



UNIVERSITY OF MINNESOTA  
**Driven to Discover<sup>SM</sup>**

## University of Minnesota Duluth 2021-2022 Undergraduate Courses

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- Program search: [z.umn.edu/publicprogramsearch](https://z.umn.edu/publicprogramsearch)
- Course search: [z.umn.edu/publiccoursecatalog](https://z.umn.edu/publiccoursecatalog)
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University of Minnesota Duluth  
1049 University Drive  
Duluth, MN  
55812

**AERO (AERO)**

**AERO 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AERO 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AERO 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AERO 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AERO 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AFRO (AFRO)**

**AFRO 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AFRO 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AFRO 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AFRO 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AFRO 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AGEC (AGEC)**

**AGEC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AGEC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AGEC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AGEC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AGEC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AMST (AMST)**

**AMST 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AMST 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AMST 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**AMST 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AMST 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ANSC (ANSC)**

**ANSC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ANSC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ANSC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ANSC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ANSC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARAB (ARAB)**

**ARAB 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARAB 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARAB 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARAB 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARAB 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARCH (ARCH)**

**ARCH 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARCH 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARCH 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARCH 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARCH 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ART4 (ART4)**

**ART4 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ART4 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ART4 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ART4 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ART4 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AS (AS)**

**AS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Accounting (ACCT)**

**ACCT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ACCT 2001. Principles of Financial Accounting.** ( ; 3 cr. ; A-F only; Every Fall, Spring & Summer)  
Concepts of financial accounting and external reporting. Nature and measurement of assets, liabilities, equities, revenues, expenses. Emphasis on use and understanding of external financial statements. prereq: Minimum 15 credits or college consent

**ACCT 2002. Principles of Managerial Accounting.** ( ; 3 cr. ; A-F only; Every Fall, Spring & Summer)  
Information accumulation, analysis, and use for managerial decisions. Cost-volume-profit relationships; short- and long-term decisions; standards and budgets; segment and managerial performance evaluation. prereq: 2001, LSBE student or college consent

**ACCT 2005. Survey of Accounting.** ( ; 3 cr. ; A-F or Audit; Periodic Spring)  
Survey of Accounting provides an overview of fundamental concepts and procedures in financial and managerial accounting. The emphasis is on helping students to develop a basic understanding of the contexts of accounting reports provided to decision makers. Credit cannot be applied toward

the BAcc or BBA degree programs or the Accounting minor.

**ACCT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ACCT 3001. Technology Tools in Accounting.** (1 cr. ; A-F only; Every Fall & Spring)  
Introduction to basic and advanced applications of spreadsheet, database and other accounting specific to solve accounting problems. prereq: LSBE candidate

**ACCT 3101. Intermediate Accounting I.** (3 cr. ; A-F only; Every Fall & Spring)  
Review of financial accounting standard setting, conceptual framework, and accounting process. Income statement, balance sheet, and statement of cash flows. Present value concepts, cash, receivables, inventories, fixed assets, current liabilities, and contingencies. prereq: LSBE candidate or non-LSBE accounting minor or college consent

**ACCT 3102. Intermediate Accounting II.** (3 cr. ; A-F only; Every Fall & Spring)  
Long-term liabilities, stockholders' equity, earnings per share, revenue recognition, and tax allocation. Investments, pensions, leases, accounting changes and error analysis, financial statement analysis, and disclosures in financial statements. prereq: A grade of C or better in 3101, LSBE candidate or non-LSBE accounting minor or college consent

**ACCT 3201. Cost Accounting.** (3 cr. ; A-F only; Every Fall & Spring)  
Determining manufacturing costs, e.g., in a job order or process manufacturing environment. Cost-volume-profit relationships, activity-based accounting, standard costing techniques. prereq: LSBE candidate or non-LSBE accounting minor or college consent

**ACCT 3301. Accounting Information Systems.** (; 3 cr. ; A-F only; Every Fall, Spring & Summer)  
Overview of the characteristics and functions of modern accounting information systems. Focus on system use, internal controls, security issues, and system design and implementation in computerized accounting procedures within the business organization. Develop proficiency in the use of accounting software. prereq: LSBE candidate or non-LSBE accounting minor or college consent; credit will not be granted if already received for 3110.

