects. This course aims to challenge students as creative thinkers and problem solvers along with preparing them for a future as collaborative theatre makers.

TH 1911W. Attending (to) Theater. (WI; 3 cr. ; A-F only; Every Fall)

How do we attend and attend to theater in the Twin Cities? This seminar introduces non-theater (and potential) majors to the richness of small and mid-sized theater in the Twin Cities such as Penumbra, Open Eye, and Ten Thousand Things, attending 8-10 performances together. Workshops and discussions with theater professionals will help us to develop critical and creative language to think, write about, and potentially create live performance. We'll think together about how theater might forge a different kind of "commonwealth."

TH 1912. Art Laboratory: A Place to Play. (; 3 cr. ; A-F only; Periodic Fall & Spring)

How do you define collaboration? This seminar presents the characteristics and the challenges of collaboration through representative approaches from the visual arts, music, literature, media, and theater. The seminar content is designed upon three pillars: the collaborative space, flow, and gesture. Through concrete problematic situations, in-class discussion, readings, and proposed themes students will work collaboratively to create a series of events/works to be presented in class. The art of collaboration is a laboratory, a place to play, inspire, question, and fail. It is a platform to unlock personal images, and to cross boundaries to further understand the role of creativity, and innovation while discovering expression across disciplines.

TH 1914. Cyborgs and Hackers: The Ethics of Digital Life. (; 3 cr. ; A-F only; Every Fall)

Beings with artificial intelligence have raised ethical questions ever since they were fictional characters, such as the robot in the silent film *Metropolis* (1927). As contemporary technology expands the use of artificial intelligence, principles of ethical responsibility are up for constant debate. We explore ethics in the age of technology by examining how humanity is imagined in the art, science, and everyday life of artificial intelligence. Theater plays and films about cyborgs invest them with feelings, and question their exploitation by

humans. Meanwhile, contemporary drones and robots are programmed with data drawn from humans, and evoke different fears of machines taking over the planet. We compare cyborg and hacking cultures to see how human and artificial intelligence engage with each other, and how their battles shape our concepts of intention and responsibility.

TH 2391. BFA Acting III. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Applying concepts of first year of training to an ensemble performance project. Beginning of Shakespeare foundation unit. prereq: BFA student in theatre arts

TH 2392. BFA Voice and Speech III. (; 2 cr. ; A-F or Audit; Periodic Fall & Spring)

Continuing to build a strong, healthy voice. Mastering written phonetics, sounds of good American speech for stage. Students begin to explore speaking of heightened verse, particularly Shakespearean text. prereq: BFA student in theatre arts

TH 2393. BFA Movement III. (; 2 cr. ; A-F or Audit; Periodic Fall & Spring)

Deepens/refines foundation laid in BFA Movement I/II. prereq: BFA student in theatre arts

TH 2395. BFA Acting IV. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Application of process towards performance. Emphasizes Shakespeare. prereq: BFA-Acting sophomore

TH 2396. BFA Voice and Speech IV. (; 2 cr. ; A-F or Audit; Periodic Fall & Spring)

Continuing to build a strong, healthy voice. Mastering written phonetics and the sounds of good American speech for the stage. Students begin basic dialect acquisition work for the stage. Emphasizes English/Irish dialects. prereq: BFA-acting, sophomore

TH 2397. BFA Movement IV. (; 2 cr. ; A-F or Audit; Periodic Fall & Spring)

May include sections such as jazz dance, partner dances, and movement for actors. prereq: BFA-acting sophomore

TH 3100. Theatre Lab Practicum. (; 1 cr. [max 4 cr.] ; S-N or Audit; Every Fall & Spring)

This course is for the student to gain more experience, develop new skills, or possibly hone current ones through practical application in the Theatre Arts Shops. Students will complete hours in the Scenery/Properties shop, Costume Shop, Sound/Media Lab, or Light Lab throughout the semester. Registration in TH 3100 is also available for students using show hours to serve in a production capacity on a main stage show, such as technical direction or master electrician.

TH 3115. Introduction to Playwriting. (; 3 cr. ; Student Option; Every Fall & Spring)

Study of traditional play structure, characterization, dialogue, dramatic action, and theme. Final project is a one-act play.

TH 3120. Theatre: Theory and Practice. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall & Spring)

Introduction to diverse ways of thinking about theatre and its representational practices.

Students explore traditional/non-traditional modes of performance through readings, discussions, and hands-on performance projects. Seminar-style course. prereq: 1101

TH 3152W. Global Avant-Gardes: Theatre, Music, Modernity. (HIS,WI; 3 cr. ; Student Option; Every Spring)

What does it mean to be an avant-garde artist in the Global South? In postcolonial Africa and Asia, where arts were linked to national modernization projects, artists have played a key role in shaping citizens' identity, alongside schools and universities. While participating in modernizing projects, avant-garde artists maintained independence from state institutions and voiced criticism of dictators. This course examines avant-garde performance in several locations of the Global South, analyzing dramas of national history, modernist music, activist theater, cosmopolitan dance, transnational cultural circuits, and politically radical performances. Reading historical, social, and performance studies, we will develop methods for analyzing performances that aim to make transformative social interventions. These include textual analysis, ethnography, performance analysis, and tracking transnational cultural exchange. You will apply select methods in your final research paper, which centers on an avant-gardist cultural phenomenon in the contemporary Global South.

TH 3171. Western Theatre & Performance Historiography: Part I. (; 3 cr. ; Student Option; Every Fall)

What does it mean to represent? By focusing on a critical examination of this and similar questions, this course will investigate how performance events from the Ancient Greece to the French Revolution are brought to our attention, how they are made worthy of notice, and how they are rationalized as significant for theatre and performance history. By studying the theories of the Western origins of theatre and drama, the censoring of creative activities in the Ancient Rome or in the Renaissance England, the appearance of female actors and playwrights in Restoration, and the fashioning of a new economic type the eighteenth century, this course will ask: what are the consequences today of using or promoting these and not other representational practices?

TH 3172. Western Theatre & Performance Historiography: Part II. (; 3 cr. ; Student Option; Every Spring)

?Dare to Think? is the motto for a critical examination of representational practices from the Age of Enlightenment until the Postmodern Condition today. We will discuss how theatre makers and thinkers responded to this call by offering playtexts and performance practices which challenged mainstream theatre in the era of the revolutions in time and space? Symbolism, Futurism, Dada, Surrealism; Agit-Prop, Theatre of the Oppressed, Theatre for Social Change; Black, Feminist, Queer Theatres; and Pixelated Revolutions. We will investigate histories, politics, and aesthetics of theatre and performance in a variety of cultural and ideological contexts.

TH 3300. Performance & Production Practicum. (1 cr. [max 8 cr.]; S-N only; Every Fall & Spring)

This course is for students to gain more experience or hone their skills through participation in a main stage production. Students cast as an actor in a main stage production or participating in the process through tech and performance as run crew, assistant stage managers, or a board operator would participate through TH 3300.

TH 3314. Text and the Actor. (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Standard stage speech, international phonetic alphabet transcription, and textual analysis to perform heightened language texts such as Shakespearean/Shavian monologues, Chaucer's Canterbury Tales, and Beowulf. Videos viewed/discussed. prereq: 1101, 1321, 1322

TH 3316. Voice for the Actor. (; 3 cr. ; A-F only; Every Fall & Spring)

Anatomy/physiology of vocal/respiratory mechanisms. Abdominal breathing, forward tonal placement, articulation of consonants, vocal projection. IPA phonetic transcription and vowel standardization for American Standard Stage Speech. Techniques applied to performance of monologues. prereq: 1101, 1321, 1322

TH 3321. Acting I. (; 3 cr. ; Student Option; Every Fall)

Acting I explores the acting process using the canon of 20th century realism. The class will cover the basics of embodiment for the actor, observation as the root of character creation, analysis of text from an actors perspective, and rehearsal techniques. The core of the course is the preparation of scenes and monologues in class. Students will also complete a variety of class compositions, readings, and will see and analyze live performances.

TH 3322. Acting II. (; 3 cr. ; Student Option; Every Spring)

Acting II explores the acting process using scripts from primarily heightened or non-realistic texts. This can include a range of genres from Shakespeare to absurdism to contemporary performance and plays. This course covers the basics of embodiment for the actor, creativity and observation as the roots of character creation, analysis of text from an actors perspective and rehearsal techniques. The core of the course is the preparation of scenes and monologues in class. Students will also complete a variety of class compositions, readings and will see and analyze live performances.

TH 3330. Physical Approaches to Acting. (; 3 cr. [max 6 cr.]; Student Option; Every Fall & Spring)

Dynamic physical approach to acting. Expanding expressiveness/creativity. Strengthening connections between physical/vocal expression. Uniting instinct and intellectual analysis. Techniques as advanced by Delsarte, Meyerhold, Grotowski, Kantor, Suzuki, Barba, etc., and structured improvisation, are incorporated in solo/ collaborative performance projects. prereq:

1322, [3314 or concurrent registration is required (or allowed) in 3314], audition, instr consent

TH 3332. Circus Performance. (; 1 cr. ; A-F only; Every Spring)

Strength/conditioning, aerial techniques. Acrobatics to improve timing/muscular structure. Juggling to improve hand-eye coordination and showmanship.

TH 3361. Introductory Musical Theater. (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

History of American musical theater. Videos/discussions, basic music theory, voice, dance, acting, audition techniques. Solo/ensemble presentations for public class performance.

TH 3365. Intermediate Musical Theatre. (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Musical theatre varying styles. Incorporating music into devised work, as well as strategies on updating traditional performance. Singing, interpretation, dance techniques. Culminates in presentations in public class performance. prereq: 3361 or instr consent

TH 3370. BA Masterclass. (1 cr. [max 4 cr.]; A-F only; Every Fall & Spring)

Prepare BA theatre performance majors/minors with essential skills that will enhance performing careers as actors, directors, playwrights. Attend non-traditional performances by national/international touring companies. Engage in vigorous discussions led by those artists who are at the forefront of creation models. Rigorous skill-building workshops led by artists, scholars, technicians.

TH 3381. Theater Storytelling and Solo Performance. (; 3 cr. ; Student Option; Every Spring)

Live storytelling and solo performance as theatrical art form. How to turn personal experiences into stage stories. Guests perform, discuss their work, and critique student work. Students develop short monologues/performances and conclude with original solo theater performance/story.

TH 3391. BFA Acting V. (; 3 cr. ; A-F or Audit; Every Fall)

Experiencing a foreign theater culture/history. Applying process of interpreting dramatic material to plays of that culture.

TH 3392. BFA Voice and Speech V. (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Experiencing a foreign theater culture/history. Applying voice training to dramatic material of that culture.

TH 3393. BFA Movement V. (; 2 cr. ; A-F or Audit; Every Fall)

Experiencing a foreign theatre culture/history, applying training to dramatic material of that culture. prereq: BFA student in theatre arts

TH 3395. BFA Intensive I. (; 2 cr. ; A-F or Audit; Every Spring)

Incorporating disciplines of acting/voice/movement. prereq: BFA-acting jr

TH 3398. BFA Rehearsal & Performance I. (; 2 cr. ; A-F or Audit; Periodic Fall & Spring)

Continuing the application of process towards performance. prereq: BFA-acting jr

TH 3399. BFA Rehearsal and Performance II. (2 cr. ; A-F or Audit; Periodic Fall & Spring) Continuing the application of process towards performance. prereq: BFA-acting jr

TH 3500. Design Practicum. (1-2 cr. [max 16 cr.] ; A-F only; Every Fall & Spring)

This course is for undergraduate students to gain more experience and hone their skills through design of a main stage or studio production. Students would participate as a main stage designer (2 credits), main stage assistant designer (1 credit), or studio project designer (1 credit) for one of the following: Scenery/Properties, Costumes, Lighting, Sound, or Media.

TH 3521. Introduction to Scenic Design for Theatre and Performance. (3 cr. ; Student Option; Every Spring)

This course explores the role of the scenic designer in imagining theatre in space and time. We will shape the arena of dialogue between performer and audience. We will propel action through spatial composition. We will make concrete the tensions and conflicts of the play. We will investigate the composition of emotional and visual space of the theatre. We will communicate ideas by honing skills of drawing, drafting, rendering, modeling, and presentation.

TH 3531. Introduction to Theatrical Costume Design. (3 cr. ; Student Option; Every Spring)

Costume design process, including, researching, script analysis, the costume designer's role throughout the production process, and design problems. prereq: TH 3571

TH 3541. Introduction to Lighting Design for the Theatre. (3 cr. ; Student Option; Every Spring)

Principles and processes in lighting design and lighting technology. Collaborative process of the lighting designer through individual and group projects in a theater, including script analysis and visual literacy through sketching, drafting, and light lab projects. Individual and group projects in composition, color theory, instrumentation, control (dimming), and programming as they apply to theater, opera, and dance.

TH 3559. Introduction to Sound Design for the Theatre. (3 cr. ; Student Option; Every Fall & Spring)

Basics of audio design for theatre. Script analysis, audio editing, music research, basic system design, paperwork, cue building. Basic components of audio design. Final project will involve applying skills to partially realized design. prereq: 1501

TH 3571. Introduction to Technology for the Theatre. (3 cr. ; A-F only; Every Fall & Spring)

This course is constructed to help each student experience the processes of theater production by working hands-on with production technologies & methodologies. Students will be divided into three teams for the entire semester which will move through several production disciplines & instructors; Scenic, Costumes,

& Lighting in rotations of eight class sessions each, and Audio for two class sessions. These classroom projects are reinforced with 4 hours per week of Lab [practical application and practice] in one of the shops. We will explore the interrelationship of Production Practice through three key elements; Production Processes & Modes of Communication - [Visual, Narrative, Data Sets]. Production Space Systems & Equipment - [Large Tools, Permanent Infrastructure, Auxiliary/ Temporary Infrastructure]. Production Skills & Techniques - [Small Tools, Proprietary Theater Equipment, Construction/ Installation Techniques]. prereq: 1501

TH 3700. Directing & Dramaturgy Practicum. (1 cr. [max 8 cr.] ; A-F only; Every Fall & Spring)

This course is for students to gain more experience or hone their skills through participation on a main stage production. Students would participate through one of the following: as an Assistant Director to a faculty director or guest artist OR as a dramaturg for the process.

TH 3711. Beginning Directing. (3 cr. ; Student Option; Every Fall & Spring)

The goal of this class is to introduce you to the basic work and process of the stage director. We will emphasize the practical tasks of analysis, casting, rehearsing, and staging. Our stylistic focus will be on contemporary realistic/naturalistic theater (rather than experimental forms or verse plays). The coursework will invite you to explore many aspects of the craft of directing, including the following: ? Defining the role of the director: responsibility & relationships to playwright/actors/audience. ? How to think and conceptualize like a director. ? What is blocking? How does it work? Who creates it? Staging actions and events. ? Understanding the building blocks of life on stage through composition & scene work. ? Analysis of dramatic text from the director's point of view (and expressing it in writing). ? Preparation in the role of the director ? historical/textual/ visual research. ? Rehearsing and working with actors - What makes a good rehearsal? What is the relationship between actors and director?

TH 3716. Stage Management. (4 cr. ; A-F only; Every Fall & Spring)

Production process, pre-production to maintaining/closing. Managing rehearsals, communication, conflict resolution. Individual/group projects: promptbook building, blocking notation, Cue placement/execution, scene breakdowns, creating/maintaining checklist, building a form library. prereq: 1501 or instr consent

TH 3760. Project Stage Management. (2 cr. [max 4 cr.] ; Student Option; Every Fall & Spring)

Practical application course of stage managing a BFA studio project or TH 4380 Creative Collaboration project, or a project of similar workload at the discretion of the instructor.

TH 3896. Internship for Academic Credit. (1-4 cr. ; Student Option; Every Fall, Spring & Summer)

An applied learning experience in an agreed-upon, short-term, supervised workplace activity, with defined goals, which may be related to a student's major field or area of interest. The work can be full or part time, paid or unpaid, primarily in off-campus environments. Internships integrate classroom knowledge and theory with practical application and skill development in professional or community settings. The skills and knowledge learned should be transferable to other employment settings and not simply to advance the operations of the employer. Typically the student's work is supervised and evaluated by a site coordinator or instructor.

TH 3950. Topics in Theatre. (1-4 cr. [max 8 cr.] ; Student Option; Every Fall & Spring) Topics specified in Class Schedule.

TH 3993. Directed Study. (1-6 cr. [max 18 cr.] ; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. prereq: 6 Th cr, instr consent, dept consent, college consent

TH 4115. Intermediate Playwriting. (3 cr. ; Student Option; Every Spring)

New methods of play construction. How characteristic plays from particular contemporary styles create original theatrical effects by using/breaking dramatic conventions. Writing exercises, workshoping of student plays. prereq: 3115 or [writing sample, instr consent]

TH 4177W. Analysis of Dramatic Literature. (WI; 3 cr. ; Student Option; Every Fall)

This course trains students in the analysis of dramatic literature and develops their research skills in theatre studies, helping them understand plays within their contexts of origin and production. Taking a single theme (ex. madness, or death and mourning) the class brings together contemporary and historical plays from around the world, exploring how theatre offers a unique site to stage differences, understand marginalized experiences, and imagine alternative visions of the world. Assignments break down the writing process into its component parts, and guide students in developing a sustained interpretation of a play of their choice.

TH 4181. Convicts, Crocodiles, and Contrasts: Exploring Australian Identity in Film and Literature. (GP; 3 cr. ; A-F only; Periodic Spring)

What is "Australian"? The content of this course will employ a cultural, literary, and film studies approach to exploring the development and representation of Australian identity through the lens of film, drama, and literature. The course will be a 3-week long study abroad course with pre-departure readings and films, on-site readings and activities, and a final project due upon return. Australia is an isolated place considered to be on the "edge of the world," simultaneously the oldest continent and a young civil society. It is a place evocative of wild stunning landscape, exotic wildlife, and a history as a convict colony. Since the birth of the Australian film industry in the 1950's

Australian filmmakers have sought to tell their own stories and to interrogate the idea of Australian culture. The global success of films such as *Mad Max*, *Crocodile Dundee*, and *Priscilla Queen of the Desert* have served to reinforce and disrupt stereotypes of Australia as a place and culture. In contrast, films such as *Rabbit Proof Fence*, *Animal Kingdom* and *The Sapphires* seek to tell alternative narratives. Themes such as the urban and rural divide, conquering nature, the place in society of indigenous communities, and fatalism are interrogated. Similarly, Australian writers such as Colleen McCullough, Kate Grenville, Tim Winton, and Liane Moriarty have gained international readership. Their novels, as well as others, use landscape and storytelling to create and challenge simplistic ideas of Australian history and culture. By studying the history and works engaged in creating and interpreting this idea of Australian identity, from Australian artists, students will be asked to engage in a more complex way with the ideas of heritage, culture, and national identity in general. Students will also read selected essays on Australian history and culture. The IDI (Intercultural Development Inventory) will also be used as a tool to engage with the dialogue on identity and culture in general.

TH 4321. Career Preparation for the Theatre Artist. (; 3 cr. ; Student Option; Every Spring)

From personal reflection to real-world insights and hands-on experiences, this course will delve deeply into the skill sets and mindsets important for arts professionals in theater and related fields. I envision our time together as a combined exploration of philosophical, political, and practical questions, thinking through who you want to BE as an artist, what you want your art to DO, and the TOOLS you'll need to manifest that vision in the world. The course will connect you with resources on and off campus, introduce you to professionals working in various facets of the field, engage you in readings and hands-on workshops to deepen your thinking and expand your toolkit, and will culminate in a portfolio project that you can take with you as you transition to life after college. Most importantly, I want this course to be useful and valuable to you, so I will be seeking your input about what you most need, and we'll shape the course accordingly.

TH 4322. Acting for the Camera. (; 3 cr. ; Student Option; Every Fall & Spring)

Differences between stage acting and acting for camera. Hands-on experience with film equipment. Scenes/monologues rehearsed/performed for camera. Videotape playback for class critique. prereq: 1301 or 3321

TH 4380. BA Studio Production: Creative Collaboration. (; 1-3 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)

Creative Collaboration is the cornerstone class for BA Performance, turning research into practice through scripted and devised performance paradigms. Each semester students will work with practitioners from eclectic backgrounds to develop original or scripted work focused in one of the six areas of performance; directing; physical theater;

realism, playwriting, music driven theater, and object/puppet theater. Classes will culminate in a formal or workshop performance, depending on the goal of each specific collaboration. Non-performers such as designers, dramaturgs and technicians may take the course for credit and serve as part of the collaborative team. The course is open to any University of Minnesota student through the audition or interview process.

TH 4382. Inventing Ireland. (GP,LITR; 3 cr. ; A-F only; Periodic Spring)

What does the idea of being Irish? mean? The content of this course will employ a cultural studies and performative theory approach to exploring the development and representation of Irish identity and Irishness? in the 20th Century through the lens of literature, drama, and film. The course will be a three-week long study abroad course with pre-departure readings and films, on-site readings of plays and short stories, and a final project due upon return. By studying the history and works engaged in creating and interpreting this idea of Irish identity, both from and external to Ireland, students will be asked to engage in a more complex way with the ideas of heritage, culture, and national identity in general. Students will also read selected of essays on culture and Irish history.

TH 4391. BFA Intensive II. (; 2 cr. ; A-F or Audit; Every Fall)

Applying first three years of training toward performance. Seventh in sequence of eight. Acting, voice, and movement. Integrating the disciplines. prereq: BFA student in theatre arts

TH 4393. BFA Rehearsal and Performance III. (; 2 cr. ; A-F or Audit; Periodic Fall & Spring)

Acting, voice, movement. Application of process toward performance. prereq: BFA student in theatre arts

TH 4394. BFA Rehearsal and Performance IV. (; 2 cr. ; A-F or Audit; Periodic Fall & Spring)

Acting, voice and movement. Application of process toward performance. prereq: BFA student in theatre arts

TH 4395. BFA Intensive III. (; 2 cr. ; A-F or Audit; Every Spring)

Incorporating the disciplines of acting/voice/movement. prereq: BFA-acting sr

TH 4398. BFA Rehearsal and Performance V. (; 2 cr. ; A-F or Audit; Periodic Fall & Spring)

Acting, voice and movement. Continuing the application of process towards performance. prereq: BFA-acting sr

TH 4399. BFA Rehearsal and Performance VI. (; 2 cr. ; A-F or Audit; Periodic Fall & Spring)

Acting, voice, and movement. Continuing the application of process towards performance. prereq: BFA-acting sr

TH 4532. Makeup for the Actor. (; 2 cr. ; Student Option; Every Fall & Spring)

Topics vary. May include functions/aesthetics of stage makeup, application techniques, prosthetics, and facial hair.

TH 4555. Audio Technology. (3 cr. ; Student Option; Periodic Fall)

Sound as science. Technology to create/manipulate sound. Recording techniques. Effects/signal processing. Microphone/mixing techniques. prereq: 1501 or instr consent

TH 4711. Intermediate Stage Direction. (; 3 cr. ; Student Option; Every Fall & Spring)

Coordinating/guiding collaborative artistic team. Script selection, textural analysis, concept development, space use, composition, movement, dialogue. Final presentation of scene. Intensive research, textural examination, journal. prereq: 1322 or instr consent

TH 4901. Capstone Project for Theater. (; 2 cr. ; S-N or Audit; Every Fall)

Development of senior project, alone or in groups, under guidance of faculty members. prereq: Sr, [Th or Dnce major]

TH 4905H. Honors: Tutorial Seminar in Theatre Arts. (; 2-4 cr. ; A-F only; Every Fall & Spring)

Independent reading/research in preparing honors thesis or selected creative project. prereq: Credit will not be granted if credit has been received for: 4905; honors, theatre arts, dept consent; limit [2 cr for [cum laude or magna cum laude], 4 cr for summa cum laude]

TH 5100. Theatre Practicum. (; 1-4 cr. [max 20 cr.] ; Student Option; Every Fall & Spring)

Individual creative projects in production of approved plays as an actor, director, dramaturg, or playwright. (See 5500 for design practicums.) prereq: instr consent, dept consent; 4 cr of 3100 for undergrads

TH 5103. The Theatre Dramaturg. (; 3 cr. ; Student Option; Periodic Spring)

Theoretical/practical aspects of dramaturgy in American theater. Historical perspectives. Research/production history of classics. Development of new scripts. Dramaturgical structure and interpretive choices. Dramaturgy as it relates to playwrights/directors. Preparing/editing the rehearsal script. Production dramaturgy.

TH 5117. Performance and Social Change. (; 3 cr. ; A-F or Audit; Periodic Fall)

Reading, writing, research, presentations and workshops explore activist performance projects. Theories of social formation and ideology provide framework to discuss/animate theater's potential for social change. prereq: Jr or sr or grad student

TH 5179W. Text and Performance. (WI; 3 cr. ; A-F or Audit; Every Fall)

How to read texts toward performance in various dramatic/nondramatic material. Method of unlocking metaphorical energy of texts. Vocabulary/techniques of analysis that transform text from page to stage. prereq: [1322, [3171 or 3172]] or grad student

TH 5181W. Blacks in American Theatre. (WI; 3 cr. ; Student Option; Periodic Spring)

Historical survey of significant events in the development of American black theatre traditions. Essays, plays, playwrights, and

theatres from early colonial references to the Black Arts Movement.

TH 5182W. Contemporary Black Drama and Dramaturgies. (WI; 3 cr. ; Student Option; Every Spring)

This course is an exploration of the impact and evolution of Black Theatre in America, covering the period rising from the Black Arts Movement to the present. The exploration will entail an understanding of cultural and socio-political issues as they are reflected in key and significant plays written and produced from the late 1950's to the present. The plays and essays will be read against the background of significant cultural, social and literary movements - the Civil Rights Movement, Cold War politics, the Women's Movement, Gay Liberation, the Culture Wars, post-modernism, deconstruction, multiculturalism, afro-futurism, etc. as well as the evolution of identity nomenclature and racial classification from Colored to Negro to Black to African American. In addition to play analysis and criticism, students will garner a knowledge of significant Black cultural institutions and their impact on the ever-changing American theatre landscape.

TH 5183. Critical Literacy, Storytelling, and Creative Drama. (; 3 cr. ; Student Option; Every Summer)

This course examines and embodies how storytelling and creative drama can be used as tools to help develop students' critical literacy and to assist them in becoming more fluent readers and writers. Critical literacy is the focus; theater and storytelling are the vehicles. Key topics to be covered include: 1) A historical background on fairy and folk tales, legends, fables, myths, and the different oral traditions; 2) Tools for developing a critical view of diverse tales; 3) Practical instruction on how to use storytelling and story genres in the classroom to develop critical literacy; 4) Assessing storytelling work in the classroom. Students will meet in the first week at the University to learn tools of the Neighborhood Bridges program and in the second week will practice and observe each other's teaching with local school classrooms. In the past we have worked with 4th graders and 6th graders, though we will also discuss how course content applies to high school students. The class meets for two intensive weeks in person, however, we additionally assign pre-readings and post-class reflections and papers.

TH 5330. Comedy: Advanced Physical Performance Studio. (; 3 cr. [max 9 cr.]; A-F only; Every Spring)

Mechanics of creating physical comedy. Focuses on process using clown, Comedia dell'arte, Bouffons, or improvisational comedy. Exercises on how comedy is born from tragedy and state of conflict within one's self. prereq: 3330, audition

TH 5340. Tragedy/Poetry: Advanced Physical Performance Studio. (; 3 cr. [max 6 cr.]; A-F only; Every Fall)

Specific tragic/poetic training paradigms in physical theater employed by Stanislavski, Grotowski, Brecht, Lecoq, etc. Psychological,

emotional, technical, and physical work. Tragic action in Greek tragedy, Shakespeare, Melodrama, operatic characterization, Brecht. Original tragic/poetical work. prereq: [3322, 3331, grad student] or instr consent

TH 5355. Puppetry: Techniques and Practice in Contemporary Theater. (; 3 cr. ; Student Option; Every Fall & Spring)

Fundamentals of puppet and object theater/performance are introduced through traditional/contemporary puppetry forms. Focuses on object theater, toy theater, hand puppets, and shadow/Bunraku-style puppets. Readings, in-class screenings of videos/slides. Students build/create series of short works for in-class performance. prereq: [[3513 or concurrent registration is required (or allowed) in 3513], instr consent] or grad student

TH 5370. Hand, Mind, and Gesture: An Independent Study in the Creation of Image Driven Performance. (3 cr. ; Student Option; Every Spring)

Create single or collaborative performance/event that lives in time/space. Work will draw from personal investigation, amplify personal signature, explore modalities of image driven forms. Propose, develop, construct, rehearse, present finished public performance. prereq: 5355, instr consent

TH 5500. Theatre Design Practicum. (1-3 cr. [max 20 cr.]; Student Option; Every Fall, Spring & Summer)

Individual projects in production of approved plays as a designer of scenery/properties, costumes, lighting, or sound. (See 5100 for other creative practicums.) prereq: Th 3521, 3531, or 3541

TH 5510. Drawing, Rendering, and Painting for the Theatre Designer I. (3 cr. ; Student Option; Periodic Fall & Spring)

Development of skills necessary for presentation of theatre scene/costume designs. Materials, layout, and techniques in scene painting. Basic drawing/graphic skills. prereq: 1501 or grad

TH 5520. Scene Design. (3 cr. [max 9 cr.]; Student Option; Every Fall & Spring)

Conceiving/communicating design ideas in both two-dimensional sketches and three-dimensional models for theatre and allied venues. Drafting. prereq: 3521

TH 5530. Costume Design. (3 cr. [max 9 cr.]; Student Option; Every Fall)

Theory and process of costume design for theatrical productions (e.g., dance, opera, film) through hypothetical productions. prereq: 3531

TH 5540. Lighting Design for the Theatre. (3 cr. [max 9 cr.]; Student Option; Every Spring)

Design aesthetics and exploration of design for various stage forms and venues. Development of the lighting plot and paperwork; use of the computer in lighting design. prereq: 3541

TH 5545. Stage Lighting Technology. (; 3 cr. ; Student Option; Periodic Fall)

The lighting technician's skills and crafts: equipment, techniques, control operation, wiring, and maintenance. prereq: 3515 or grad or instr consent

TH 5554. Multimedia Production for Live Performance. (; 3 cr. ; Student Option; Periodic Fall)

Use of multimedia production technologies in actual production. Students apply knowledge/skill in conjunction with an artistic team on a production and are an integral part of the development/realization of that production. prereq: 5553 or instr consent

TH 5556. Audio Engineering. (; 3 cr. ; Student Option; Periodic Spring)

Miking/recording techniques specific to music/dramatic dialogue. Recording different styles of music. Hands-on recording of bands, doing final mixes to demo CD. Field trips to professional studios and club/concert recordings. prereq: 4555, instr consent

TH 5559. Sound Design for Performance. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Audio technology/psychology, their impact on audience in a performance. Communication, design process, psychoacoustics, script analysis. prereq: 4555 or instr consent

TH 5560. Drawing, Rendering, and Painting for the Theatre Designer II. (; 3 cr. ; Student Option; Periodic Spring)

Development of skills necessary for presentation of theatre scene/costume designs. Materials, layout, and techniques in scene painting. Rendering and scene painting skills. prereq: 5510

TH 5570. Properties/Scenery Technology. (; 1-3 cr. [max 15 cr.]; Student Option; Every Fall & Spring)

Management, structures, upholstery, mask-making, furniture construction, stage mechanics, soft properties, faux finishes. Topics specified in Class Schedule. prereq: 3515 or grad or instr consent

TH 5580. Costume Technology. (; 3 cr. [max 15 cr.]; Student Option; Every Fall & Spring)

Fabric enhancement techniques, masks, wig-making, millinery, makeup prosthetics, pattern drafting, and draping. Topics specified in Class Schedule. prereq: 3571 or grad or instr consent

TH 5590. Theatre Technology Practicum. (; 1-3 cr. [max 15 cr.]; Student Option; Every Fall, Spring & Summer)

Individual creative project in technology/craft area of theatre. Practical work in costume, lighting, makeup, props, scenery, sound, or theatre management. prereq: 3515, instr consent, dept consent; 4 cr max for undergrads

TH 5711. Advanced Stage Direction. (; 3 cr. ; Student Option; Periodic Fall & Spring)

Realistic/non-realistic dramatic forms. Theory/technique of rehearsal. Production problems. Includes directing of three one-act plays. prereq: [4711, instr consent] or grad student

TH 5716. Stage Management for the Theatre. (; 4 cr. ; Student Option; Every Fall)

Theories, practicalities, and techniques for rehearsal/performance. Organizing/managing various types of performance venues. prereq: [1101, 1321, soph] or grad

TH 5718. Principles of Arts Management. (3 cr. ; Student Option; Periodic Spring)

This course will introduce students to the practical skills required for the successful management of arts organizations. Areas covered will include marketing/publicity, fundraising, audience development, board governance, and issues associated with the founding of a nonprofit arts organization. Each class we will engage in discussion relating to articles shared by the instructor. You will participate in group and solo projects aimed to hone your skills in various areas of management. Additionally, students will engage in discussions with a number of professionals in the field of arts administration, and discover advanced concepts applied by arts administrators.

TH 5760. Advanced Stage Management. (; 2 cr. [max 6 cr.]; Student Option; Every Fall & Spring)

TH 5760 is practical experience in stage management for specific productions of the University Theatre with emphasis on rehearsal and performance. In addition to rehearsals, design meetings, and performances, the students will meet with the Production Stage Manager weekly. The purpose of this weekly meeting (class) is to mentor a lead Stage Manager of a TAD Mainstage. The Mainstage Stage Manager and PSM will meet weekly for 90 minutes. Each weekly meeting time will be determined based on the individual students' schedule. Weekly meetings will begin two weeks prior to their first rehearsal and end one week after the final project performance. Attendance of individual weekly meetings are required and expected. Please be on time. Always bring your promptbook and laptop. Be prepared for weekly discussion. PSM will visit rehearsals weekly.

TH 5950. Topics in Theatre. (; 1-4 cr. [max 80 cr.]; Student Option; Every Fall, Spring & Summer)

Topics specified in Class Schedule.

TH 5993. Directed Study. (1-5 cr. [max 20 cr.]; Student Option; Every Fall, Spring & Summer)

Guided individual reading or study. Prereq 6 Th cr, instr consent, dept consent, college consent.

Toledo International Program (TLDO)

TLDO 1401. University of Castilla La Mancha Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Toledo study abroad program in Toledo, Spain, to represent a course taken at the University of Castilla La Mancha. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

TLDO 1402. University of Castilla La Mancha Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Toledo study abroad program in Toledo, Spain, to represent a course taken

at the University of Castilla La Mancha. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

TLDO 1403. University of Castilla La Mancha Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Toledo study abroad program in Toledo, Spain, to represent a course taken at the University of Castilla La Mancha. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

TLDO 1404. University of Castilla La Mancha Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Toledo study abroad program in Toledo, Spain, to represent a course taken at the University of Castilla La Mancha. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

TLDO 1405. University of Castilla La Mancha Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Toledo study abroad program in Toledo, Spain, to represent a course taken at the University of Castilla La Mancha. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

TLDO 3001. 20th Century Spanish Literature. (; 3 cr. [max 6 cr.]; A-F only; Every Fall, Spring & Summer)
Spanish literature.

TLDO 3002. Survey of Spanish American Colonial Literature. (; 3 cr. [max 6 cr.]; A-F only; Every Fall, Spring & Summer)
Spanish American literature.

TLDO 3004. Marketing in European Business. (3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course.

TLDO 3005. Introduction to Interpretation for Spanish Speakers. (3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course

TLDO 3006. The Camino de Santiago: Past and Present. (3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)
Study abroad course

TLDO 3007. Comparative Public Health. (GP,SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)
Public health systems are facing an increasing number of challenges: the pressures of globalization, aging populations, and the increase in patient lawsuits, as well as the high costs of medical research and treatments. With these issues in mind, we must critically analyze the manner in which medical care is provided in different systems so that we can design and adapt systems that provide high quality, effective, and efficient health care.

Changes made to health care systems are frequently based on economic and political considerations, and many countries are currently experiencing significant challenges in health care that depart from the way their health care has been financed and provided in the past. This course will introduce students to the Spanish health care system and the context in which it is developing, studying the key changes that have taken place up to the present day. Based on a series of case studies, students will be able to compare the Spanish health care model with other models like those of the United States, the United Kingdom, France, Sweden, and/or developing nations. You will compare health care systems and performance on a variety of topics including morbidity and mortality, disease ranking, health system cost, quality, and safety to name a few. You will also develop your critical evaluation skills to analyze the quality of the evidence used to support the policies and practice of health care. This will enable you to critically observe the role governmental and non-governmental organizations play with regard to health care and health status. Throughout the course, special attention will be paid to comparisons between Spain and the United States with a focus on identifying and understanding health disparities and how each country and their health system are addressing elimination of health disparities. Health disparities exist for a variety of reasons, and this course will help you understand what those factors are, and how each country is attempting to improve the social determinants that directly contribute to health disparities.

TLDO 3008. Healthcare Marketing and Communication. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course centers around the knowledge, analysis, and management of communication and marketing in the healthcare setting, and how it is applied to different audiences? from specialized groups, such as healthcare professionals, to more general audiences, such as the society at large?to communicate the importance of healthcare policies in an increasingly global atmosphere that requires patient-centered care, incorporation of innovation and efficiency, as well as a goal of sustainability. In Europe, in general, and in Spain, in particular, the healthcare systems are primarily public, and the communication objectives created by institutions are primarily directed toward spreading information, creating awareness, and managing reputation, in contrast with other healthcare systems, such as the American system, which are based on a system of private insurance. Thus, European healthcare institutions, in addition to their large responsibility to manage healthcare, place great importance on communication and marketing policy, on issues of managing and maintaining resources, communicating results, prevention campaigns, and campaigns to create awareness of public expense. At the same time, there is a component of policy-related and institutional communication with regards to advancing the healthcare system, which includes topics that are difficult to transmit to the citizen such as the system's

short-term and long-term sustainability and equality within the system. Complementing the public European healthcare systems, private or civil organizations such as private health centers, the pharmaceutical industry, and patient and professional associations play an important role. Among the primary parties with which they interact to maintain functioning and protect their interests is the government administration. For this reason, their efforts in institutional relationships, reputation management, and communication with the society at large plays an important role in their daily workings and their place in the healthcare system. In addition, all these organizations have an ongoing relationship with the media, both general media as well as those specialized in healthcare correspondence, and, at this time, are facing the same business model changes in the area of communication. Those changes are leading them to develop and expand in the realm of digital communication.

TLDO 3009. Diversity in Global Health.

(GP,SOCS; 3 cr. ; Student Option; Every Fall, Spring & Summer)

This course will dive into sociological diversity and existing culture in order to reflect on the influence of global and local dynamics on the health of different populations. Beginning with a historical overview that will bring us to the paradigm of social determinants of health and its successive reformulations (Dahlgren & Whitehead, 1991; Acheson, 1998; OMS, 2005), we will begin to study the topic of equity in health, defined as the absence of potentially remediable, systematic differences in one or more aspects of health across socially, economically, demographically, or geographically defined population groups or subgroups. (Maconko & Starfield, 2002). At the same time, we will study the topic of health inequities, which consist of health differences between different populations that are important, systematic, avoidable, and unjust (Whitehead, 1992).¹ We will learn about the ecological and sociological dimensions using models like Sustainable Development Goals or questioning supposedly universal constructs like the Human Development Index, while remembering to reflect on concrete social situations and the cultural setting in which they develop. The concept of health will be approached from its widest and most holistic dimension to introduce the contribution of the social sciences, from a global perspective on health to more specific contexts, and the differentiation between disease, discomfort, and illness. We will debate on the importance of terms like health care systems, pluralism, and alternative therapies and, finally, we will be introduced to a socio-cultural perspective to help us rethink concepts like health, hygiene, or care. The health care mechanism, the institutionalization of care, and the functioning of these institutions will be another focus of our attention, analyzing the characteristics of teamwork, leadership or the formation of stereotypes. In this sense, we will try to bring together a dual perspective which includes a reflection on society and patients, and the continual questioning of our function as

professionals in the area of health care and research. In a more practical sense, we will analyze perspectives on determinants of health in groups made vulnerable by their condition or stigmatization in a determined society (we will focus on the local situation but also extend the comparison and reflection to other places), also questioning the acceptance of terms which we hear often as health care professionals and in coordination with other disciplines such as dependency or normality. ?????????? 1 Quotation translated from Spanish by translator. Original English quotation could not be found and may differ somewhat from translation above.

TLDO 3012. Global Bioethics. (CIV; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Bioethics was initially projected with very wide objectives. V.R. Potter understood it as a dialogue between scientists and humanists to preserve humanity from its self-destruction and promote quality of life. In his words, "Mankind is urgently in need of a new wisdom that will provide the knowledge of how to use knowledge for man's survival and for improvement in the quality of life." I therefore propose the term bioethics in order to emphasize the two most important ingredients in achieving the new wisdom that is so desperately needed: biological knowledge and human values. The Encyclopedia of Bioethics, edited by Warren Reich in 1978, suggests the following definition of bioethics: "systematic study of human conduct in the area of the life sciences and health care, insofar as this conduct is examined in the light of moral, values, and principles." The complex, multi-disciplinary model of modern healthcare creates numerous ethical conflicts. When the values of all the actors are taken into account when making decisions, there is inevitably disparity of criteria. The conflicts generated are not merely technical; they are also ethical, because the values of the people or institutions involved can be in conflict. In these instances, it is important that the medical professional knows to consider technical issues (the medical facts) and the values at play (the preferences of those involved, principles, norms, etc.), in order to make a good decision. At present, bioethics is considered a practical or applied ethics (to biomedicine), that attempts to resolve ethical dilemmas present in biomedicine. There are various fields within bioethics. The most relevant are foundational bioethics (which deals with the philosophical foundations of bioethics), environmental bioethics, clinical bioethics, and the bioethics of research. Bioethical issues tend to be complex problems that extend beyond the limits of a sole profession, for which reason it is essential to consider the input of healthcare professionals, philosophers, lawyers, psychologists, social workers, sociologists, and any other profession involved in the most hot-button ethical issues relating to the life sciences. All the fields mentioned have great relevance due to the importance and prevalence of the issues taken on by bioethics. There are a great number of publications that indicate how numerous professionals confront common, difficult-to-regulate bioethical dilemmas in the clinical sphere as well as

the in the area of research or in relation to the environment, but the formation needed to tackle these problems is insufficient. In a significant number of these articles, it is concluded that it is necessary to improve the bioethical formation of future professionals to be able to better address these issues. For this reason, education in bioethics has become a priority both in the United States and in Europe, as well as the rest of the world, as these issues are not limited to a specific area, but rather are global.