**ACCT 3401. Individual Income Taxation.** (; 3 cr. ; A-F only; Every Fall, Spring & Summer)  
Provides an understanding of how taxes impact personal financial decisions. Takes tax planning/minimization perspective and provides basic information on reporting tax positions to the IRS. In addition to tax planning and compliance, the student will be exposed to basic tax concepts. prereq: Credit will not be granted if already received for ACCT 3152 or 4152; LSBE candidate or approved non-LSBE accounting minor or college consent

**ACCT 3701. Small Business Initiative in Accounting.** (1-2 cr. [max 3 cr.] ; S-N or Audit; Every Fall)

Provide practical experience in the development of budgets, analysis of financial statements and other types of small business accounting issues. prereq: 3001, 3101, LSBE candidate and instructor consent

**ACCT 3705. Volunteer Income Tax Assistance.** (1-2 cr. [max 3 cr.] ; S-N only; Every Spring)  
Provides volunteer experience preparing tax returns for low and moderate income Duluth residents through both classroom and hands-on training. prereq: department consent, 2 credit first registration, 1 credit repeat; credit will not be granted if already received for 3096

**ACCT 3797. Internship in Accounting.** (1-6 cr. [max 18 cr.] ; A-F only; Every Fall, Spring & Summer)  
Work-integrated learning program providing practical experiences within students major. Students participate in approved program within cooperating business, governmental agencies, or civic organizations. There are minimum hours based upon the credits you select for the course; 1 credit = 100 hour minimum; 2 credits = 150 hours minimum; 3 credits = 200 hour minimum. The course also requires completion of internship contract, assignments, and performance evaluations. For LSBE majors that allow for only three (or fewer) credit hours of internship in the major curriculum, students will be allowed to count the remaining internship credits in the Upper Division Supporting Courses category. Maximum credits: 6; 3 completions allowed Prereq: LSBE Candidate, prior major coursework, consent of Internship Director

**ACCT 3991. Independent Study.** (1-3 cr. ; A-F only; Every Fall, Spring & Summer)  
For students wishing to do special work in an accounting area that extends beyond, or in greater depth than, regular course offerings. prereq: BAacc candidate with 80 cr, department consent; credit not available as accounting elective; may take ACCT 3191 and 3991 for a total of 3 credits.

**ACCT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ACCT 4101. Auditing.** (; 3 cr. ; A-F only; Every Fall & Spring)  
Theory and procedures in audit process. prereq: 3102, 3110 or 3301, LSBE candidate or college consent; no grad credit; credit will not be granted if already received for 4160.

**ACCT 4402. Advanced Business Taxation.** (3 cr. ; A-F only; Every Fall)  
Understanding how taxes impact basic business and entrepreneurial decisions. It takes a tax planning/minimization perspective and presents advanced tax research and resource materials available on the web. prereq: 3401, LSBE candidate or college consent; credit will not be granted if already received for 3151 or 3402; no grad credit

**ACCT 4501. Advanced Accounting.** (3 cr. ; A-F only; Periodic Fall & Spring)  
Topics including consolidated financial statements, partnership, and fiduciary

accounting. prereq: 3102, LSBE candidate or college consent

**ACCT 4505. International Accounting.** (3 cr. ; A-F only; Periodic Fall & Spring)  
International accounting measurement and reporting issues unique to multinational business transactions and multinational enterprises; consolidations; foreign exchange accounting; forward and option markets; translation of foreign currency financial statement; international audit environment; international taxation and transfer pricing; harmonization of worldwide accounting. prereq: 3102, LSBE candidate or college consent

**ACCT 4510. Fund and Not-For-Profit Accounting.** (; 3 cr. ; A-F only; Every Summer)  
Accounting concepts and processes applied to government, hospital, education, charity, and other not-for-profit entities. prereq: LSBE candidate or college consent

**ACCT 4600. Employee Benefit and Retirement Planning.** (3 cr. ; A-F or Audit; Every Fall)  
This course will provide preparation for professionals who will be providing employee benefits and retirement planning services for clients. The course will focus on the importance of retirement planning, an evaluation of the client's needs, and understanding of Social Security and Medicare, and qualified and non-qualified retirement plans. prereq: Acct 3401, LSBE candidate, no grad credit

**ACCT 4795. Special Topics (Various Titles to be Assigned).** (; 1-3 cr. [max 9 cr.] ; A-F only; Periodic Fall & Spring)  
Enables students, working closely with the instructional faculty, to explore one or more contemporary accounting issues in substantial depth. prereq: 3101, LSBE candidate or college consent

**ACCT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ACCT 5402. Advanced Business Taxation.** (3 cr. ; A-F or Audit; Every Fall)  
Understanding how taxes impact basic business and entrepreneurial decisions. It takes a tax planning/minimization perspective and presents advanced tax research and resource materials available on the web. prereq: ACCT 3401, MBA student or department consent

**ACCT 5501. Advanced Accounting.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Topics including consolidated financial statements, partnership, and fiduciary accounting. pre-req: MBA student or department consent

**ACCT 5505. International Accounting.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
International accounting measurement and reporting issues unique to multinational business transactions and multinational enterprises; consolidations; foreign exchange accounting; forward and option markets; translation of foreign currency financial

statement; international audit environment; international taxation and transfer pricing; harmonization of worldwide accounting. pre-req: ACCT 3102, MBA student or department consent