TLDO 3022. Spanish for Business and Professional Life Development. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer) Vocabulary/usage of interest in business, economics, international relations, or tourism. prereq: Two yrs of college-level Spanish

TLDO 3023. Cross Cultural Business: Business in Spain and the United States Compared. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Contemporary business environment of Spain. Social, economic, and political context. Labor market, financial markets, legal framework. Impact of European single market.

TLDO 3024. Tracing Three Cultures in Spain. (; 3 cr. [max 6 cr.] ; A-F only; Every Spring & Summer)

Three-week intensive course. Lectures, discussions, field trips, including Madrid's 'Museo del Prado', 'El Escorial' Palace, Guided Tours of Judaic Toledo and Mozarabic Segovia. Christian, Muslim, and Jewish culture in literature/art, how they conform to identity of modern Spain. Sephardic heritage in literature/architecture in Toledo. Interaction between Islamic/Hispano-Mozarabic artists. Role of Epic/Reconquest in medieval Spanish literature. Religious painting, Christian iconography during Baroque/Counter-reformation periods.

TLDO 3025. Exploring Spanish Culture Through Digital Technology. (; 3 cr. [max 6 cr.] ; A-F only; Every Summer) Study abroad course.

TLDO 3044. Medical Spanish. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This class is designed for students at the advanced Spanish level who want to learn specific medical vocabulary, concepts, and expressions used in Spanish language health systems. An additional goal of the course is to improve students' knowledge about Spanish society and culture because of the key role this plays in working effectively as a health professional in such a context.

TLDO 3104W. Art of Reading Literary Texts. (WI; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Critical reading of Spanish and Spanish-American texts. Novels, dramas, poetry, essays. Diverse approaches. Terminology of criticism, literary problems, techniques. prereq: Two yrs of college-level Spanish

TLDO 3105W. Cultural Heritage of Spain. (WI; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Main periods of Spanish history. Political, social, anthropological, and economic characteristics of each. Spanish culture/society, from beginning of Franco regime in 1939 to present. Cultural trends in literature/arts in relation to social phenomena. prereq: Two yrs of college-level Spanish

TLDO 3107W. Introduction to the Study of Hispanic Linguistics. (WI; 3 cr. ; A-F only; Every Fall, Spring & Summer)
Phonology, morphology, syntax, semantics, lexicology, pragmatics, discourse analysis, sociolinguistics. History of Spanish language. Introduction to Hispanic linguistics as a discipline in relation to social, cultural, and literary studies.

TLDO 3211. Writers of the Spanish Empire and Its Decline. (; 3 cr. ; A-F or Audit; Every Fall)

Masterpieces of Spain's most significant renaissance and golden age writers, including Lope de Vega, Calderon, Cervantes, Garcilaso, Gongora, Quevedo, and authors of picaresque novels and mystic poetry.

TLDO 3213. Spanish Feudal Society and Literature. (; 3 cr. ; A-F or Audit; Every Spring)
Major works of medieval Spain in connection with its social background, from Auto de los Reyes Magos and Cantar del Mio Cid to Celestina and other pre-Renaissance literature.

TLDO 3214. The Age of Don Quijote. (; 3 cr. ; A-F or Audit; Every Spring)
Major works of Cervantes, Don Quijote de la Mancha, and Novelas Ejemplares as stepping stones to understanding 16th/17th century Spain.

TLDO 3215. Spanish Golden Age Theater. (; 3 cr. ; A-F or Audit; Every Spring)
Spanish Baroque theater. Plays by Lope De Vega, Cervantes, Tirso de Molina, Calderon de la Barca, or Luis Velez de Guevara are read/discussed. Students attend theater in Toledo or Madrid.

TLDO 3216. Contemporary Spanish Women Writers. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)
Literary works by women writers of last three decades. Spanish history of 20th century. Women's participation across political spectrum. Feminist movement. Sociopolitical/cultural changes since Franco's death in 1975. Role of Spanish women writers in transition to democracy and social change.

TLDO 3217. Directed Studies in Literature. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)
Individual research projects or readings in literature, under faculty direction, to meet objectives not covered by regular curriculum.

TLDO 3218. Discovering the Hispanic World Through the Baroque. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

TLDO 3222. Narrative in Spanish America. (; 3 cr. ; A-F or Audit; Every Fall & Spring)
Narrative currents in Spanish America, from Carpentier and emergence of magical realism to present day. Authors studied include Garcia

Marquez, Borges, Fuentes, Vargas Llosa, and Cortazar.

TLDO 3230. Advanced Spanish Conversation. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)
Contemporary issues in Spain, other subjects of interest. Error evaluation. Review of frequent structural/grammatical problems. prereq: Two yrs of college-level Spanish

TLDO 3231. Spanish Composition and Communication. (; 3-4 cr. ; Student Option; Every Fall, Spring & Summer)
Difficult aspects of Spanish grammar/structures mastered through composition writing. Problems of style/language. Several compositions written outside class. Common errors. prereq: Two yrs of college-level Spanish

TLDO 3232. Art and Architecture in Spain: Periods and Styles. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)
Characteristics of major periods in Spanish art/architecture. Greek, Roman, Romanesque, Gothic, Baroque, Neo-Classical, Romanticism, Modernism, 20th century avant-garde.

TLDO 3233. Christian, Muslim, Jewish Art: Toledo. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)
Art of three cultures are studied in/around Toledo.

TLDO 3234. Master Painters of Spain. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)
Development of Spanish painting studied in works of El Greco, Velazquez, Goya, Picasso, and Dali. Visits to Madrid's Museo del Prado and Centro de Arte Reina Sofia.

TLDO 3235. Politics and Society in Latin America. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)
Contrasts in political/social structures of various Spanish-American nations in 20th century. Their diversity, common problems.

TLDO 3236. Structure of Spanish: Phonology and Phonetics. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)
Practical/theoretical aspects of Spanish phonetics. Correcting specific pronunciation problems of non-native speaker. Small practice groups divided according to native languages.

TLDO 3237. Spanish Transition Toward Democracy. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)
Changes in Spain from Franco's death in 1975 to Law for Political Reform and Constitution of 1978. Role of Monarchy, Army, political parties, and trade unions in shaping Constitution and defining Spain as semi-federal state.

TLDO 3238. Spain and the European Union. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)
Formation of EU. Impact of building a single European market on Spanish and greater European economies. Readings from daily press.

TLDO 3239. Management of Cultural Heritage. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)

Theoretical/practical approach to managing Spain's cultural heritage. Historical, artistic, social, and economic aspects of life in a patrimonial city.

TLDO 3240. Advanced Problems in Spanish Grammar. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)

Aspects of Spanish syntax in context of written language. Different methods in teaching Spanish grammar. prereq: Two yrs of college-level Spanish

TLDO 3241. Directed Studies in Art History. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)
Individual research projects or readings in art or archeology, under faculty direction, to meet objectives not covered by regular curriculum. prereq: Two yrs of college-level Spanish

TLDO 3242. History and Memory. (; 3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Study abroad course.

TLDO 3301. Archaeology of the Iberian Peninsula. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Diverse cultures of Iberia as seen through an analysis of most important archaeological sites of the peninsula. prereq: Two yrs of college level Spanish

TLDO 3302. Ethnology and Folklore of the Iberian Peninsula. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Traditional forms of life in Iberian Peninsula in terms of social/economic features. Literary, artistic, and religious aspects. prereq: Two yrs of college level Spanish

TLDO 3303. Directed Studies in Anthropology and Archeology. (; 1-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)
Individual research projects or readings in anthropology or archeology, under faculty direction, to meet objectives not covered by regular curriculum. prereq: Two yrs of college-level Spanish

TLDO 3314. 20th Century Spanish Art. (3 cr. ; A-F or Audit; Every Spring)
Spanish artists who were most affected by European avant-garde movements and have greatly affected art in/outside Spain (e.g., Pablo Picasso, Salvador Dali, Juan Miro, Juan Gris).

TLDO 3401. University of Castilla La Mancha Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)
This is a course shell that will be used on the Study & Intern in Toledo study abroad program to represent a course taken at the University of Castilla La Mancha. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

TLDO 3402. University of Castilla La Mancha Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)
This is a course shell that will be used on the Study & Intern in Toledo study abroad program to represent a course taken at the University of Castilla La Mancha. The specific course title will appear for each student in the Notes

field directly underneath this course on their transcript.

TLDO 3403. University of Castilla La Mancha Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Toledo study abroad program to represent a course taken at the University of Castilla La Mancha. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

TLDO 3404. University of Castilla La Mancha Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Toledo study abroad program to represent a course taken at the University of Castilla La Mancha. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

TLDO 3405. University of Castilla La Mancha Course. (1-6 cr. ; Student Option; Every Fall, Spring & Summer)

This is a course shell that will be used on the Study & Intern in Toledo study abroad program to represent a course taken at the University of Castilla La Mancha. The specific course title will appear for each student in the Notes field directly underneath this course on their transcript.

TLDO 3502. Spain Since 1936. (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Main features and social significance of General Franco's authoritarian regime as opposed to German/Italian models. Origins of the Civil War. Later social/economic development Problems in political/constitutional transition since Franco. prereq: Two yrs of college level Spanish

TLDO 3503. Directed Studies in History. (; 1-3 cr. ; A-F only; Every Spring)

Individual research projects or readings in history, under faculty direction, to meet objectives not covered by regular curriculum.

TLDO 3515. Theology of Spanish Mysticism. (; 3 cr. ; A-F or Audit; Every Spring)

Historical, social, cultural, and theological basis of Spanish mysticism. Carmelites, Franciscans, Jesuits. prereq: Two yrs of college level Spanish

TLDO 3516. Spanish Philosophical Thought. (; 3 cr. ; A-F or Audit; Every Fall)

Characteristics of Spanish Renaissance (16th century), influence of Erasmus, mysticism, philosophy of Juan Luis Vives. Overview of philosophical development from 17th to 20th centuries. Contemporary Spanish philosophy, focusing on Unamuno, Ortega y Gasset, and Zubiri. prereq: Two yrs of college level Spanish

TLDO 3517. Introduction to the History and Present Situation of Spanish Women. (; 3 cr. ; A-F only; Every Fall & Spring)

Theoretical/practical approach to fundamental transformations that have conditioned lives of Spanish women, from Golden Age to present. Aspects of women's participation in economic world and in culture.

TLDO 3699. Advanced Individualized Spanish. (; 1-4 cr. ; A-F only; Every Fall & Spring)

Directed study with individual tutoring to improve specific language skills identified by student and supervising professor. prereq: Two yrs of college-level Spanish

TLDO 3703. History of the Spanish Language. (; 3 cr. ; A-F only; Every Spring & Summer)

Trends in historical development of Spanish. Emphasizes grammar and Spanish sound system.

TLDO 3706. Colloquial Spanish. (; 3 cr. ; A-F only; Every Fall, Spring & Summer)

Characteristic phenomena of Spanish in its colloquial spoken form. Variations based on age, social, and regional background. New lexical, morphological, and syntactical coinages.

TLDO 3800. Society Through Spanish and Latin American Film. (; 3 cr. ; A-F only; Every Fall)

Contemporary Spanish and Latin American societies explored through films with Spanish and Latin American artists. Approximately 10 films are analyzed from historic-sociological point of view. prereq: Two yrs of college level Spanish

TLDO 3810. Seminar: Spanish Language Film. (3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)

Contemporary cultural/aesthetic trends in Spanish film industry. Viewing/analysis of most significant films of Saura, Bardem, Gurierrez, Aragon, and other directors.

TLDO 3896. Internship in Toledo. (3 cr. ; Student Option; Every Fall, Spring & Summer)

This course grants students the opportunity to reflect on the Spanish work environment in an international context. Through the internship, proposed readings, participation in classroom debates, and written assignments, students will increase their knowledge of Spanish culture and improve their ability to critically examine the worldview that surrounds them. This course is designed to guide students through their internship and build a foundation for a successful professional career. Through assignments and class discussions, students will gain a comparative multicultural perspective on the world labor force, deepening their self-knowledge, their understanding of the work environment, and their perception of success in the workplace. With its multidisciplinary focus, the course seeks to give students the tools they need to analyze the modern Spanish society in which they will find themselves immersed through their internship. With an introduction to modern history, students will analyze different economic, political, and cultural elements that influence society at large and the workplace in particular. In this course, students will discuss many topics involving Spanish society, including the changing role of women, the role of civil servants, immigration, and the solidity of the family structure. In addition, students will analyze potential intercultural communication problems that may arise during their internship,

and they will discuss strategies for adapting to their work experience in order to take full advantage of it.

TLDO 3900. Topics in Toledo. (; 1-6 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)

Study abroad course.

TLDO 3970. Internships in Spain. (3-6 cr. [max 12 cr.] ; Student Option; Every Fall, Spring & Summer)

Experiential learning in many fields. Classroom component on meaning of work in Spain and social organizational structure/culture of workplace. prereq: Two yrs of college-level Spanish

TLDO 3975. Service-Learning and the Immigrant Experience in Spain. (3-4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Students volunteer at one of several Toledo institutions and collaborate with immigrant population or with Spaniards who work with the immigrant community. Weekly seminar, readings, discussion, reflection, presentations.

Toxicology (TXCL)

TXCL 5000. Directed Research in Toxicology. (; 1-5 cr. [max 80 cr.] ; A-F or Audit; Every Fall & Spring)

Special project that addresses specific issue in toxicology. Under guidance of faculty member. prereq: instr consent

TXCL 5011. Principles of Toxicology. (; 2 cr. ; A-F or Audit; Periodic Fall)

Introduction to fundamentals of poisoning in individuals and the environment, assessment of potential health hazards, and application of toxicology in various professional careers. prereq: Grad txcl major or instr consent

TXCL 5012. Principles of Toxicology. (; 3 cr. ; A-F or Audit; Every Spring)

Science of toxicology. Biomedical principles. Regulatory practices governing protection of human health and environmental quality. prereq: At least one semester [biochemistry, calculus, cell biology]; at least one semester of [human or animal] physiology recommended

TXCL 5013. Chemical Toxicology. (; 3 cr. ; A-F or Audit; Every Fall)

Signs, symptoms, and mechanism of toxicity of different classes of chemicals spanning several organ systems, including chemical carcinogenesis. prereq: 5012, instr consent

TXCL 5101. Molecular and Cellular Basis of Nanoparticle Toxicology. (; 3 cr. [max 6 cr.] ; A-F or Audit; Fall Odd Year)

Introduction to science of nanotoxicology. Nanotechnology in scientific research. Assessment of impact on biological systems. prereq: Introductory toxicology course

TXCL 5195. Veterinary Toxicology. (; 3 cr. ; A-F or Audit; Every Fall)

Toxicology of minerals, pesticides, venoms, and various toxins. Identification of poisonous plants. Recognition, diagnosis, and treatment of animal poisons. prereq: Grad student or instr consent

TXCL 5545. Introduction to Regulatory Medicine. (; 2 cr. ; A-F or Audit; Periodic Spring)

Explanation of products requiring pre-market approval and those that may be marketed without approval. Post-market surveillance. Adverse reactions, removal of product from market. prereq: Grad student or instr consent

Undergraduate Summer Research (UGRD)**UGRD 4999. Undergraduate Summer Research.** (; 0 cr. ; No Grade Associated; Every Summer)

Undergraduate Summer Research

University College (UC)**UC 1005. Global Perspectives on Higher Education.** (; 2 cr. [max 4 cr.] ; Student Option; Every Fall & Spring)

This course provides international students with the skills to understand and think critically about the academic norms, culture, and resources of the U.S. and other higher education systems. Students will analyze how core values, beliefs, and thought patterns inform cultural norms and behaviors, and they will compare and contrast their experience at a U.S. university with their previous educational experiences. Students will investigate university resources and conduct field research in order to find ways to be successful in their current and future intercultural environments. The instructor will support students as they develop their ability to communicate clearly in academic writing, presentations, and small group projects. prereq: International student

UC 4301. Perspectives: Interrelationships of People and Animals in Society Today. (; 2 cr. [max 3 cr.] ; Student Option; Every Spring)

Interrelationships of people and animals from several viewpoints. Social, economic, and health consequences of these relationships, including issues such as pets and people sharing an urban environment, animal rights, and the influence of differences in cultures on animal-human relationships.

UC 5075. Directed Study. (; 1-8 cr. ; Student Option; Every Fall, Spring & Summer)

Directed study.

Urban Studies (URBS)**URBS 1001W. Introduction to Urban Studies: The Complexity of Metropolitan Life.** (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

Interdisciplinary course, ranging across spatial, historical, economic, political, and design perspectives, among many others.

URBS 3001W. Introduction to Urban Studies: The Complexity of Metropolitan Life. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

Interdisciplinary course, ranging across spatial, historical, economic, political, and design perspectives, among many others.

URBS 3200. Urban Studies Colloquium. (; 1 cr. [max 4 cr.] ; A-F or Audit; Every Fall & Spring)

Urban/metropolitan issues. Topics vary to reflect current concerns. In-depth reading, intensive group discussion. prereq: dept consent

URBS 3500. Urban Studies Workshop. (; 3 cr. [max 9 cr.] ; A-F or Audit; Every Fall & Spring)

Links academic learning to actual urban problems/issues. Focuses on specific topic using local community as laboratory. Field work, contact with local institutions/agencies. prereq: instr consent

URBS 3751. Understanding the Urban Environment. (ENV; 3 cr. ; A-F or Audit; Every Spring)

Examine links between cities and the environment with emphasis on air, soil, water, pollution, parks and green space, undesirable land uses, environmental justice, and the basic question of how to sustain urban development in an increasingly fragile global surrounding.

URBS 3771. Fundamentals of Transit. (; 3 cr. ; A-F only; Spring Odd Year)

Importance of transit to an urban area. Issues surrounding development/operation of transit. Defining various modes of transit, evaluating why/where each may be used. Making capital improvements to transit system. Finance, travel demand forecasting, environmental assessment, scheduling, evaluation of effectiveness/accessibility.

URBS 3861. Financing Cities. (; 3 cr. ; A-F only; Every Spring)

The most critical question in government is how you are going to pay for something. There is a plethora of good ideas but only so much money. This class looks at how cities are funded. It looks at tax systems, fee systems, grants, special revenues, private development funding and other ways that we pay for cities. It provides practical knowledge on how city activities are funded.

URBS 3871. A Suburban World. (; 3 cr. ; Student Option; Fall Odd Year)

Suburbs as sites of urgent battles over resources, planning practices, land use, and economic development. How suburban life shapes values, political ideals, and worldviews of its populations.

URBS 3896. Urban Studies Internship Seminar. (; 2 cr. [max 4 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Weekly seminar integrates internship experience with academic program. prereq: Sr, internship placement, dept consent, instr consent

URBS 3955W. Senior Paper Seminar. (WI; 2 cr. ; A-F or Audit; Every Fall & Spring)

Methods/resources for research. Substantial writing. prereq: dept consent

URBS 3993. Urban Studies Directed Study. (1-3 cr. [max 9 cr.] ; Student Option; Every Fall, Spring & Summer)

For students with a specific educational objective that cannot be satisfied through

regular curriculum (e.g., foreign study) and for honors students to complete an honors opportunity. Prereq UrbS majors, instr consent, dept consent.

Urdu (URDU)**URDU 1011. Beginning Urdu I.** (; 5 cr. ; Student Option No Audit; Every Fall)

Basic listening, speaking, reading, and writing skills. Emphasizes development of communicative competence.

URDU 1012. Beginning Urdu II. (; 5 cr. ; Student Option No Audit; Every Spring)

Basic listening, speaking, reading, and writing skills. Emphasizes development of communicative competence.

URDU 1015. Accelerated Beginning Urdu.

(5 cr. ; Student Option No Audit; Every Fall) Designed for students who already have good speaking skills (mainly heritage students) or those who studied Urdu in the past and can review basic knowledge of the language at a faster pace than that of regular language classes. This course focuses on all four skills (including cultural skills) to develop communicative competence at a novice-high level. The Urdu script will be introduced right from the beginning. Students will learn materials that are normally covered in a full academic year.

URDU 3016. Accelerated Intermediate Urdu.

(5 cr. ; Student Option No Audit; Every Spring) This course continues the accelerated Urdu curriculum and covers the same material as URDU 3021 and 3022 (Intermediate Urdu I and II). Designed for heritage speakers or students who have completed the beginning courses in Urdu (1102 or 1015) and can handle a faster pace. This course aims to refine and expand previously acquired language skills. Prior knowledge of Urdu at the levels of listening, speaking, reading, and writing is essential. In this course, special focus is directed to developing vocabulary and mastering relatively complex grammatical structures used in appropriate socio-cultural environments. Class sessions will be interactive. Students will engage with audio and video material to develop language skills in the class and at home as well as measure language comprehension.

URDU 3021. Intermediate Urdu I. (; 5 cr. ; Student Option No Audit; Every Fall)

Development of reading, writing, speaking, and listening skills. Grammar review, basic compositions, oral presentations.

URDU 3022. Intermediate Urdu II. (; 5 cr. ; Student Option No Audit; Every Spring)

Development of reading, writing, speaking, and listening skills. Grammar review, basic compositions, oral presentations.

URDU 3031. Advanced Urdu I. (4 cr. ; Student Option No Audit; Every Fall)

Continued emphasis on development of communication skills, ability to comprehend both written/spoken texts. Speak, read, write in Urdu beyond intermediate level. Prereq: 3022 or instr consent

URDU 3032. Advanced Urdu II. (4 cr. ; Student Option No Audit; Every Spring)
This course is intended for students who have already completed four semesters of study in Urdu or have an equivalent Hindi-Urdu proficiency. The course builds on the skills acquired in speaking, listening, reading, and writing in the first semester of Advanced Urdu instruction (URDU 3031/4005) and provides a more advanced foundation in Urdu. The course aims for the students to acquire an advanced-level proficiency in Urdu by developing language functions such as narration, description, and comparison. Students will be introduced to different genres and styles of spoken and written Urdu as well as grammatical details that facilitate accuracy and fluency. The students are expected to read and write coherent Urdu paragraphs and further develop and hone their conversational skills. We will also review and continue the study of Urdu grammar. prereq: URDU 3031 or instructor consent

URDU 3993. Directed Studies. (1-5 cr. [max 15 cr.] ; Student Option No Audit; Periodic Fall, Spring & Summer)
Guided individual study of Urdu language or linguistics. prereq: instr consent, dept consent, college consent

URDU 4001. Beginning Urdu I for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Fall)
Basic listening, speaking, reading, and writing skills. Emphasizes development of communicative competence. Meets with URDU 1011.

URDU 4002. Beginning Urdu II for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Spring)
Basic listening, speaking, reading, and writing skills. Emphasizes development of communicative competence. Meets with URDU 1012.

URDU 4003. Intermediate Urdu I for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Fall)
Development of reading, writing, speaking, and listening skills. Grammar review, basic compositions, oral presentations. Meets with URDU 3021.

URDU 4004. Intermediate Urdu II for Graduate Student Research. (; 5 cr. ; Student Option No Audit; Every Spring)
Reading, writing, speaking, and listening. Grammar review, basic compositions, oral presentations. Meets with URDU 3022.

URDU 4005. Advanced Urdu I for Graduate Research. (4 cr. ; Student Option No Audit; Every Fall)
Continued emphasis on development of communication skills, ability to comprehend both written/spoken texts. Speak, read, write in Urdu beyond intermediate level. Meets with URDU 3031.

URDU 4006. Advanced Urdu II for Graduate Research. (4 cr. ; Student Option No Audit; Every Spring)
This course is intended for students who have already completed four semesters of

study in Urdu or have an equivalent Hindi-Urdu proficiency. The course builds on the skills acquired in speaking, listening, reading, and writing in the first semester of Advanced Urdu instruction (URDU 3031/4005) and provides a more advanced foundation in Urdu. The course aims for the students to acquire an advanced-level proficiency in Urdu by developing language functions such as narration, description, and comparison. Students will be introduced to different genres and styles of spoken and written Urdu as well as grammatical details that facilitate accuracy and fluency. The students are expected to read and write coherent Urdu paragraphs and further develop and hone their conversational skills. We will also review and continue the study of Urdu grammar. Meets with URDU 3032.

URDU 4015. Accelerated Beginning Urdu for Graduate Research. (5 cr. ; Student Option No Audit; Every Fall)

Designed for students who already have good speaking skills (mainly heritage students) or those who studied Urdu in the past and can review basic knowledge of the language at a faster pace than that of regular language classes. This course focuses on all four skills (including cultural skills) to develop communicative competence at a novice-high level. The Urdu script will be introduced right from the beginning. Students will learn materials that are normally covered in a full academic year. Meets with URDU 1015.

URDU 4016. Accelerated Intermediate Urdu for Graduate Research. (5 cr. ; Student Option No Audit; Every Spring)
This course continues the accelerated Urdu curriculum and covers the same material as URDU 4003 and 4004 (Intermediate Urdu I and II). Designed for heritage speakers or students who have completed the beginning courses in Urdu (4002 or 4015) and can handle a faster pace. This course aims to refine and expand previously acquired language skills. Prior knowledge of Urdu at the levels of listening, speaking, reading, and writing is essential. In this course, special focus is directed to developing vocabulary and mastering relatively complex grammatical structures used in appropriate socio-cultural environments. Class sessions will be interactive. Students will engage with audio and video material to develop language skills in the class and at home as well as measure language comprehension. Meets with URDU 3016.

URDU 5040. Readings in Urdu Texts. (; 3 cr. ; Student Option; Periodic Fall & Spring)
Read authentic materials of various types to improve reading/speaking ability.

URDU 5993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Periodic Fall & Spring)
Guided individual readings.

Veterinary & Biomedical Sci (VBS)

VBS 1001. Introduction to Biotechnology. (BIOL,TS; 4 cr. ; A-F or Audit; Every Spring)
Basic understanding of cell biology/biotechnology. Laboratory exercises using

modern molecular biotechnology techniques. Lectures. History of biotechnology. Cell biology/biotechnology. Develop research plan.

VBS 2032. General Microbiology With Laboratory. (5 cr. ; A-F only; Every Fall & Spring)
Bacterial metabolism, growth/genetics, biology of viruses/fungi. Control of microorganisms. Host-microbe interactions, microorganisms/disease, applied microbiology. prereq: One semester each of college chemistry, biology

VBS 2100. Companion Animal Anatomy. (3 cr. ; A-F only; Every Spring)
Develop anatomical knowledge through study/dissection. Compare/contrast animal adaptations. Prereq: General Biology (e.g., BIOL 1009) is recommended

Veterinary Clinical Sciences (VCS)

VCS 2101. Topics. (; 1-8 cr. ; A-F only; Every Fall, Spring & Summer)
Topics class

VCS 2201. The Intersection of Cancer in Society and Technology. (3 cr. ; A-F only; Every Spring)
The course objectives are to discuss why cancer happens, the impact that cancer has on our society, and how we can use science and technology to defeat it. For most people, cancer is a mysterious and fearsome condition. This emotional response means that social stigmas are often tied to a cancer diagnosis. However, at its core cancer is a disease caused by mutations in a cell's DNA. In fact, the same mechanisms of mutations in DNA that lead cells to become cancerous are the drivers of evolution, so cancer risk can be considered as part of our evolutionary legacy. Moreover, few people realize that advances in cancer research and treatment are allowing millions of people (and pets) to lead healthy and fulfilling lives as cancer survivors. We will discuss the biological and evolutionary foundations for why cancer happens and advances in how we detect it, treat, and prevent it. The course is designed for students from all majors, and non-scientists are encouraged to enroll and participate. A better understanding by scientists and non-scientists alike of the risks for cancer, of its possible occurrence in virtually all animals, and of advances in diagnosis and treatment, will help demystify this condition and allow students to converse about it in an objective fashion. We have the tools to create a world where we no longer fear cancer, and our goal is to enroll motivated students from the University of Minnesota who will help us achieve this vision.

VCS 4606. Small Animal Management. (; 3 cr. ; A-F or Audit; Every Fall & Spring)
This online course provides an overview of small animal management. Species covered include dogs, cats, small mammals, reptiles, and birds. Course content covers public health, community education, general wellness care, and recognizing common diseases in small animals. Student learning is assessed through online quizzes, discussion participation, and group projects.

VCS 4992. Directed Readings in Veterinary Clinical Sciences. (; 1-6 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)

Students read seminal works in veterinary medicine and literature pertaining to their area of interest. Final project evaluated by faculty member. prereq: [One-page proposal, bibliography of works to be read] submitted to faculty

VCS 4993. Directed Study in Veterinary Clinical Sciences. (; 1-6 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)

Students expand their knowledge of a specific area. Final project evaluated by faculty member. prereq: One-page proposal submitted to faculty member

VCS 4994. Directed Research in Veterinary Clinical Sciences. (; 1-6 cr. [max 12 cr.] ; A-F only; Every Fall, Spring & Summer)

Students perform research in lab setting. prereq: One-page proposal submitted to faculty member

Veterinary Med Summer Research (VTMD)**VTMD 4999. Veterinary Medicine Summer Research.** (; 0 cr. ; No Grade Associated; Every Summer)

Veterinary Medicine Summer Research

Veterinary Medicine, Graduate (VMED)**VMED 5080. Problems in Veterinary Epidemiology and Public Health.** (; 1-3 cr. ; A-F or Audit; Every Fall & Spring)

Individual study on problem of interest to epidemiology or public health student.

VMED 5082. Diagnostic Epidemiology of Infectious Diseases. (; 2 cr. ; A-F only; Every Spring)

Theoretical principles, practical applications of diagnostic testing in populations. Examples related to infectious diseases in veterinary/human health. Basis of test performance, limitations, interpretations. prereq: Statistics course or instr consent

VMED 5090. Seminar: Veterinary Epidemiology. (; 1 cr. [max 3 cr.] ; S-N or Audit; Every Fall & Spring)

Each student leads at least one seminar. Reviews of current research, literature reviews, and technique development. Students and participating faculty participate in presentation, discussion, and administration of the seminars. prereq: Veterinary Medicine grad student

VMED 5101. Molecular and Cellular Basis of Nanoparticle Toxicity. (; 3 cr. [max 6 cr.] ; A-F or Audit; Every Fall)

Use of nanotechnology in scientific research. Impact of nanomaterials on biological systems.

VMED 5165. Surveillance of Foodborne Diseases and Food Safety Hazards. (; 2 cr. ; Student Option; Every Spring)

Principles/methods for surveillance of foodborne diseases. Investigation of outbreaks. Assessment of food safety hazards. Focuses

on integration of epidemiologic/lab methods. prereq: [PUBH 5330, [professional school or grad student]] or instr consent

VMED 5180. Ecology of Infectious Disease. (3 cr. ; Student Option; Every Fall)

How host, agent, environmental interactions influence transmission of infectious agents. Environmental dissemination, eradication/control, evolution of virulence. Use of analytical/molecular tools.

VMED 5181. Spatial Analysis in Infectious Disease Epidemiology. (3 cr. ; Student Option No Audit; Every Spring)

Spatial distribution of disease events. Exposures/outcomes. Factors that determine where diseases occur. Analyzing spatial disease data in public health, geography, epidemiology. Focuses on human/animal health related examples. prereq: Intro to epidemiology, statistics,

VMED 5182. Molecular biology for the Public Health Professional. (2 cr. ; Student Option; Every Spring)

This course focuses on introducing students to molecular biology lab tools that are used to investigate infectious diseases in public health settings. The course combines laboratory sessions during which students will learn and run molecular assays with computer lab sessions during which students will analyze molecular data.

VMED 5190. Effective Science Communication. (; 2 cr. ; S-N only; Every Fall)

Skills needed to research, organize, develop, and deliver an oral scientific presentation or to assist in finding, compiling, and organizing information for presentations, theses, or papers suitable for publication. prereq: Grad student

VMED 5210. Advanced Large Animal Physiology I. (; 1-3 cr. [max 6 cr.] ; Student Option; Every Fall)

Review of large animal physiology at level needed for specialty board certification or beginning research. Students present topics in physiology and supplement reading with clinical case material or journal articles.

VMED 5211. Advanced Large Animal Physiology II. (; 1-3 cr. ; A-F or Audit; Every Spring)

Large animal physiology for specialty board certification or beginning research. Students present topics in physiology and supplement reading with clinical case material or journal articles. prereq: instr consent; 5210 recommended

VMED 5232. Comparative Clinical Veterinary Dermatologic Pathology. (; 1 cr. [max 2 cr.] ; S-N only; Every Fall & Spring)

Microscopic pathology of basic dermatologic reactions and of variable disease states. prereq: DVM degree or foreign equiv

VMED 5240. Advanced Small Animal Pathobiology I. (1 cr. ; A-F only; Fall Even Year)

Biology, physiology, pathophysiology, and medicine of disciplines relevant to companion animals. Pathogenesis/treatment of diseases.

Developing hypotheses that can be translated into clinical research. Prereq CVM grad student, [DVM or foreign equiv] degree.

VMED 5241. Advanced Small Animal Pathobiology II. (1 cr. ; A-F only; Spring Even Year)

Overview of biology, physiology, pathophysiology, and medicine of disciplines. Underlying pathogenesis/treatment of diseases of companion animals. Developing hypotheses that could be translated into clinical research. Prereq CVM grad student, [DVM or foreign equiv] degree.

VMED 5242. Advanced Small Animal Pathobiology III. (1 cr. ; A-F only; Fall Odd Year)

Overview of biology, physiology, pathophysiology, and medicine. Underlying pathogenesis/treatment of diseases of companion animals. Developing hypotheses that could be translated into clinical research. Prereq CVM grad student, [DVM or foreign equivalent] degree.

VMED 5243. Advanced Small Animal Pathobiology IV. (1 cr. ; A-F only; Spring Odd Year)

Overview of biology, physiology, pathophysiology, and medicine. Underlying pathogenesis/treatment of diseases of companion animals. Developing hypotheses that could be translated into clinical research. Prereq CVM grad student, [DVM or foreign equiv] degree.

VMED 5295. Problems in Large Animal Clinical Medicine/Surgery and Theriogenology. (; 1 cr. [max 3 cr.] ; A-F or Audit; Every Fall & Spring)

Hospital cases using standardized format, audiovisual aids. Review literature pertaining to case. One or two cases presented by enrolled participants per month. prereq: VMed grad student, possess DVM

VMED 5310. Topics in Veterinary Clinical Pathology. (; 1 cr. [max 2 cr.] ; S-N only; Every Fall & Spring)

Modified rounds format. Cases from VMC used to explore cytology with associated chemistry/hematology data. Attendees/clinicians can request lab topics for discussion. Past topics have included lab measurement of chemical analytes, test sensitivity or specificity (e.g., ethylene glycol test, FELV test), lab testing for infectious agents. prereq: Grad student in CVM

VMED 5319. Veterinary Gross Pathology. (1 cr. [max 3 cr.] ; S-N only; Every Fall & Spring)

Diagnosing gross lesions of tissues. Evaluating images from wide variety of animals submitted to lab. Mock exams. Students prepare two in-depth reviews on topics covered during in course. Prereq Grad student in CMB or [VMED, [DVM degree or foreign equivalent], college consent]

VMED 5320. Advanced Veterinary Systemic Pathology I. (; 3 cr. ; A-F only; Fall Even Year)

Students review/summarize topics in systemic pathology using veterinary pathology textbooks and relevant updates from pathology and veterinary medical journals. Diagnostic cases in alimentary, respiratory, urinary, cardiovascular,

and hematopoietic system pathology. Students give 10-15 presentations with handouts for other students. prereq: Grad student in VMED or [CMB, [DVM degree or foreign equiv]] or instr consent

VMED 5330. Veterinary Descriptive Histopathology. (; 1 cr. [max 2 cr.] ; Student Option; Every Fall & Spring)

Weekly, one-hour microscopic slide presentations, reviews on wide variety of diseases in domestic/non-domestic animals. Students present microscopic slide cases and prepare discussions about disease entities, differential diagnoses, and ancillary tests. prereq: Grad student in VMED or [CMB, [DVM degree or foreign equiv]] or instr consent

VMED 5410. Scientific Writing and Speaking. (; 2 cr. ; A-F only; Fall Odd Year) Techniques of writing/publishing papers/theses. Manuscript preparation. Submission/review process. Proofreading. Publishing processes. Grant Writing. Oral/poster presentations at scientific meetings. prereq: Grad student in health sciences

VMED 5430. HIV/AIDS: Pathogenesis, Treatment, and Prevention. (; 1 cr. ; Student Option; Every Fall)

Exposure to pathogenesis, treatment, and prevention of HIV/AIDS from clinical faculty who are dealing with AIDS patients. Developing new questions and design experiments that have greatest chance of translating to clinical setting. prereq: Grad student

VMED 5440. Using Risk Analysis Tools: Estimating Food Safety Risks on the Farm to Table Continuum. (; 2 cr. [max 3 cr.] ; A-F only; Every Spring)

This applications-based course will provide the necessary risk-based tools to evaluate and mitigate the microbial and chemical risks in a food production chain—from the farm until consumption. Students will follow the risk analysis process as an integral part of science-based decision-making to estimate and manage food safety risks. Students will apply different qualitative and quantitative tools by using a computer.

VMED 5442. Quantitative Methods for Population Health. (3 cr. [max 6 cr.] ; Student Option; Every Spring)

This course reviews the principles and application of advanced methods for analysis of population health data, with a focus on animal health and infectious diseases. Analytical techniques that will be taught and applied during the course include risk assessment, spatial analysis, disease modeling, and disease economics.

VMED 5492. Seminar: One Health and Infectious Diseases of Wildlife. (2 cr. ; S-N only; Every Fall)

The course will explore the applied concept of One Health and infectious diseases of wildlife in weekly case studies. In each case study, students will gain an understanding of system dynamics, infer the interplay between humans, animals and the environment in the context of a given wildlife disease, and confront current disease management practices and challenges

for successfully mediating transmission and spread.

VMED 5496. Training in Swine Production and Management. (; 4 cr. ; S-N only; Every Fall & Spring)

Production module introduces techniques/protocols for swine production system operation. Research module covers applied research trials for viral/bacterial pathogens in pigs. prereq: VMED grad student or instr consent

VMED 5594. Research in Veterinary Medicine. (1-4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Independent study as determined by instructor. Usual activity includes conducting research in instructor's lab, though research in field may also be included. prereq: Jr, instr consent

VMED 5596. Swine Diseases and Diagnostics. (; 2-3 cr. [max 2 cr.] ; Student Option; Every Fall & Spring)

Review of recent advances in swine diseases; farm visits for on-farm disease diagnostics and control programs.

VMED 5621. Principles of Veterinary Anesthesiology. (; 2 cr. ; A-F only; Every Spring)

In-depth training in principles of veterinary anesthesiology. Lectures, anesthesia labs, presentations by students. prereq: VMed grad student, [DVM degree or foreign equiv], instr consent

VMED 5670. Bovine Surgery Practicum. (; 2 cr. ; S-N only; Every Fall & Spring)

Intensive training in ruminant surgery. Evaluation of food animal surgery principles, hands-on laboratory components. prereq: [VMed grad student, [DVM or equiv foreign degree]] or instr consent

VMED 5881. Food Production, Processing, and Supply Chain. (1 cr. ; S-N only; Every Spring)

Food commodities and agricultural crops play critical roles relevant to public health, energy and economic vitality, feeding the increasing global human population, and providing multiple outputs from feed for animals, to fuel for vehicles, transportation and energy. This course focuses on agricultural commodities. For 2019 we will focus on corn and dairy production systems in Minnesota. The commodity of interest will change from year-to-year to other commodities like pork and sugar beets ? which provide critical outputs for the state of Minnesota.

VMED 5895. Veterinary Public Health Integrated Learning Experience. (1-3 cr. ; S-N only; Every Fall, Spring & Summer)

Part of the curriculum for the master's degree includes an opportunity for students to develop a written document detailing applications of public health practice. Completion of the ILE allows students to synthesize aspects of public health into a document that can be utilized by public health professionals.

VMED 5896. Application of Veterinary Public Health. (0.5-6 cr. [max 12 cr.] ; S-N only; Every Fall, Spring & Summer)

The APEx, applied practice experience provides students an opportunity to learn first-hand about the organization, operations, and special activities of selected agencies, institutions and industries concerned with public health practice. This is a means of gaining additional insight into public health programs, personnel management, governmental relations, public relations, legislative support and, particularly, knowledge of special investigations or responses conducted by these organizations. Participation in the activities of public health practice programs external to the University adds a dimension of experience to the curriculum that enriches the student's training and may be beneficial in seeking employment.

VMED 5910. Grant Writing: What Makes a Winning Proposal?. (2 cr. ; Student Option; Every Spring)

Components of a strong proposal. Grant submission process. What reviewers look for. How to locate grant announcements that match research interests.

VMED 5915. Essential Statistics for Life Sciences. (3 cr. ; A-F or Audit; Every Fall)

This course is a broad overview of the principles and methods of statistical analysis used in life sciences research, including biological, veterinary, and translational research, and provides the background a new researcher needs to understand and apply commonly used statistical methods and the preparation needed for more advanced coursework. Classes will include general instruction and background information, detailed examples of how to perform the analyses, with actual data sets, and discussion on how the topic has been applied in biological research, including reading and assessing papers in the field. Computing will be performed using the R software environment, though students may use alternate software with permission. Topics will include: ? Descriptive statistics and exploratory graphics ? Understanding statistical inference and interpreting P-values and confidence intervals. ? One and two sample inference, including t-tests, proportion tests, and non-parametric alternatives ? Linear regression, including the effects of confounders ? ANOVA methods, including pairwise comparisons and multiple comparisons

VMED 5920. Food Defense: Prepare, Respond, Recover. (; 3 cr. ; A-F only; Every Fall)

Basic principles of preparedness/emergency response. Instructor may substitute topics if timelier topic arises. prereq: Grad or professional student or instr consent

VMED 5921. Protecting your Lunch: Food Defense Awareness. (; 1 cr. ; A-F only; Every Spring)

Protecting your Lunch: Food Defense Awareness presents current issues, challenges, concerns, and activities impacting global food defense. "Food Defense" is the sum of actions and activities related to prevention, protection, mitigation, response, and recovery of the food system from intentional acts of

adulteration and disruption. This includes intentional acts from both terrorism and criminal activities. This topics course incorporates case studies as well as current events that directly relate to food system disruption, cause food supply chain interruption, or may provoke intentional adulteration or food fraud.

VMED 5930. Antimicrobial Resistance (AMR) from a One Health Perspective. (; 1 cr. ; A-F or Audit; Every Spring)

Fundamentals of antimicrobial resistance (AMR) development, transmission, and risks to humans, animals, and the environment delivered by experts in the One Health concept (interconnection between people, animals, plants, and their shared environment). Review and development of research-based resources and methods for communicating scientific information to non-academic audiences. Multi-institution collaboration with online engagement during class meetings.

VMED 5989. Introduction to Applied Health Policy and Leadership. (; 1.5 cr. ; Student Option No Audit; Every Spring)

This course introduces students to policy analysis and leadership tools to navigate the complexities of policy-making and foster policy dialogue and action. We will apply a health lens to discuss contemporary policy issues, explore the different stages of the policy cycle, map the polarities of complex challenges, and apply implementation science techniques to guide policies from theory to impact. May be of particular interest to graduate students in the academic health sciences or HHH/OLPD. prereq: Graduate or professional degree in-progress or completed.

VMED 5990. Veterinary Public Practice Seminar. (; 0.5 cr. [max 2 cr.]; S-N only; Every Fall & Spring)

Interactive review of current public practice topics in environmental health/toxicology, infectious/parasitic diseases, public health administration/education, epidemiology and biostatistics, and food safety.

VMED 5994. Advanced Clinical Epidemiology. (; 1 cr. ; A-F only; Every Fall)

An in-depth focus on infectious disease epidemiology, with opportunities to apply epidemiologic principles to control infectious diseases in animal populations.

VMED 5998. Leadership to Address Global Grand Challenges. (1.5 cr. ; Student Option No Audit; Every Spring)

In this 5-day skills-based course, participants will learn and apply integrative leadership (also known as shared or facilitative leadership) strategies for addressing global grand challenges. Using global food system challenges as a basis for exploration, we will focus on leadership practices that foster collective action across diverse groups of people.

Veterinary Population Medicine (VPM)

VPM 1550. Introduction to the horse including care, handling, and recognizing

behaviors. (; 1 cr. ; Student Option; Every Fall, Spring & Summer)

Horse breeds, colors, behaviors. Basic care/handling. Online course, but includes three labs working with live horses.

VPM 1560. Introduction to Horseback Riding and Horse Health. (3 cr. ; Student Option; Every Fall, Spring & Summer)

Basic motor skills/commands necessary to ride horse. Focus on interaction of human body with horse's body to create movement. Basic horse care skills, grooming, taking temperature, using hoof tester, etc.

VPM 1901. Aquatic Toxicology, Water Safety, and the Society. (; 2 cr. ; A-F only; Every Fall)

Our planet Earth is dominated (>70%) by water. The hydrosphere contains about 1.36 billion cubic kilometers of water mostly in the form of a liquid (water) that occupies topographic depressions on the Earth. The second most common form of the water molecule on our planet is ice. If all our planet's ice melted, sea-level would rise by about 70 meters. Water is also essential for life. Most animals and plants contain more than 60% water by volume. Without water, life would probably never have developed on our planet. Water contains nutrients that are essential for life. Nutrients are extracted from rocks and sediments. At present, human activity is dumping harmful pollutants (poisons) in surface and ground water. Poisons distribute between water and sediments, depending on the properties of the toxin, soil characteristics and water chemistry. Therefore, poisons present in water may contaminate both the aquatic and the soil dwellers, and plants, thus contaminating the food chain for humans as well as animals. The overall aim of this course is to discuss (i) effects of water pollution on aquatic and terrestrial organism including humans, (ii) water quality issues and (iii) water safety. After completing this course, participants will be able to: -Understand physicochemical and solubility properties of water. -Compare and contrast toxins? behavior in water, soil, air and organisms. -Understand the concept of clean and polluted water. -Understand modes of action of toxic chemicals, types of effects from the molecular to the ecosystem level, and detoxification processes. -Understand food-chain contamination and ensuing toxicity.

VPM 1902. Garbage, Government, and the Globe. (; 2 cr. ; A-F only; Every Spring)

Garbage, in a broad sense, can be defined as anything (solids, liquid or gas) carelessly discarded because it is perceived to be worthless in our homes, businesses, institutions and factories. When humans were hunters and gatherers, they consumed what was needed, discarded what could not be used and moved on. Being part of nature, the discarded items degraded into reusable nutrients. The humans' interaction with the environment was well balanced and humans' footprints on the Earth were very minute, if at all. However, as the industrial revolution led to the development of large industries, humans began to invent things

that were not part of nature, thus the natural balance began to misbalance. This results in accumulation of garbage into the environment, resulting in pollution of the atmosphere, land and water sources. Recently, economic globalization has further increased the magnitude of environmental pollution and ensuing deterioration of public health. If the current trend is not reversed, planet Earth may eventually become uninhabitable. Therefore, the students registering in this course will: (1) learn the processes that facilitate generation and accumulation of garbage, (2) understand the mechanisms responsible for pollution of the Earth's environment, (3) characterize the health effects of the polluted environment, (4) strategize remediation steps that may halt or repair the damage and (5) interpret data in writing and verbally.

VPM 1903. Poison, Poisoning and Society. (; 2 cr. ; A-F only; Every Fall)

In the United States, approximately 50,000 people die each year as a result of unintentional poisoning, and another 800,000 are treated in emergency departments. The human-caused pollution of the environment (such as oil spill, poisonous gas leak, water pollution, global warming gas release, etc.) seriously impacts the health of millions of people and animals around the world. Despite such serious health consequences, people do not fully understand poisons or poisoning. In this course, students will learn some important aspects regarding poisons including, but not limited to the following. -What are poisons and what is poisoning? -Where do poisons come from? -What are the adverse effects of different types of poisons? -How to prevent poisoning? -What are the impacts of poisoning to the society? Chemicals encountered in everyday life will be used as examples to evaluate the hazards and risk of exposure and put them into perspective. Students will learn the basic principles of toxicology, tools for assessing the toxicology of chemicals, effects of chemicals on the body, and why some people are more sensitive to chemicals than others.

VPM 2020. Topics in Veterinary Population Medicine. (; 1-3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer) Topics shell. See title descriptions.

VPM 2400. Managed Captive Wildlife. (3 cr. ; A-F or Audit; Every Fall)

This course is an introduction to key issues at the interface of humans and managed captive wildlife. Topics include: the role of managed captive wildlife species in conservation, education, exhibition, agriculture, and research; biodiversity, urban wildlife, biosentinel science, ethics, and animal welfare; and an introduction to the principles and techniques of the care and management of wildlife species in captive settings.

VPM 2451. Introductory Concepts in Raptor Rehabilitation. (; 1 cr. ; A-F only; Every Fall)

This online course will provide a basic understanding of raptor rehabilitation. Topics include: goals of wildlife rehabilitation; regulatory policies and permits; ethical decision making; anatomy and physiology; diet and

nutrition; housing; restraint and handling; physical exam; and, emergency care.

VPM 2455. Introduction to Raptor Reconditioning and Release. (; 1 cr. ; A-F only; Every Spring)

This 1 credit online course will provide a basic understanding of raptor reconditioning and release, reneating of juveniles, and related management. Topics include: management in captivity; natural and captive behavior; principles of flight and exercise; flight evaluation; creance reconditioning technique; pre-release preparations, transport and release; reneating and release techniques for young raptors; and post-release monitoring.

VPM 2551. Biosecurity for Horse Farms. (; 1 cr. ; Student Option; Every Fall & Spring)

In the era of COVID-19, a need for a better understanding of general biosecurity principles has become clear. This online course provides a general introduction to principles of biosecurity as they pertain to the horse farm with a focus on small farms, boarding facilities, and hobby farm owners. The principles taught in this course also apply to larger enterprises. The information presented will apply to all disciplines of horse riding and horse businesses, and include biosecurity measures that protect horses as well as their humans. The student will obtain practical knowledge and tools that can be immediately applied. The course is taught by College of Veterinary Medicine faculty veterinarians with current, real-world experience in the management and prevention of equine infectious disease and horse husbandry.

VPM 3020. Topics in Veterinary Population Medicine. (; 1-3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)
Topics shell - see title descriptions

VPM 3021. Protecting your Lunch: Food Defense Awareness. (; 1 cr. ; A-F only; Every Fall & Spring)

Protecting your Lunch: Food Defense Awareness presents current issues, challenges, concerns, and activities impacting global food defense. "Food Defense" is the sum of actions and activities related to prevention, protection, mitigation, response, and recovery of the food system from intentional acts of adulteration and disruption. This includes intentional acts from both terrorism and criminal activities. This topics course incorporates case studies as well as current events that directly relate to food system disruption, cause food supply chain interruption, or may provoke intentional adulteration or food fraud.

VPM 4131. Immunology. (; 3 cr. ; Student Option; Every Spring)

Molecular, genetic, and cellular bases for humoral/cell-mediated immunity. Innate immunity. Antigen recognition by B and T lymphocytes. Interactions between lymphocytes and other cells of immune system. Cytokines. Immunoregulation. Key aspects of clinical immunology.

VPM 4400. Diseases in free-ranging and captive wildlife. (3 cr. ; A-F or Audit; Every Spring)

This course will provide a basic understanding of animal health and disease in free-ranging and managed captive wildlife. Topics include: epidemiology of disease, infectious and non-infectious diseases, and potentials impacts of disease on human health, managed agriculture and wildlife for both individuals and populations.

Vienna Executive MBA (VMBA)

VMBA 5700. Managerial Accounting. (; 4 cr. ; A-F or Audit; Every Spring)

How to analyze accounting for use in management decisions. Planning/control. Transfer pricing, performance measurements, cost behavior, cost allocation, activity based costing, standard costs.

VMBA 5701. Data Analysis and Decision Making. (; 4 cr. ; A-F or Audit; Every Spring & Summer)

Exploratory data analysis, basic inferential procedures, statistical process control, regression analysis, decision models.

VMBA 5702. Financial Management. (; 4 cr. ; A-F or Audit; Every Spring & Summer)

Theory/practice of finance from an analytical approach. Students apply concepts of risk, return, valuation to decisions that a corporate financial officer or person engaged in small business must make about sources/uses of funds during changing financial markets.

VMBA 5703. Marketing Management. (; 4 cr. ; A-F or Audit; Every Spring & Summer)

Developing/implementing most appropriate combination of variables to carry out a firm's strategy in its target markets. Analytic perspectives, concepts, decision tools of marketing for product offering decisions, distribution channel decisions, pricing decisions, communication program decisions.

VMBA 5704. Managing People and Organizations. (; 4 cr. ; A-F or Audit; Every Spring)

Theories/frameworks for analyzing behavior of individuals, groups, organization itself. Emphasizes making decisions, developing action plans. Concepts/principles associated with function of human resource management (e.g., personnel selection, reward/compensation, collective bargaining).

VMBA 5705. Operations Management. (; 4 cr. ; A-F or Audit; Every Fall)

Operations management function in different types of organizations. Emphasizes productive, innovative, competitive operations. Concepts/principles related to management of quality/innovation within service/manufacturing organizations.

VMBA 5706. Business, Government, and Macroeconomics. (; 4 cr. ; A-F or Audit; Every Fall)

Roles of government/business in society. Alternative systems of economics, political values. Social, political, economic, cultural conflicts affecting business sector.

VMBA 5707. Economics in Transition. (4 cr. ; A-F or Audit; Every Fall)

Technological, political, and ethical forces that are shaping the competitive environment. Theoretical considerations. Business responses to specific issues. Projects/cases for companies in East Central Europe.

VMBA 5709. Info Tech Mgmt. (4 cr. [max 16 cr.] ; A-F or Audit; Every Spring)

Various information technologies, their applications. Competitive advantages associated with information technology, organizational/managerial implications.

VMBA 5710. Advanced Financial Management for Global Markets. (; 4 cr. ; A-F or Audit; Every Spring)

Advanced financial concepts for corporate financial decisions at executive level. Investment, firm financing, global markets.

VMBA 5711. Managing Globalization (Guangzhou). (4 cr. ; A-F or Audit; Every Spring & Summer)

Developing international strategies for firms wishing to expand into global markets. Emphasizes analyzing opportunities/constraints posed by international environment. Putting global strategies into operation. Managing strategic alliances/networks.

VMBA 5712. Strategies for a Global Company: an Integrative Perspective. (; 6 cr. [max 36 cr.] ; A-F or Audit; Every Spring)

Multi-disciplinary perspectives from strategic marketing, corporate strategy, operations management. Involvement of faculty/corporate executives. Site visits to global companies, student projects. Capstone course.

VMBA 5713. Negotiations and Conflict Management. (; 4 cr. ; A-F only; Every Spring)

Typical challenges faced when negotiating. Strategies for managing challenges and improving skills as a negotiator and conflict manager.

VMBA 5714. Financial Accounting. (; 4 cr. ; A-F or Audit; Every Spring)

External accounting system used by firms to measure economic performance/financial position. Students analyze corporate financial reports. Impact of economic events. Discussions, cases. Role of financial reporting standards/intermediaries.

VMBA 5715. Corporate and Entrepreneurial Strategy. (4 cr. ; A-F or Audit; Every Fall & Spring)

The objective of the course is to help develop analytic skills in the identification of key issues and in the formulation of appropriate strategies for firms, both established and entrepreneurial, facing complex business situations. We also examine the process through which strategic decisions are made and implemented and discuss how strategy is different in the age of the internet.

Virology (VIRO)

VIRO 5030. Virology Research Presentations. (1 cr. [max 10 cr.] ; S-N only; Every Fall & Spring)

This course is designed to enhance knowledge in virology through research presentations as well as the critical evaluation

of presentations of other students and researchers. Presentation will include current virology research, both individual research projects and critical reading, and presentation of current literature. Previously OBIO 5030

Warsaw Executive MBA (WMBA)

WMBA 5658. Financial Management. (; 4.5 cr. ; A-F or Audit; Periodic Fall)

Essentials of financial management theory/practice. Time value of money, valuation of bonds/stocks, risk/return trade-off, capital budgeting, optimal investment decisions, financial analysis/planning, cost of capital, debt/equity choices, firm valuation, mergers/acquisitions.

WMBA 5662. Macroeconomic Business Environment. (; 3 cr. ; A-F or Audit; Every Spring)

Students apply methods of decision-making, and of business/public policy analysis, in various real situations drawn from experience of developed market economies.

Water Resources Science (WRS)

WRS 5050. Special Topics in Water Resources Science. (; 1-3 cr. ; A-F or Audit; Periodic Fall & Spring)

Practical topics for local water resource management. Policy and institutions, watershed science, civic engagement, assessment, communication, implementation practices, and administration. Requires working with a mentor in local water resource management. Online only.

WRS 5101. Water Policy. (; 3 cr. ; Student Option; Every Spring)

Socio-cultural, legal, and economic forces that affect use of water resources by individuals/institutions. Historical trends in water policy, resulting water laws in the United States. Institutional structures whereby water resources are managed at federal, state, and local levels.

WRS 5150. Watershed Specialist Training. (; 2 cr. ; S-N only; Every Fall & Spring)

Practical topics for water resource management professionals. Current policies and institutions, watershed science, civic engagement, assessment, communication, implementation practices, and administration. Requires working with a mentor in local water resource management. Online only.

Writing Studies (WRIT)

WRIT 1001. The Art of Explaining Things: Introduction to Technical Writing and Communication. (3 cr. ; A-F only; Every Fall & Spring)

This course introduces students to the field of technical writing and communication. What do technical communicators do? They explain things! Technical communicators are often tasked with explaining complex ideas to specific audiences through various means. Students will explore the history and current and future trends of the field

through a variety of readings including journal articles and industry publications. Topics in the course include ethics, global communication, collaboration, usability, digital writing technologies, and content management, as well as the rhetorical principles of audience, purpose, and context. Students will gain exposure to current practices in the field through guest speakers and assignments. Other assignments include oral presentations, analytical and research writing, and writing for the web. The format of the class includes lecture, student-led discussions, group activities, and peer review.

WRIT 1201. Writing Studio. (; 4 cr. ; A-F only; Every Fall, Spring & Summer)

Note: this course does not fulfill the first-year writing requirement. WRIT 1201: This course gives students a foundation in the study and practice of writing process and rhetorical frameworks for a variety of genres and skills to enhance writing in and beyond college. This course is for students who want more instruction, practice, and time to develop familiarity with writing tools and processes to support their future college writing and successful completion of WRIT 1301 (fulfillment of FYW requirement).

WRIT 1301. University Writing. (; 4 cr. ; A-F only; Every Fall, Spring & Summer)

WRIT 1301 introduces students to rhetorical principles that provide a framework for successful written communication in college and beyond. Students study and write in a variety of genres and disciplines, and in multimodal forms. The courses focus on writing as a way of knowing and learning to develop ideas through critical thinking, including analysis and synthesis. Based on the assumption that writing is a social activity, the course is a workshop format and requires active engagement in the writing process, including pre-writing, peer review, revision, and editing. Students develop information literacy and hone the ability to locate, evaluate, and effectively and ethically incorporate information into their own texts. The blended model combines two credit hours/week of small face-to-face class with two credit hours of online instruction in Canvas. Some sections are dedicated for international and multilingual students. WRIT 1301 fulfills the first-year writing requirement.

WRIT 1401. Writing and Academic Inquiry. (; 4 cr. ; A-F only; Every Fall, Spring & Summer)

WRIT 1401 students read and analyze increasingly challenging texts and are expected to produce increasingly sophisticated responses. Students analyze how writing works in varying contexts/genres and how it presents complex arguments. Students use and expand their writing process and revision to develop writing form/style and rhetorical content that contributes to conversations and provides new insight. Course work also includes academic genres of reading and writing; development of critical reading practices and critical thinking skills; analysis of writing for rhetorical principles of audience, purpose, and argumentative strategies; and emphasis

on performing research with electronic and print libraries. A properly cited research paper that includes a research proposal and an annotated bibliography is the culmination of the course. WRIT 1401 fulfills the first-year writing requirement.

WRIT 1915W. Arguing with Authority: The Past, Present, and Future of Higher Education. (CIV,WI; 3 cr. ; A-F only; Periodic Fall)

This freshman seminar will introduce students to the intellectual projects of studying and participating in higher education as a participatory institution by inviting freshmen into critical dialogue with past, present, popular, and academic representations of higher education and its civic purposes. We will examine the shifting role of the university in public life and the roles that students and other constituencies have played in shaping the character of higher education through writing and other activities. Designed specifically for first-year students, the course will combine academic skill-building with personal and collective reflection on the actual and possible purposes and values of higher education for individuals and the society.

WRIT 1925W. Magazines and New Media. (WI; 3 cr. ; A-F only; Every Fall)

In this seminar, we will study magazines and other smaller publications - some of which you've already read, some of which you haven't - to discuss and write about their significance as cultural artifacts. How can magazines, when seen as "composed" objects, help us with our own writing? How is the rise of the zine and e-zine responding to the evolving digital age? We will examine all aspects of the magazine, including its art, political statements, target audience, and history. Students will practice some of the forms that the class reads and create an e-magazine.

WRIT 3029W. Business and Professional Writing. (WI; 3 cr. ; Student Option; Every Fall, Spring & Summer)

In this course students practice writing and revising common business documents for today's business world. Students write memos, proposals, cover letters, resumes, and digital and web content as well as practice choice of appropriate formats and media. The course draws from current business practices and stresses workplace collaboration, broader issues of professional literacy, and responsive writing styles. Students practice rhetorical analysis and discuss concepts such as audience, purpose, tone, and context when writing and revising their documents. Students analyze and write from a variety of perspectives and contexts including formal (researched reports, proposals) and informal (email, social media) communication. Students also build a professional online presence through such platforms as LinkedIn.

WRIT 3101W. Writing Arguments. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

Students learn about argument, drawn from a number of theories of argument. This goal is pragmatic: those theories provide a vocabulary for talking about argument and for developing

and refining students' own written arguments. Students get regular practice, coaching, and feedback on their writing skills, primarily as these concern argumentative writing. Students also learn how to analyze argumentative texts, drawn from popular culture, academic fields, and the public realm.

WRIT 3102W. Public Writing. (CIV,WI; 3 cr. ; A-F only; Every Fall & Spring)

Students in this class examine public documents and apply critical/rhetorical analysis regarding audience, purpose, message, power, and context. Students conduct research and write documents for public audiences on contemporary issues of interest.

WRIT 3152W. Writing on Issues of Science and Technology. (WI; 3 cr. ; A-F or Audit; Every Fall & Spring)

Science and technology are key parts of nearly every aspect of our lives, and, just as important, science and technology are highly debated topics in political, economic, social, public, and personal spheres. For example, consider debates regarding genetically modified foods, space exploration, vaccines, oil pipelines, or clean drinking water. This course will push you to consider the ways you think, feel, and write about science and technology. This course will ask you to examine the relationship between language and science and technology. We will spend the semester reading about science and technology, in addition to studying and practicing different strategies, techniques, and approaches for communicating about science and technology. Using rhetorical studies as a foundation, this course will give you the tools to more effectively engage with scientific and technological topics and debates. Finally, and perhaps most importantly, this course aims to foster engagement with scientific and technological conversations. Put simply, students should leave this course caring about scientific and technological issues and wanting to participate in the conversations that surround such issues.

WRIT 3221W. Communication Modes and Methods. (WI; 3 cr. ; A-F only; Every Fall & Spring)

This course presents a survey of fundamental theories and philosophies of communication. Students will become acquainted with several theories of language and linguistic meaning and with principles of non-verbal and relational communication, and will engage in reflection on differences between older and newer media or ?modes? of discourse (speaking vs. writing; conventional print vs. digital text, etc.). In addition to introducing theories and concepts, the course seeks to develop competencies in evaluating and applying them in the analysis of communication in various contexts including face-to-face conversations, ongoing interpersonal relationships, and digitally-mediated interactions.

WRIT 3244W. Critical Literacies: How Words Change the World. (AH,WI,DSJ; 3 cr. ; A-F or Audit; Every Spring)

This course is focused on understanding and using the insights into language and writing

that animate Critical Literacy movements in the United States. Literacy is usually thought of in terms of fundamental abilities to read and write about a reality outside of language. Critical Literacy is an intellectual and social movement that challenges this dominant understanding of literacy. Critical Literacy?s fundamental claim is that texts (and our practices for working with them) invite readers (and writers) to accept particular versions of reality as the Real Truth. Through historical and contemporary models, students will learn how efforts to question and transform dominant ways of using language have played an especially important role in struggles for greater justice by and for oppressed groups. Here, people have used the ideas and methods of Critical Literacy to question how racial, gender, social class, and other privileges structure our language practices and our daily experiences. Students will be invited to apply a critical understanding of literacy to their own writing as they analyze course texts and produce original essays on topics of interest to them.

WRIT 3257. Technical and Professional Presentations. (3 cr. ; Student Option No Audit; Every Fall)

In this course students develop oral presentation skills for technical or professional topics. Areas of study in the course include visual communication, audience analysis, presentation strategies, and presentation of complex research material. The course emphasizes use of digital technologies. Recommend that students take Comm 1101 or equivalent first

WRIT 3270. Special Topics. (; 1-3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring) See Class Schedule.

WRIT 3315. Writing on Issues of Land and the Environment. (AH,DSJ; 3 cr. ; A-F or Audit; Every Spring)

This course explores how written texts help shape understandings of the land in the U.S. Students read and analyze historical texts that have contributed to colonialist understandings of nature and the land. Students will study how the rhetorical strategies of such texts helped to form exploitive relations with the land and enact violence against indigenous peoples. Historical and current texts written by native peoples provide a counter-narrative to the myth of progress. Emphasis in the course is placed on analyzing texts with an eye toward setting the ground for conversations aimed at achieving sustainability and justice. Students will also study how written texts are composed within material contexts that contribute to their understanding.

WRIT 3371W. Technology, Self, and Society. (TS,WI; 3 cr. ; A-F only; Every Fall)

Cultural history of American technology. Social values that technology represents in shifts from handicraft to mass production/consumption, in modern transportation, communication, bioengineering. Ethical issues in power, work, identity, our relation to nature.

WRIT 3381W. Writing and Modern Cultural Movements. (AH,WI; 3 cr. ; A-F or Audit; Every Fall)

This course explores how written texts help to shape modern art and cultural movements. Writ 3381 first develops an understanding of the manifesto form by reading primary examples written by artists from such movements as Cubism and Expressionism. Students study the complex written and visual strategies of those texts and how they contributed to social and political change in the modern world. Out of those attempts to change culture, students will be challenged to consider how particular writing strategies developed in the U.S. aimed at bringing about change in 1960s culture in areas such as the women's movement, the move toward racial equality, and the environmental movement. Toward the end of the course, the writings of current movements are taken up as building on and departing from past writing and rhetorical strategies. Students both read about and practice writing strategies studied in the course.

WRIT 3405W. Humanistic Healthcare and Communication. (AH,WI; 3 cr. ; Student Option; Every Spring)

Humanistic Healthcare and Communication focuses on critically therapeutic patient-provider communication. Topics surveyed include: health literacy, cultural and risk communication, health communication, narrative theory and digital medicine. These topics are brought to bear on three historical moments in the history of medicine when humanism entered or was displaced in medical practice. Students will be exposed to writings, visual arts and music created by physicians and nurses throughout history and write critical essays on these. These will prep students for the new MCAT exam. A variety of guest lecturers from the medical profession will discuss case histories that demonstrate the course themes in practice.

WRIT 3441. Editing, Critique, and Style. (; 3 cr. ; A-F only; Every Fall & Spring)

In this course, students will increase their understanding of how language works and will learn to make choices about language, style, and punctuation to create messages that are clear, concise, and useful. The course emphasizes technical communication, but the skills learned can be applied to any communication situation. Editing practice will include three levels of editing to make the documents comprehensible and useful in which students will not only polish their grammar and punctuation skills, but they will also learn how to explain and justify changes they make in documents. Topics also included in the course are editing methods for both paper and electronic copy and editing for organization and visual design.

WRIT 3562V. Honors: Technical and Professional Writing. (WI; 4 cr. ; A-F only; Every Fall)

Written and oral communication in professional settings, gathering research, analyzing audience, assessing and practicing multiple genres. Draft, test, revise present findings in oral presentation. Honors section includes discussion on scholarly readings in technical and professional writing as well as a final

project that must be addressed to a real-world audience.

WRIT 3562W. Technical and Professional Writing. (WI; 4 cr. ; A-F only; Every Fall, Spring & Summer)

This course introduces students to technical and professional writing through various readings and assignments in which students analyze and create texts that work to communicate complex information, solve problems, and complete tasks. Students gain knowledge of workplace genres as well as to develop skills in composing such genres. This course allows students to practice rhetorically analyzing writing situations and composing genres such as memos, proposals, instructions, research reports, and presentations. Students work in teams to develop collaborative content and to compose in a variety of modes including text, graphics, video, audio, and digital. Students also conduct both primary and secondary research and practice usability testing. The course emphasizes creating documents that are goal-driven and appropriate for a specific context and audience.

WRIT 3577W. Rhetoric, Technology, and the Internet. (TS,WI; 3 cr. ; A-F only; Every Fall & Spring)

This course examines the rich and complex ways people are seeking to inform and persuade others via the internet. Western rhetorical theories have adapted to address spoken, written, visual, and digital communication. The internet incorporates aspects of all of these modes of communication, but it also requires us to revisit how we have understood them. Students in Rhetoric, Technology, and the Internet will reinforce their understandings of rhetorical theories and the internet as a technology. The class will also ask students to read current scholarly work about the internet, and develop the critical tools needed to complement, extend, or challenge that work.

WRIT 3671. Visual Rhetoric and Document Design. (3 cr. ; A-F only; Every Fall & Spring)

This course approaches the challenges of document design by drawing upon principles from rhetorical theory and scholarship. In practical terms, this means that the design questions addressed in this class are understood in terms of specific audiences and specific contexts. Students in this class will pursue a blend of critical analysis ? drawing on rhetorical principles ? and document design. While Visual Rhetoric and Document Design assumes no baseline design training, class assignments will encourage students to put theory into practice and develop documents that reflect current best practices in print and digital spaces.

WRIT 3672W. Project Design and Development. (WI; 3 cr. ; A-F or Audit; Every Spring)

If you want to put design thinking, agile project management, teamwork, writing, research, analysis, and critical thinking on your resume, join Project Design and Development. You will study, plan, research, design, and

develop technical communication materials in a design-thinking, collaborative-writing environment. You'll work in teams to create a user manual and information graphic, promotional materials, and a social media campaign while planning and documenting your projects and productivity. You will leave the course with knowledge and skills you can put to work in any organization: small business, nonprofit, and corporate. The course develops competencies that the National Association of Colleges and Employers has named as most-valued by employers: critical thinking, written communication, collaboration, digital technology, leadership, and professionalism.

WRIT 3701W. Rhetorical Theory for Writing Studies. (WI; 3 cr. ; A-F only; Every Fall & Spring)

This course is designed to explore major issues and perspectives in rhetorical criticism, including foundational concepts from the history of rhetorical theory, elements of rhetorical studies, and methods of rhetorical analysis. Rhetoric is an art form with a diverse theoretical landscape, meaning that there is no singular, stable definition of the term; rather, rhetoric is a practice that has been used as an organizing principle for a variety of communicative acts ? written, spoken, and enacted. As such, the study of rhetorical theory and criticism begins with the understanding that human beings use language and symbols to shape our many worldviews. The skills obtained in this class will help you to understand the nature and function of the persuasive strategies that structure our everyday lives and arguments. As a writing-intensive course, you will also learn how to construct a piece of rhetorical criticism that draws upon a toolbox of ideas and methods to successfully articulate a rhetorical argument.

WRIT 3751W. Seminar: Theory and Practice of Writing Consultancy. (WI; 3 cr. [max 4 cr.] ; Student Option; Every Fall)

This course is a seminar in the theory and practice of teaching writing through one-to-one consultations. Our goal in this seminar is to develop as writers and writing consultants through investigating into, experimenting with, and reflecting upon our own literacy practices; reading carefully and discussing published research and theory as well as examples of our own and other students' writing; posing and exploring questions about writers, writing consulting, language and literacy learning, linguistic diversity, and the role of writing centers within higher education; observing, practicing, and reflecting on a variety of consulting strategies; and designing, conducting, and presenting our own writing center inquiry projects. Through reflective writing, in-class consultations, class discussions, and collaborative activities, we will learn together many approaches for conducting one-to-one conferences and for coaching students in their development as writers. prereq: Currently working in a University writing center, instr consent

WRIT 3896. Internship in Technical Writing and Communication. (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)

This is an online course for students who are working in an approved internship in the field of technical communication. Students have the opportunity to apply the skills they have learned in the TWC major in a real-world situation. In the course, students are required to read materials, to submit bi-weekly progress reports on their position to an online forum, and respond to other students. Students are also asked to post examples of their projects and to rate their skills using the CLA Competencies and Rate Tool. The final project in the course is a 10-12 page final report that involves submitting a draft and meeting with the instructor. prereq: Writ 3562W and 24 credits completed in the Technical Writing & Communication major

WRIT 3993. Directed Study. (1-4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Supervised reading/research on topics not covered in regularly scheduled offerings. Intended primarily for upper division undergraduate students. prereq: instr consent, dept consent, college consent

WRIT 4431W. Science, Technology, and the Law. (CIV,WI; 3 cr. ; A-F only; Every Fall)

In this course students explore the effects of scientific and technological development on the law?and the effects of the law on scientific and technological development. In particular, students will read and discuss government regulation, constitutional guidelines and rights, and federal and state court precedents regarding privacy, intellectual property (patents and copyright), and health law. Specific topics include the following: Search warrants and Four Amendment rights, electronic surveillance law, national security and foreign intelligence, copyright and fair use, citizens' access to creative works, informed consent, medical expert testimony in the courtroom, and the right to medical treatment. Students will have the opportunity to express their opinions and display their analytical skills in three take-home essay exams. Students from all majors are welcome, including those students interested in law school.

WRIT 4501. Usability and Human Factors in Technical Communication. (; 3 cr. ; A-F only; Every Fall & Spring)

Usability is concerned with how people interact with design and technology; usability is commonly known as the "ease of use" of products and technologies by a range of users. This course emphasizes usability and user research and will explore the intersection of usability and technical communication. We will investigate definitions of usability and user-centered design principles, and we will explore a variety of usability research methods including heuristic evaluation, personas, and usability testing. The course will focus heavily on usability testing of web sites, a common technical communication task that involves observation and interviews of human participants interacting with a web site.

WRIT 4562. International Professional Communication. (; 3 cr. ; A-F only; Spring Even Year)

This course prepares students to navigate the increasingly global nature of communication and the challenges and opportunities it presents. Students learn how to develop content for and work with clients and colleagues from other cultures, communicate with multicultural audiences, and collaborate in virtual global teams using multiple synchronous and asynchronous technologies. The course includes work with peers and international scholars from various parts of the world. Projects include a metaphorical comparative analysis of cultures; management (global virtual team work) of a translation project with students from another country; interviews with managers/employees in multinational corporations; and curation work with an international archive on emerging technologies.

WRIT 4573W. Writing Proposals and Grant Management. (WI; 3 cr. ; A-F or Audit; Spring Odd Year)

This advanced-level Writing Studies course introduces students to the activities, responsibilities, challenges, and opportunities that characterize proposals for nonprofits and/or research/business. Students analyze unique proposal writing situations, including audiences (customers, reviewers, and teammates) and resources (collaborators, templates, and time). Students practice the entire process of proposal and grant writing: 1) describing the problem in context; 2) identifying sponsors and finding a match; 3) designing, writing, revising, and completing all proposal components; 4) conceptualizing and using persuasive visual elements; and 5) presenting and responding to stakeholders and sponsors.

WRIT 4662W. Writing With Digital Technologies. (WI; 3 cr. ; A-F only; Every Fall)

WRIT 4662W is an advanced level Writing Studies course that explores various digital writing technologies and provides multiple opportunities to assess writing situations and make appropriate decisions about digital form and production. Students will learn the basic building blocks of writing in Internet environments (text, sound, images, video) as well as the vocabularies, functionalities, and organizing structures of Web 2.0 environments, how these impact understanding and use of information, and how to produce these environments (i.e., multimedia internet documents) for interactivity and use. This course includes design projects and practice with apps, markup language, content management systems, video, and social media. prereq: Jr or sr or instr consent

WRIT 4664W. Science, Medical, and Health Writing. (WI; 3 cr. ; A-F or Audit; Every Fall)

This course explores the theories and practices of rhetoric and writing in science, medicine, and health (SMH). Students learn about genres of SMH communication including regulatory documents from the FDA, podcasts created by scientists for the public, patient blogs, and published research articles. The course also engages topics including accessibility, writing in regulated environments, writing for complex audiences, and engaging biomedical

and scientific research in writing. Students are challenged to consider how language, science, biomedicine, and health intersect and how different stakeholders such as patients, healthcare providers, scientists, government officials, and insurance companies engage in SMH communication.

WRIT 4995. Technical Writing and Communication Capstone. (1 cr. ; A-F only; Every Fall, Spring & Summer)

Capstone project addressing topic in writing studies related to WRIT course. Must be done in conjunction with concurrent 3xxx or 4xxx level course in Writing Studies that student is taking. Instructor permission required for registration.

WRIT 4999. Technical Writing and Communication Capstone. (3 cr. ; A-F only; Every Fall & Spring)

The Senior Capstone course is a culminating experience for all Technical Writing and Communication majors. This course is designed to facilitate individualized student projects that combine previous knowledge, skills, and experiences developed as a TWC major into a senior project. Specifically, students will design and carry out a project of their own design under the guidance of the instructor. Students taking this course should have completed the majority of the TWC core requirements. It is recommended students take it the last semester of their senior year.

WRIT 4999H. Technical Writing and Communication Honors Capstone. (; 3 cr. ; A-F only; Every Fall & Spring)

The senior capstone course is a culminating experience for all Technical Writing and Communication majors. This course is designed to facilitate individualized student projects that combine previous knowledge, skills, and experiences developed as a TWC major into a senior project. Specifically, students will design and carry out a project of their own design under the guidance of the instructor. Completing the honors thesis is a year long effort. Students graduating with Latin Honors should enroll in Writ 4999H during the first semester of their senior year. Students may register for 1 credit in WRIT 3993 their second semester. Students not graduating with Latin Honors should register for Writ 4999.

WRIT 5001. Introduction to Graduate Studies in Scientific and Technical Communication. (; 3 cr. ; A-F only; Every Fall)

This course offers an overview of the field of scientific and technical communication. Students learn about the history of the field including job titles, industries that hire technical communicators, and trends in the field. Students also learn about research methods (including audience analysis and usability testing); software and apps commonly used in technical communication; social issues in technical communication (including legal, ethical, and organizational); and international issues (including writing for regulated environments such as in the medical device industry). Projects are multi-modal and include written reports; slide presentations with and

without voice recordings; visual communication including user documentation and movies. Some projects are done individually but most are done in virtual teams. Weekly discussion forums provide students with opportunities to lead and summarize key themes from each week's topic. Students in this class participate within a community of technical communication professionals and typically have a background in technical communication, medical/science communication, engineering, software, usability, customer support, writing and communication, marketing, or similar area.

WRIT 5051. Graduate Research Writing for International Students. (; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Graduate research writing emphasizes writing techniques, structures, style, and formal language for scholarly writing including research proposals and abstracts, critiques/reviews, and thesis/dissertations and publications. Special focus on field-specific scholarly expectations, documentation, structure/style, grammar, formal or scholarly vocabulary, and extensive revising/editing based on instructor and mentor feedback to meet graduate standards. Discussions. prereq: Grad student

WRIT 5052. Graduate Research Presentations and Conference Writing for Non-Native Speakers of English. (; 3 cr. ; Student Option; Every Fall & Spring)

Practice in writing/presenting graduate-level research for conferences or professional seminars. Delivery of professional academic presentations to U.S. audiences. Conference abstract, paper, and poster presentation. Communication in research process. Students select topics from their own research/studies. Format, style, transitions, topic narrowing, non-verbal presentation skills. prereq: [Grad student, non-native speaker of English] or instr consent

WRIT 5112. Information Design: Theory and Practice. (; 3 cr. ; A-F or Audit; Every Spring)

This course examines how verbal, visual, and multimedia content can be designed and combined to create meaning, improve comprehension, and make information more usable. Emphasis is placed on the rhetorical roles of visual elements in print and digital communications, and how technical communicators can use visual means to reach audiences, convey information, and achieve rhetorical goals. Students read and discuss theory, practice information design skills, and apply both to real communications projects suitable for inclusion in a professional portfolio. Projects focus on print and web content design and development; the information design process (plan, design, develop, layout, testing); project planning toward deliverables (web sites, signage, wayfinding); and universal design (color, symbols, etc.)

WRIT 5196. Internship in Scientific and Technical Communication. (; 3-6 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Internship sites may include the University, industry, or government agencies. An internship proposal, progress report, internship

journal (optional), and final report with a letter from the internship supervisor are required.

WRIT 5270. Special Topics. (; 3 cr. [max 9 cr.]; Student Option; Periodic Fall & Spring) Topics specified in Class Schedule.

WRIT 5291. Independent Study, Reading, and Research. (; 1-3 cr.; Student Option; Every Fall, Spring & Summer) Supervised reading/research on advanced projects not covered in regularly scheduled offerings. prereq: instr consent, dept consent

WRIT 5501. Usability and Human Factors in Technical Communication. (; 3 cr.; A-F only; Every Spring)

Usability is concerned with how people interact with design and technology; usability is commonly known as the "ease of use" of products and technologies by a range of users. This course emphasizes usability and user research and will explore the intersection of usability and technical communication. We will investigate definitions of usability and user-centered design principles, and we will explore a variety of usability research methods including heuristic evaluation, personas, and usability testing. The course will focus heavily on usability testing of web sites, a common technical communication task that involves observation and interviews of human participants interacting with a web site.

WRIT 5531. Introduction to Writing Theory and Pedagogies. (; 3 cr.; A-F or Audit; Every Fall)

This course explores the nexus of theory and practice in terms of writing instruction and of technical writing and communication to help students identify their pedagogical positions and concrete practices. Designed as a collaborative, exploratory space for a community of teacher-scholars, it approaches the teaching of writing as a process that is both practiced and studied, is aided by reflection with others, and requires ongoing revision. Course texts address the scholarship of Composition, Rhetoric, and Technical Writing. Students put these texts in dialog, including with the "texts" of their classrooms, to examine and reflect on their teaching practices. The course centers acts of engagement and reflection and emphasizes pedagogical inquiry. Students learn to: place a range of theories on writing instruction in conversation with their teaching; reflect on classroom practices and pedagogical theories; articulate individual philosophies of teaching; explore pedagogical issues of personal interest; foster pedagogical "habits of mind" that serve students in classrooms at the UMN and beyond; and contribute to an active, supportive, and collaborative teaching community. prereq: Grad student

WRIT 5532. Practicum in Writing Pedagogies. (; 1 cr. [max 3 cr.]; S-N only; Every Fall & Spring)

WRIT 5532 is designed as a collaborative, developmental, and exploratory space for graduate instructors in the First Year Writing (FYW) program. The course approaches the teaching of writing as an iterative and

situated process that is both practiced and studied, is aided by reflection with others, and requires ongoing revision. Course texts include scholarship in Teaching and Learning, in Writing Studies, and in First-Year Composition. These texts will be brought into dialog with the WRIT 1301 classes all students are teaching. The course addresses such questions as: How do people learn, how do they learn writing, and how can instructors teach writing based on those understandings? How can instructors design environments, materials, and practices that equitably help students learn about writing and develop as writers? Class discussions and assignments also invite students to identify and address challenges, tensions, and pedagogical issues of personal interest; to develop habits of mind that will serve them in other classrooms in their teaching careers; and to articulate the classroom practices and pedagogies informing their teaching philosophies. Students in the RSTC MA and PhD programs take WRIT 5532 in spring of their first year after taking WRIT 5531 in fall term. Graduate instructors from other departments who teach WRIT 1301 must register for one credit of WRIT 5532 in the fall and one credit of WRIT 5532 in the spring during their first year teaching in the FYW program. Spring sections of WRIT 5532 are organized as biweekly reflective practice groups (RPGs). RPGs will build on fall term course content in discussions of readings, in teaching journal reflections, and to build teaching portfolios.

WRIT 5561. Editing and Style for Technical Communicators. (; 3 cr.; A-F only; Every Summer)

In this course, students learn strategies for editing and revising writing for technical and non-technical audiences. Students practice three levels of editing skills: proofreading, copyediting, and comprehensive editing. Strategies include advanced grammar and style, editing tools, quantitative data, global documents, and various style guides. Students also examine an editor's role with authors, in organizations, in global contexts, and in ethical situations. Editing projects focus on the three levels of editing, using proficient methods, collaborating between authors and editors, identifying audience and contexts, editing documents according to style guides, and using rhetorical principles to analyze and edit final documents.

WRIT 5570. Minnesota Writing Project Directed Studies. (; 1-3 cr. [max 9 cr.]; A-F or Audit; Every Summer)

Guided individual research into current theories/practices of writing and writing pedagogy.

WRIT 5662. Writing With Digital Technologies. (; 3 cr.; A-F only; Every Fall)

This course explores current and emerging digital writing technologies and teaches students to assess writing situations and make appropriate decisions about digital form, production, and scholarship. Students learn the basic building blocks of writing in Internet environments (text, sound, images, video, interactivity); the vocabularies,

functionalities, and organizing structures of Web 2.0 environments and how each impacts understanding and use of information; and how to produce Web 2.0 environments (i.e., multimedia internet documents) that facilitate interactivity and use. This course includes design projects and practice with apps, markup language (html and xml), and content management systems.

WRIT 5664. Science, Medical, and Health Writing. (; 3 cr.; A-F or Audit; Every Fall)

This course explores the theories and practices of rhetoric and writing in science, medicine, and health (SMH). Students learn about genres of SMH communication including regulatory documents from the FDA, podcasts created by scientists for the public, patient blogs, and published research articles. The course also engages topics including accessibility, writing in regulated environments, writing for complex audiences, and engaging biomedical and scientific research in writing. Students are challenged to consider how language, science, biomedicine, and health intersect and how different stakeholders such as patients, healthcare providers, scientists, government officials, and insurance companies engage in SMH communication.

WRIT 5671. Visual Rhetoric. (; 3 cr.; A-F only; Periodic Spring)

This course investigates current understandings of how visuals participate in and extend the rhetorical strategies long associated with speech and writing. Students explore developments in the discipline of visual rhetoric by engaging with an emerging canon of texts that survey the work of rhetoricians, graphic designers, graphic novelists, commercial artists, fine artists, and technical communicators. Emphasis is placed on the use of visuals in science and technology; identifying shared principles of persuasion through visual information; developing the vocabulary to comment on, critique, and create visuals; and assessing whether visuals meet the needs of intended audiences.

WRIT 5775. Rhetorical Traditions: Classical Period. (; 3 cr.; A-F or Audit; Fall Odd Year)

This course provides an intensive survey of rhetoric as understood and practiced in ancient Greece and Rome, and serves as an introduction to graduate-level study of historical rhetoric more generally. The course attends to the development of the discipline of rhetoric in the Classical world and to the recurring themes that constitute "the rhetorical tradition." Class discussions and assignments assess the epistemological foundations, ethical status, and socio-political importance of ancient rhetorical training and discourse. Primary readings (in English) include works by sophists and orators of the Greek Classical period, Isocrates, Plato, Aristotle, Cicero, Quintilian, and others. Secondary readings and class discussion will consider political, cultural, and philosophical contexts for ancient rhetorical theory, oratorical practice, and the teaching of speech and writing. This course will prepare graduate students for preliminary exams, research, and pedagogical encounters in rhetoric.

WRIT 5776. The Rhetorical Traditions: Modern Era. (3 cr. ; A-F or Audit; Fall Even Year)

This course is designed to acquaint graduate students with different traditions of rhetorical theory. It surveys a range of rhetorical tools/ methods, and sets out to assist students to find a clear purpose for using rhetorical theory and to develop a structured approach to their objects of criticism. It prioritizes Black, Indigenous, transnational, and anti-racist approaches to rhetoric, and situates those as foundational to the traditions of such theoretical traditions as semiotics, deconstruction, genealogy, affect theory, assemblage theory, and psychoanalysis. It is intended to prepare students for comprehensive exams, conference presentations, and pedagogical encounters with rhetoric.

Youth Development and Research (YOST)**YOST 1001. Seeing Youth, Thinking Youth: Media, Popular Media, and Scholarship.** (CIV; 3 cr. ; Student Option; Every Fall & Spring)

This course is an invitation to meet and engage with the field of Youth Studies. This is an introductory course to a subject you already know about? you've lived its content; thought about it; you may even written poems, made a video or posted a meme about this life-moment. Since you know this so well, why take a university course on it? You will leave this course better able to notice the young people around you; wonder about them and their lives; name, describe and analyze what you see and hear and read about youth. This course is about all young people. This means that we are attentive to including material about youth from diverse backgrounds, many ethnic/racial, social class, linguistic, and geographic locations or those who have a variety of physical and mental capacities, those who are ?normal? and ?typical? and those who are ?not?. Together, we will examine myths and stereotypes about youth, where they come from, and how to deconstruct them using a variety of lenses-- social, popular and news media, young adult novels, academic articles, biographies, and more. We will do this through engaging class discussions and activities. You will learn how to use critical ethnography ?in the field? where you will observe and write about youth in a variety of settings including malls, sporting events, busses, coffee shops, and music venues. We believe that an introductory college course is a space and time to reflect, analyze, and learn about what matters to you, about who you are and about the work others have done and what you want to do. In these ways, this course introduces ways of being an engaged and thoughtful student, citizen and professional, all of which require critical thinking skills and an ability to work across difference and diversity. In this course, students will develop skills in assessment, reflection/reflexivity, deconstruction, empathy and judgement; all precursors for professional decision-making in careers like youth work, policy, public health,

education, communications, and other fields. We hope this course may lead to reflecting on your occupational future and vocational call.

YOST 1366. Stories of Resistance & Change: Youth, Race, Power & Privilege in the U.S.. (DSJ,LITR; 3 cr. ; Student Option; Every Fall & Spring)

This course imagines literature as an opportunity to complement other understandings of youth, and to help those who work with children and adolescents to better understand their lived experiences. We will read classic and contemporary literary texts that respond to the needs, wants, and existential questions that surround young people's lives, and makes them visible to learners in the class who want to better understand children and adolescents in diverse settings across the United States. Youth Studies at the University of Minnesota, prepares students to work towards understanding and helping to improve the everyday lives of diverse youth. By being in this class, reading our course texts carefully, and by engaging in learning activities with classmates, students have the chance to take away new understandings from powerful stories about youth. In fact, the texts in this course contain important descriptions of how oppression looks and feels to young people as they navigate institutions and see the impacts of structural inequality on themselves, communities, families, and friends. The young people in these texts show tremendous agency, and show meaningful examples of resistance on large and small scales. We will work together with course texts about how young people challenge and are challenged by their surroundings, and take away new meanings about how young people have promoted social justice and change. Learning activities in this class will include reading, writing, quizzes and exams and a course project. In class learning activities include discussion, presentations, activities, and a high level of participation is expected. Why literature? Literature can be thought of as one way of knowing about the daily lives of youth. Because literature offers a rich detailed framework of meaning showing the diverse contexts of lives of children, teenagers and young adults, youth workers can use the tools of literature to make youth work meanings from literature in which young people are primary to the text. Literature can make up a new lens through which learners can understand the daily and everyday lives of youth, and can complement the important social science lenses you may already bring to the class. Students are encouraged to develop a new set of questions about youth as they use the formal tools of literature to read literary texts that represent a range of styles, formats, themes, and choices. Diversity and Social Justice Literature that centers on young people from multicultural settings offers an opportunity to think about what it is that students already know about youth from diverse backgrounds, and to question whether their understanding is correct or if there are gaps in knowledge. In other words, a course goal will be to identify epistemological gaps between what we think

we know about youth, race, gender, and power and privilege, and how that is confirmed and/ or made more complicated by a larger body of knowledge about social constructions of power and privilege. This course calls on our literary texts to challenge and deconstruct dominant narratives about youth and their communities. Learners in this course enter into an ongoing conversation about what social justice for youth means in the context of unequal distribution of power and constructions of privilege and oppression.

YOST 1368W. Youth Global Perspectives. (GP,WI,LITR; 4 cr. ; Student Option; Every Fall & Spring)

This course uses literature by a diverse array of global authors as a window into youth experience and representation. We identify dominant narratives constructed through education, culture, religion, and media, and examine how authors and readers offer counternarratives. We work within social justice and decolonizing frameworks to understand how global power relations and our own perspectives are shaped by U.S. and European imperialism. We embrace the liberatory and expressive possibilities of narrative, while also recognizing the constraints exercised by the publishing industry and English language dominance. Literature opens up conversations about the lived experiences of youth. It invites us to empathize with experiences beyond our own, and provides an opportunity to highlight how cultural contexts shape interpretation. Together we will read, reflect, and analyze global texts by, for, and about youth. Accountability for readings takes the form of quizzes and reading responses. Students build skills of critical analysis through writing assignments, examining the array of choices authors make and the impact they have on audiences. Class is structured as a collaborative and interactive experience, with an emphasis on small group activities and participation.

YOST 2101. Urban Youth and Youth Issues. (DSJ; 4 cr. ; Student Option; Every Fall & Spring)

This course explores issues faced by youth, especially those who live in or are characterized by our understanding of urban areas. We explore by asking questions like: ? Which youth are labeled as 'urban' and by whom?? ?What has contributed to notions of ?urban? and ?suburban??" ?What are the associated myths and stereotypes?? and ? How are urban communities policed and what are the consequences of this policing?? We will critically examine what the term ? urban youth? means, how it has evolved over time and place, its relationship to power and privilege, and its use as a ?code word? with implicit associations of race, poverty, and violence. Using a critical Youth Studies framework, which engages with the role of historical, social, cultural, geographical, and political contexts, we seek to understand how each of these axes of power-relations influence the opportunities and struggles of young people, their interaction with institutions and the construction of their identities in

particular places. This class is a part of the Community Engaged Learning (CEL) program. Students will combine direct work with youth in the community with classroom learning. The objective is for students to make valuable contributions to communities, gain practical experience and apply the knowledge gained in the classroom to their service learning work. Students will also be able to discuss, reflect and write about their community ? engaged experiences. This class offers a unique opportunity to engage with diverse youth in different settings thus gaining valuable skills that can be useful for future professional practice in many fields including, education, recreation, mental health, and youth work. prereq: YOST 1001 or instr consent

YOST 2241. Experiential Learning. (4 cr. ; Student Option; Every Fall & Spring)

Youth work is often described as 'highly experiential' and transformative. But what does that mean? Youth workers understand, sometimes intuitively, that 'learning by doing' makes sense, but why? Is all experience equally valid, moral, and educative? What makes an experience educative or mis-educative? What is the difference between experiential education and experiential learning? This course will explore a range of definitions given to experiential learning and will lay a sound theoretical foundation for understanding it, particularly in the context of youth work. This class is interactive and uses hands-on and in-the-field learning in its instruction. In any given class, students may hike, rock climb, practice meditation, engage in animal therapy, canoe, visit gardens, outdoor STEM classrooms or simply go on the lawn outside of the classroom in order to engage in youthwork ?icebreakers? and ?games.? The intention in this, is to learn by doing; to learn about by simultaneously learning how-to! Through experience, you will learn about the importance of place and history in experiential education; multiple theories and practices of experiential education, including the Learning Cycle Theory and educative and mis-educative experiences; methods of reflection and assessment, group facilitation, leadership skill development in youth; values curiosity and the outdoors. prereq: YOST 1001 or instr consent

YOST 3001. Introduction to History & Philosophy of Youthwork. (DSJ,HIS; 4 cr. ; Student Option; Every Fall & Spring)

This course exposes students to a depth of perspectives on young people and youth work. Exploring various historic and philosophical origins of ?normal? childhood, we unveil the way our modern understandings of child, youth, and adolescent draw upon a rich history of sexist, colonialist, and racist science. To do so we explore Indigenous, early European, Middle-Class, and W.E.I.R.D. (Western, Educated, Industrialized, Rich, Democratic) notions of childhood. We explore how these ideas are operationalized into practices on youth/youthwork. We explore how contemporary organizations of American youthwork and youth development, then took up and applied these ideas thus naturalizing

modern norms and expectations of child and youth. This course covers the philosophical and historical foundations of youthwork in a critical and interactive way through a review of youth, youthwork, and youth organizations set in the context of the past 500 years. The course is designed to encourage students to examine their familial histories, timelines and geographies and through collaborative and interactive learning, begin to explore how these histories, combined with others, helped to shape the ways that we think about youth and how this thinking collectively shapes youth policy, practice, and the institutions within which we meet and work with young people. All of this with the goal of becoming more effective and thoughtful when working with young people in youthwork settings. Whether you choose to work in youthwork settings or in other human service organization or agency, developing a sense of cultural humility and skills to understand historical data, philosophical frames and current practices will be critical to your success in professional arenas. prereq: YOST 2xxx or instr consent

YOST 3011. Young Voices: The Fight for Social Change in Croatia. (GP; 3 cr. ; A-F only; Periodic Summer)

This international immersion course explores the history, struggles, accomplishments, and experiences of Croatian young people who have engaged in social change efforts. Our focus will be on young people's involvement in a diverse range of social change movements and how these emerged, how they worked, and what caused them to decline.

YOST 3032. Adolescent and Youth Development for Youthworkers. (; 4 cr. ; Student Option; Every Fall & Spring)

In this course, we will explore the multitude of theories that have been proposed to describe, understand, and even explain young people in the second decade of life and beyond. Indeed, we will be studying development theories that have been used to explain your own life and experience. This gives us a unique perspective in the class. You have first hand experience that can be used to interrogate the theories and often illustrate both the strengths and weaknesses of each. Over the course of the semester, we describe, discuss, and critique six theories of adolescent and youth development, including: Social Justice Youth Development, Participatory Youth Development, Community Youth Development, Positive Youth Development, Adolescent Development, and Recapitulation. We begin with the most recent theory and then using academic archeology, dig back through time to understand not only the individual theories but also how they connect and join to each other. Along the way, we also discuss the social and cultural events and situations that influenced each theory?s development and often demise. A major goal of this class is to better understand where these theories come from, what they are connected to, and often how they are used to both support and marginalize young people. Class will be interactive, using both small and large group discussion, experiential learning activities, and

guest lecturers. The major assignment for the class is a grant writing project, where students will collaborate with a youth-serving organizing to develop a grant proposal that addresses the organization?s needs. This project will be used to deepen understanding of how to apply the theories we learn in class, as well as to develop skills around writing strong grant proposals for youth-serving organizations. prereq: YOST 1001 or 2101, [any Psych or CPsy course], or instr consent

YOST 3101. Youthwork: Orientations and Approaches. (4 cr. ; Student Option; Every Spring)

Within the U.S. there is an ongoing conversation about what values, knowledge, skills, and practice are basic to the field of youth work. The occupational title, youth worker, is not widely recognized with a set of knowledge, skills, and attitudes that distinguish it from other occupations that work with young people (teacher, coach, social worker). Often youth worker is taken to signify those who ? work with youth.? In recent years there have been attempts to clarify and specify what a youth worker does, whom a youth worker should be, and how one should be educated for this type of work. These debates now occur within international and national movements to ?professionalize? youth work. In this course, we enter this conversation by considering the multiple ways of becoming, being a youth worker, and doing youth work. Toward the end of the course, we will also explore how context?agency, street, and neighborhood? can have consequences on all three of these. To be knowledgeable participants in these conversations you must know the possible answers to at least four questions. Who are young people? What is youth work? Who are youth workers? Where is the location of the work? For each of these questions, we explore the diverse answers, given by scholars and practitioner, here in the United States and internationally. How one chooses to answer any one of these questions has consequences for the other three. Attention is also given to how you and I choose to answer these questions given our own experience of being a young person and our current interactions with young people. At the end of this course, you will be able to participate at a beginning level in the conversations that are of concern to youth work and enhance your direct work with, on behalf of, and/or for young people. In the process, you will have begun constructing and articulating a personal philosophy of youth work. prereq: One gen psy course, one gen soc course, or instr consent

YOST 3240. Special Topics in Youth Studies. (; 2-8 cr. [max 10 cr.] ; Student Option; Periodic Fall, Spring & Summer)

In-depth investigation of one area of youth studies. Teaching procedure/approach determined by specific topic and student needs. Topic announced in advance. prereq: [Two social sci courses, exp working with youth] or instr consent

YOST 3291. Independent Study in Youth Studies. (; 1-9 cr. [max 18 cr.] ; Student Option; Every Fall, Spring & Summer)

Independent reading or research under faculty supervision. prereq: instr consent

YOST 3325W. Project-Based Writing For Education and Human Development Majors.

(WI; 4 cr. ; Student Option; Every Fall & Spring)
Designed for those CEHD learners who seek to fulfill the upper level writing intensive requirement in a way that is relevant to their major and field of study, this course will support you as you manage a larger writing project. Learners in this course will form a community of writers, as each grapples with the challenges of a major project focusing on a meaningful problem or issue in your field of study. Some of the most important and most challenging work you face as you near graduation in your major is the work of bringing your academic training to bear on current issues in your field of study. By focusing on project-based writing, this course supports undergraduate learners in the endeavor to delve into and contribute to the work being done in your field to address a particular problem. You will propose a project, identify an audience, tailor your work to address your audience's needs, gather relevant information through primary and secondary research, and create a product that engages others and furthers the real-world work of solving problems. Collaborative activities and assignments will support you through the process. The course structure is flexible and designed to be responsive to individual needs and a variety of disciplinary contexts, so that students can receive feedback and guidance during different stages of capstone or thesis writing, or community engagement projects. Thus, you can anticipate that the majority of the work will focus on a project that you will propose based on your interests, needs, or connections to your writing work in your major. Course goals are to develop a writing process, understand the habits of writings, work through a larger research project, develop skill in the APA format, learn to use the University libraries, consider audience needs. In class work include: peer review, active learning activities designed around writing skill development, discussion, lecture, and presentation. Learners are expected to actively engage in the course material, participate in class and give and receive feedback about writing. prereq: 60+ undergraduate credits, declared major, or instr consent

YOST 4196. Youthwork Internship. (; 4 cr. [max 8 cr.]; Student Option; Every Fall & Spring)

This introduces students to the practice of youthwork and supports their professional development as a youth worker. The goal is to explore how we can become reflexive and critical practitioners. This is the required course for the Youth Studies major but is also open to students from other majors who want to explore the field of youthwork. Students can opt to pursue placement at a site already approved by the department or they can negotiate with the instructor to pursue an independent site. Using the University policy on undergraduate workload, the course hours are divided between seminar and in-

site placement hours (requirements will not go beyond that of a typical 4 credit course). The course requires students to participate in BOTH a weekly seminar and a supervised youthwork internship. The focus in the seminar is on integrating knowledge and youthwork skills for entry-level professional work with young people including topics such as professional ethics, identities and current issues in youthwork practice. The focus of the supervised fieldwork is on the experience of doing youthwork with real youth contextually and professionally teaches us about affecting change in the lives of young people. The Youth Studies program takes an interdisciplinary approach to youth work and youth development. Students will integrate different ways of understanding youth into their direct practice. The program also focuses on human rights and social justice. This means accounting for and responding to the many ways discursive and institutional power operates to silence young people. This includes the ways in which power structures what opportunities are available to young people of different genders, sexual orientation, ethnicities, race, classes, geographical locations, etc. Our approach to understanding and responding to these issues is to attend to young people's everyday lives and the idea of 'youth-in-the-world.' The Youth Studies program expects students to be self-reflexive and engage in an analysis of power and privilege from a micro/personal perspective and a macro/ policy perspective. Students will begin to craft responses to lessening these structures on the young people's everyday lived experiences. prereq: Declaration of youth studies major, or instr consent

YOST 4201. Facilitating Outdoor Experiences. (3 cr. ; A-F only; Periodic Fall)

This course will explore the theory and practice of leading outdoor recreation experiences for young people. It is particularly focused on technical outdoor living skills, judgement and decision making, risk management/site management, instructional strategies in the outdoor classroom, and the application of the Experiential Education model. NOTE: Student will not receive credit if they have previously taken Rec 3321 or YoSt 3321.

YOST 4202. Facilitating Outdoor Experiences - Winter. (3 cr. ; A-F only; Periodic Spring)

This course will explore the theory and practice of leading outdoor recreation experiences for young people. It is particularly focused on technical outdoor living skills both general and specific to winter, judgement and decision making, risk management/site management, instructional strategies in the outdoor classroom, and the application of the Experiential Education model. NOTE: Student will not receive credit if they have previously taken Rec 3322 or YoSt 3322.

YOST 4301. Communicating With Adolescents About Sexuality. (; 3 cr. ; Student Option; Periodic Fall & Spring)

This course will provide participants with increased knowledge and practical skills to communicate sensitively and effectively with

young people and their concerned persons about sexuality. Participants will explore a variety of adolescent sexual issues with a focus on healthy adolescent relationships, sexual development, gender, sexual orientation, and diversity. With this perspective as a base, other topics will include body image, laws regarding teens, sexual health and disease, dating and sexual violence, sexuality and cyberspace, and professional and ethical boundaries in working with youth. We will often analyze all of these issues through the lens of the various community/cultural, scientific and political debates that surround the issue of sexual health education here in the United States and abroad. Pertinent theory, research, strategies, and experience will be reviewed using readings, video, online resources, interactive web sites, and participant interaction in a safe, sensitive, and even fun atmosphere. prereq: YOST 1001 or instr consent

YOST 4314. Theater Activities in Youthwork and Education. (; 2 cr. ; Student Option; Every Spring)

Empowering methods of personal/creative development using experiential learning and theater activities to enhance creativity/ imagination. Approaches to working with youth in school and youth agency settings. Experiential learning, improvisational theater theory/practice. prereq: 1001 or 2101

YOST 4315. Youthwork in Schools. (; 4 cr. ; Student Option; Periodic Fall & Spring)

Most young people (12-18 years) in the U.S. spend at least 6 hours per day for at least 6 years in a school building, doing school work. There, they are students, and participate in adult designed classes, in co-curricular activities such as clubs and teams, and other activities, and in youth-formed worlds, such as jocks, nerds, stoners, furies, council kids, hicks, and the like. Professional staff learn to read and understand these youth primarily as students and less so as youth. Typically, educators learn some about adolescent development and psychology, about what is typical and common of young people in middle and high school. They also learn some about youth who are troubled, troubling, and in trouble. By and large, educators are practical folk who study and use practical knowledge so as to better teach and otherwise serve their students. This course intends to enrich the knowledge of school professionals in two ways: One, contribution will be centered focus on youth people and their life-worlds, in school, outside, and between the two, e.g. family, work lives, play lives, spiritual lives, friendship lives, etc. The second is a focus on youthwork as a craft orientation and occupation. In this view, most professional educators can approach some of their work as youthworkers, and they can work with designated youthworkers from the school and from community agencies in the service of young people and the school. The goals are more effective service for young people through deeper understanding of these persons and, reciprocally we believe, less existential burnout by educators, i.e. a loss of personal meaning in their work. This course

will include as resources, youth and adult educational professionals from the range of local educational settings, including public, religious and charter schools, and community-based, non-formal and informal, education programs. Field visits are required. prereq: Introductory course in education or instr consent

YOST 4316. Media and Youth: Learning, Teaching, and Doing. (; 2 cr. ; Student Option; Periodic Fall & Spring)

This interactive course will introduce interested youth workers to media as a tool for working with youth. It will review the theory and contemporary context of youth media practice. It will showcase exemplar youth media organizations from diverse communities and will introduce and provide hands-on practice with various forms of youth media. This class will focus on a theoretical framework of critical media literacy (CML). CML equips young people with opportunities and resources necessary for them to critically analyze, use, and produce various forms of media. Like traditional notions of literacy, critical media literacy depends on two interdependent components: analysis and production. In terms of analysis, media literacy is the ability to sift through and analyze the messages that inform, entertain and sell to youth every day. It is the ability to bring critical thinking skills to bear on all aspects of media? from online news outlets and podcasts to Facebook algorithms and the shrinking ownership of mass media. In terms of production, the course will provide exposure to and an opportunity to engage technical skills, artistic expression, contribute to public dialogue and to experience how young people are contributing to their worlds through youth media projects like: murals, graffiti, spoken word, music, documentaries, magazines, public service announcements, and digital storytelling. prereq: 1001 or 2101 or instr consent

YOST 4317. Youthwork in Contested Spaces. (3 cr. ; Student Option; Periodic Fall, Spring & Summer)

How does youth work change in contested spaces? Do youth workers require different competencies to work in a ?world that has been made strange through the desolating experience of violence and loss?? This course continually revisits these questions as we read about, research within, and talk to others who have worked in contested spaces. The course ends by describing and developing an understanding of youth work in current and post-violently divided societies internationally, such as Northern Ireland, Palestine, South Africa, and India. Veena Das? work in India around social suffering, will be used to frame the work and understand the overall aims and goals of community based youth work in such places. Indeed, youth work in contested spaces began in these worlds marked by suffering, loss, and a legacy of violence. One purpose of the course is to explore youth work practice in contexts marked by suffering, loss, and violence. During the first two thirds of the course, we begin to understand how contested spaces exist all around us, some that we are well aware of because we also experience and

are shaped by them, and others that exist only slightly further away from our own personal experience. To gain a deeper understanding of what it is like to work in contested space, students and faculty will talk with and visit different organizations and people working in different ?contested spaces.? Over two weeks we will talk with community members and young people to gain insight into how contested spaces provides background and context for growing up, what major issues young people face living and growing up in this space, and what work is currently going on to address the contested nature of the community. The course also supports an autobiographical turn, asking students to begin to reflect on, and understand the contested spaces that they too were a part of, either as victim or instigator. We end the course by analyzing the data we have collected on the neighborhood, our own personal experience of contested spaces and searching for themes and touchstones to guide youth work in such spaces. prereq: 1001 or 2101 or instr consent; 3101 recommended

YOST 4319. Understanding Youth Subcultures. (; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

Young people's participation in and understanding of subcultures, life-styles, and event cultures. Place of these in young people's identity, friendship, and life chances. prereq: [1001, one basic course in [ANTH or SOC]] or instr consent

YOST 4321. Work with Youth: Individual. (; 2 cr. ; Student Option; Periodic Fall & Spring)

This course is designed to give students concepts and practices for doing youthwork in a wide range of settings with individual youth. The focus will be on cultivating and expanding students? capacities for working with youth from an ethic of relational engagement and cultural responsiveness. This ethic is a relational stance that youth workers take, whether they are mentoring a youth in a Big Brother/Big Sister program, providing medical case management to HIV+ youth, doing programming at a community center, facilitating outdoor activities, leading arts-based youth programs, leading camp activities, or passing out condoms and toothbrushes as a street outreach worker. Emphasis is on taking up a reflexive practice that considers multiple perspectives; that accounts for the influence of prevailing cultural discourses that influence youth, youth workers, and their relationships; and that commits to the generating of multiple possibilities. We will approach youthwork as a political act that requires workers to articulate an ethical stance when engaging with young people. prereq: 1001 or 2101 or instr consent

YOST 4322. Work with Youth: Families. (; 2 cr. ; Student Option; Periodic Fall & Spring)

Young people develop in moments and interactions (Krueger, 1998). Many of their moments occur within families and families come in a wide variety of forms. The American Academy of Family Physicians locates family as, ?a group of individuals with a continuing legal, genetic, and/or emotional relationship. Society relies on the family group to provide

for the economic and protective needs of individuals, especially children and the elderly (1984, 2003). The stories, behaviors, dynamics, attitudes, and habits of families shape the identity and experience of young people. To understand and respect young people, and to participate in the creation of environments for healthy youth development, youth workers must learn how to understand and respect the role their families play in their everyday lives. This course introduces students to the social construct of ?family? as it intersects with traditional notions of adolescent development, their own experience, public policy, and youth work practice. Care is taken to honor the rich diversity of family structures found in the United States today, and to notice the impact cultural identity, economic status, education, ethnicity, gender, geography, and other important factors have on the nature of families and the experience of young people inside them. prereq: 1001 or 2101, or instr consent

YOST 4323. Work with Youth: Groups. (2 cr. ; A-F only; Periodic Fall & Spring)

Humans are social creatures. Throughout the evolution of the human species, the ?group? has been instrumental in survival and the transmission of culture between generations. It is generally accepted that the ?group? is a key building block of the human experience and it has been argued that the ?individual? only knows itself in relation to the ?group?. Because of its fundamental nature in human existence, the group has been a popular topic of study. Until recently, attempts to chronicle the phenomena of groups have been hampered by a ?reductionistic? framework. This attempt to reduce complex phenomena into small measurable parts to be studied has inhibited the ability to capture the ?systemic? nature of groups. The power of the group is the dynamic interaction and interrelation of its component parts. Advances in general systems and chaos theory have increased our ability to fully grasp the essence of a group. There is a difference between group process and group work. Group processes are naturally occurring phenomena present when a collection of individuals form around a purpose. Group work is the purposeful and intentional effort on the part of a practitioner to use group process to achieve a goal. This demands that the practitioner develop a working understanding of group process and develop the skills to effect group functioning. Numerous group work models have been developed to describe group process and subsequently prescribe the role of the practitioner as facilitator. Although group work?s heritage is tied to the field of Social Work, the preponderance of these models are based upon a therapeutic framework. Currently, the field of Youth Development is utilizing a solution-oriented participant centered perspective. This perspective is more in line with the early understanding of group work and is proving to be effective in helping youth develop the skills, knowledge, and attitudes to be successful. There are a number of challenges for the practitioner serious about developing their group work ability when working with youth: 1. Whereas developing

an understanding of group process may be obtained in a classroom setting, facilitation skills are best learned and honed through experience in real life settings. Group work is both a science and an art. 2. Not only must a practitioner develop a working understanding of groups, they must also have a working understanding of individuals because of the dynamic interplay between individual needs and group phenomena. 3. The developmental needs of youth dictate that the practitioner's role in working with groups of youth is different than if they were working with adults. 4. It is virtually impossible to be objective in working with people: a practitioner's own "life history" acts as a lens and filter that influences their interpretation of and strategies for interacting with the group. This is especially true in youth work where the practitioner, through interaction with youth, is confronted with their own adolescence. prereq: [1001, 4321 or 4322] or instr consent

YOST 4325. Improving Everyday Youthwork: Practical Program Evaluation.

(3 cr. ; Student Option; Every Fall)
Program evaluation can enable youth workers to improve the work they do with young people, to financially sustain their work, to communicate with colleagues in a community of practice with the intention of strengthening the youth work field, and to influence youth policy, program design, and practice. Many people who invest time or money in youth programs request program evaluation. As the emphasis on quality continues, youth workers will be expected to support evaluation, at minimum, and may also be asked to manage evaluation projects, either working with an internal or external evaluator, or doing evaluation as part of their job. Youth work positions now typically include these roles, regardless of settings. Evaluation can support ongoing professional development for youth workers. This course emphasizes how evaluation and applied research supports professional development and strengthens overall quality in youth programs. Evaluation and applied research provide frameworks and tools that support youth workers to describe, analyze, synthesize, and better understand how they can create high quality programs and support high quality practice for all young people. Evaluation is considered as both a tool- and a site for- critically examining issues of equity and social justice. The course includes readings and discussion on the social justice implications of evaluation and explores culturally responsive evaluation frameworks. During the feedback process for each stage of evaluation, a social justice lens is used to examine and critique the stage's process and outcomes. This course offers an introduction to evaluation and applied research for youth workers, through introducing evaluation and applied research concepts, terms, orientations, methods, and tools and their application. During the course, students (individually and in small and large groups) will design, carry-out, and report on an evaluation study. Students will both learn about evaluation and applied research as well as do it! By course conclusion, students will have the knowledge and skills to

design and conduct beginning level evaluation and applied research, for their own practice or other youth programs. prereq: 1001 or 2101, or instr consent

YOST 4401W. Young People's Spirituality and Youthwork: An Introduction. (WI; 4 cr. ; Student Option; Periodic Fall & Spring)

The purpose of this course is to begin to explore the topic of spirituality and its importance to youthwork practice. Typically, the spiritual experiences of young people have been the province of religious instruction or faith-based youthwork. Yet spiritual thoughts, feelings and experiences beyond top-down instruction are actual and necessary aspects of healthy youth development. Youth workers need not be employed by or volunteers in a faith-based organization to bring increased knowledge, appreciation, and awareness of spirituality to youthwork in any context. The range and extent of research concerning adolescent spirituality has grown substantially over the past twenty years. This conversation across disciplines in the academy raises important issues for practitioners. How will new research findings confirm or challenge their experience? How will new research impact everyday practice? This course enters the spaces of social, political, cultural, and religious institutions and practices, illuminating issues, topics, problems, and concerns for those who work with youth directly and on their behalf. We will consider what youthwork practices are most respectful of, and best able to facilitate spiritual development of young people in their everyday lives. Additionally, as an undergraduate writing intensive course, all undergraduate students will be expected to write frequently and use a variety of writing styles: autobiographical, journal/book critique, essay, field mapping/observation notes, and research in APA style. Students will be given feedback on each assignment, and regular class time will be devoted to writing skills and basic grammar. prereq: 1001 or instr consent

YOST 4402. Youth Policy: Enhancing Healthy Development in Everyday Life. (; 4 cr. ; Student Option; Periodic Fall & Spring)

Youth policy as formulated in response to youth issues, problems, and community/public concerns. Policy as political response to youth panics, as indirect youthwork, and as a community's moral compact with its young people. Perspectives explored are specific to student interests. prereq: [1001, 2002W] or instr consent

YOST 4411. Youth Research and Youth Program Evaluation. (4 cr. ; Student Option; Every Spring)

This course starts with the idea that research should be conducted inside and outside the walls of academia. At a basic level, youth workers conduct research everyday ? even if they don't consider it ?formal? research. We all have questions about what is going on in the everyday lives of young people ? and we all seek deeper understanding. Given that, there may be an ethical requirement to carefully consider the data used to understand young people. Historically and currently, research

with young people is being ?done to? and ? not with? young people. And often, that data is used to both shape our perceptions of what it is to be a young person and the policies that affect their daily lives. For example, consider what data on emotional regulation is commonly used and how that has shaped suspension policies in schools? Youth workers are often advocates for youth, but they may not consider research about young people as places for action and resistance. Students will begin class by exploring the purpose, definitions and methods of research most commonly used in youth work, with an emphasis on qualitative research as a process highly relevant to daily practice. Students will review a variety of perspectives on research that encourage a more critical eye on subjectivity, the social/political contexts around data and the acknowledgement from indigenous research methods that a researcher must articulate their relationship to the research question. This course will then move students through a full research experience from a problem to questions, from purpose to methods, towards data collection, analysis, writing and presentation, as a beginning researcher. Quite a challenge, so expect it to be imperfect and messy. By the end of the semester, students are not expected to complete a flawless research design and report, but to gain a deeper understanding of the research process, how to conduct and critique the process, and how to engage others to create potential change based on data. In practical terms, most students will work in a small group to determine research questions, develop a process for gathering data about the questions, analyze the data and create a report based on the findings. The process will be supported by readings, activities during class time and through highly focused consultations with research groups with faculty. prereq: YoSt B.S. declaration & basic research methods course, or instr consent

YOST 5011. Youth Voices: The Fight for Social Change in Croatia. (3 cr. ; A-F only; Periodic Summer)

This international immersion course explores the history, struggles, accomplishments, and experiences of Croatian young people who have engaged in social change efforts. Our focus will be on young people's involvement in a diverse range of social change movements and how these emerged, how they worked, and what caused them to decline.

YOST 5030. Youth Voices: The Fight for Social Change in Croatia. (3 cr. ; A-F only; Periodic Summer)

This international immersion course explores the history, struggles, accomplishments, and experiences of Croatian young people who have engaged in social change efforts. Our focus will be on young people's involvement in a diverse range of social change movements and how these emerged, how they worked, and what caused them to decline.

YOST 5032. Adolescent and Youth Development for Youthworkers. (; 4 cr. ; Student Option; Every Fall & Spring)

Application of theory/research about children/adolescents. How findings/theories facilitate understanding of behavior. prereq: [1001 or 2001 or 2002W or 2101], [any Psych or CPsy course]

YOST 5240. Special Topics in Youth Studies. (; 2-8 cr. [max 40 cr.] ; Student Option; Every Fall, Spring & Summer) In-depth investigation of one area of youth studies. Teaching procedure and approach determined by specific topic and student needs. Topic announced in advance. prereq: Two social sci courses, exper working with youth or instr consent

YOST 5291. Independent Study in Youth Studies. (; 1-8 cr. [max 16 cr.] ; Student Option; Every Fall, Spring & Summer) Independent reading and/or research under faculty supervision.

YOST 5301. Communicating With Adolescents About Sexuality. (; 3 cr. ; Student Option; Every Summer) How to communicate sensitively/effectively with adolescents and their concerned persons about sexuality in everyday life. Healthy sexual development (physical, emotional, ethical), sexual diversities. Gender/body image, disease, sexual violence, intimacy, sex in cyberspace. prereq: [Upper div AdPy course, exper working with youth] or instr consent

YOST 5314. Theatre Activities in Youthwork and Education. (; 2 cr. ; Student Option; Every Spring) Using experiential learning and theater activities to enhance creativity and imagination of youth workers and educators. Approaches to working with youth in school and agency settings. Application of experiential learning and improvisational theater theory/praxis. prereq: 1001 or 2101

YOST 5315. Youthwork in Schools. (; 4 cr. ; Student Option; Every Fall & Spring) Craft of youthwork as a framework to understand life-worlds of young people and a practice to enhance healthy development. How young people often make artificially/harmfully divide their lives into "school" and "not school." prereq: Introductory course in education or instr consent

YOST 5316. Media & Youth: Learning, Teaching, and Doing. (; 2 cr. ; Student Option; Periodic Fall & Spring) This interactive course will introduce interested youth workers to media as a tool for working with youth. It will review the theory and contemporary context of youth media practice. It will showcase exemplar youth media organizations from diverse communities and will introduce and provide hands-on practice with various forms of youth media. This class will focus on a theoretical framework of critical media literacy (CML). CML equips young people with opportunities and resources necessary for them to critically analyze, use, and produce various forms of media. Like traditional notions of literacy, critical media literacy depends on two interdependent components: analysis and production. In terms

of analysis, media literacy is the ability to sift through and analyze the messages that inform, entertain and sell to youth every day. It is the ability to bring critical thinking skills to bear on all aspects of media? from online news outlets and podcasts to Facebook algorithms and the shrinking ownership of mass media. In terms of production, the course will provide exposure to and an opportunity to engage technical skills, artistic expression, contribute to public dialogue, and to experience how young people are contributing to their worlds through youth media projects like: murals, graffiti, spoken word, music, documentaries, magazines, public service announcements, and digital storytelling. prereq: 1001 or 2101 or instr consent

YOST 5319. Understanding Youth Subcultures. (; 3 cr. ; Student Option; Every Summer)

Young people's participation in and understanding of subcultures, life-styles, and event cultures. Place of these in young people's identity, friendship, and life chances. prereq: 2001 or one course each in [Anth, Soc] or instr consent

YOST 5321. Work With Youth: Individual. (2 cr. ; Student Option; Every Fall, Spring & Summer) Basic assumptions underlying individual work with youth. Special issues and concerns of adolescents and of persons who work with them, especially those who work with youth in one-to-one interactions. prereq: 1001 or 2002W or instr consent

YOST 5322. Work With Youth: Families. (; 2 cr. ; Student Option; Every Fall, Spring & Summer) Theories and techniques of working with youth and their families. Practical methods of structural change. Developing effective communication. Decision-making and problem-solving systems. Winning the family's cooperation. Role of professional in influencing healthy family development. prereq: 1001 or 2002W or instr consent

YOST 5323. Work with Youth: Groups. (; 2 cr. ; Student Option; Every Fall & Summer) Social group work. Adolescent group needs and associations. Group process. Working with diverse groups of youth in community, in group living situations, and in group therapy. prereq: 1001 or 2002W or instr consent

YOST 5401. Young People's Spirituality and Youthwork: an Introduction. (; 4 cr. ; A-F or Audit; Every Spring) Adolescent spirituality, its relation to working with young people. Faith/spirituality as actual/necessary aspects of healthy youth development. Research, active community-based programs. Knowledge, attitudes, and skills to meet adolescent needs/wants. prereq: [2001, one course each in [Anth, Soc, CPsy]] or instr consent

YOST 5402. Youth Policy: Enhancing Healthy Development in Everyday Life. (; 4 cr. ; Student Option; Periodic Fall & Spring) Youth policy as formulated in response to youth issues, problems, and community and public concerns. Policy as political response

to youth panics, as indirect youthwork, and as a community's moral compact with its young people. Perspectives are explored specific to student interests. prereq: [2001, one course each in [FSoS, PolSci, Soc]] or instr consent

YOST 5950. Ways of Knowing in Youth Development Leadership: Using Research and Evaluation to Support Community. (; 3 cr. ; A-F only; Every Fall)

This course aims to stimulate students to think critically about youth development and youth work through exploring different ways of knowing. These paradigms each construct different understandings of young people and offer evidence to support diverse youth development practice and programs. Students will leave with a broad perspective of how youth development and youth work empirical evidence is constructed and used to support healthy youth development.

YOST 5952. Everyday Lives of Youth. (3 cr. ; A-F or Audit; Every Fall)

Youth as idea/lived-reality in scholarship, public discourse, and professional practice. Building practice of work with or on behalf of youth.

YOST 5954. Experiential Learning: Pedagogy for Community and Classroom. (3 cr. ; Student Option; Every Spring) Relationship between experience and learning in community and school settings. Emphasizes intentional application of experiential learning theory/practice to educational program development.

YOST 5956. Organizational Approaches to Youth Development. (3 cr. ; A-F or Audit; Every Fall)

Historical contexts, theoretical frameworks, organizational practices, and public policies that shape nonformal educational experiences of youth in community-based or school-linked settings.

YOST 5958. Community: Context for Youth Development Leadership. (3 cr. ; A-F or Audit; Every Spring)

Issues/policies in family, school, and community that drive the professional practice of community-based youth work. Practical projects explore what it means to be local, to build social capital for youth, and to involve youth in community change.

YOST 5960. Seminar in Youth Development Leadership. (1 cr. [max 4 cr.] ; S-N or Audit; Every Fall, Spring & Summer)

Group study of topics/issues. Course proposal, educational program development. Students participate in co-created learning experience with a group of peers. Four-course sequence. prereq: YDL student or instr consent

YOST 5962. Leadership Field Experience: Youth Development. (4 cr. ; S-N only; Every Fall, Spring & Summer)

Demonstration of leadership in practice. Project on youth, experiential pedagogy, and community/program settings. Focuses on public policy, advocacy, evaluation, pedagogical issues, program design, curriculum development, or applied research. prereq: YDL student