**ACCT 5600. Employee Benefit and Retirement Planning.** (3 cr. ; A-F or Audit; Every Fall)  
This course will provide preparation for professionals who will be providing employee benefits and retirement planning services for clients. The course will focus on the importance of retirement planning, an evaluation of the client's needs, and understanding of Social Security and Medicare, and qualified and non-qualified retirement plans. pre-req: ACCT 3401, MBA student or department consent

**ACCT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Adult Education (ARTS)

**ARTS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARTS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARTS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARTS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARTS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Aerospace Studies (AIR)

**AIR 1000. AFROTC GMC Lead Lab.** (; 1 cr. [max 6 cr.] ; S-N or Audit; Every Fall & Spring)  
Practical environment giving leadership training while being instructed on military customs and courtesies, physical fitness, military drill and the general Air Force environment. This class MUST be taken concurrently with AFROTC 1xxx and 2xxx level academic classes

**AIR 1101. Heritage and Values.** (; 1 cr. ; A-F or Audit; Every Fall)  
Two-part survey of U.S. Air Force as public-service organization. Role of military in U.S. society; military history; officership; professionalism; core values; career opportunities; customs/courtesies; communication skills. Leadership Laboratory (Air 0100) is mandatory for AFROTC cadets and complements this course by providing followership experiences.

**AIR 1102. Heritage and Values.** (; 1 cr. ; A-F or Audit; Every Spring)  
Two-part survey of U.S. Air Force as public-service organization. Role of military in U.S. society; military history; officership; professionalism; core values; career opportunities; customs/courtesies;

communication skills. Leadership Laboratory (Air 0100) is mandatory for AFROTC cadets and complements this course by providing followership experiences.

**AIR 1591. Leadership Practicum.** (; 1-4 cr. ; A-F or Audit; Every Fall & Spring)  
Leadership techniques and their practical application in structured problems and realistic situations; Air Force customs and courtesies.

**AIR 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AIR 2101. Team and Leadership Fundamentals.** (; 1 cr. ; A-F or Audit; Every Fall)  
Air Force heritage; development/deployment of air power, a primary element of U.S. national security; leadership and quality principles; ethics and values. Leadership development based on student participation in group problem solving. Oral/written communication development. Leadership Laboratory (Air 0100) is mandatory for AFROTC cadets and complements this course by providing followership experiences.

**AIR 2102. Team and Leadership Fundamentals.** (; 1 cr. ; A-F or Audit; Every Spring)  
Air Force heritage; development/deployment of air power, a primary element of U.S. national security; leadership and quality principles; ethics and values. Leadership development based on student participation in group problem solving. Oral/written communication development. Leadership Laboratory (Air 0100) is mandatory for AFROTC cadets and complements this course by providing fellowship experiences.

**AIR 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AIR 3000. AFROTC POC Leadership Laboratory.** (1 cr. [max 6 cr.] ; S-N or Audit; Every Fall & Spring)  
Practical environment giving leadership training through teaching freshmen and sophomores military customs and courtesies, physical fitness, military drill and the general Air Force environment. This class is taken concurrently with AFROTC 3xxx and 4xxx level academic classes.

**AIR 3001. AFROTC POC Lead Lab.** (; 2 cr. [max 12 cr.] ; S-N or Audit; Every Fall & Spring)  
Practical environment giving leadership training through teaching freshmen and sophomores military customs and courtesies, physical fitness, military drill and the general Air Force environment. MUST be taken concurrently with AFROTC 3xxx and 4xxx level academic classes

**AIR 3101. Leading People and Effective Communication.** (; 3 cr. ; A-F or Audit; Every Fall)  
Comprehensive study of leadership/quality management fundamentals, professional knowledge, organizational doctrine and ethics, and communication skills required of today's

Air Force officer. Leadership/management case studies. A mandatory Leadership Laboratory (Air 3000) provides advanced leadership experiences and the opportunity to apply the leadership and management principles of this course.

**AIR 3102. Leading People and Effective Communication.** (; 3 cr. ; A-F or Audit; Every Spring)

Comprehensive study of leadership/quality management fundamentals, professional knowledge, organizational doctrine and ethics, and communication skills required of today's Air Force officer. Leadership/management case studies. A mandatory Leadership Laboratory (Air 3000) provides advanced leadership experiences and the opportunity to apply the leadership and management principles of this course.

**AIR 3591. Leadership Practicum.** (; 1-4 cr. ; A-F or Audit; Every Fall & Spring)  
Practical application of leadership and management in structured realistic situations.

**AIR 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AIR 4101. National Security Studies.** (3 cr. ; A-F or Audit; Every Fall)  
Advanced leadership development; national security processes, regional studies, advanced leadership ethics, doctrine, the military as a profession, officership, military justice, civilian control of the military. A mandatory Leadership Laboratory (Air 3000) provides advanced leadership experiences and the opportunity to apply the leadership and management principles of this course. prereq: No grad credit

**AIR 4102. Leadership Responsibilities.** (3 cr. ; A-F or Audit; Every Spring)  
Advanced leadership development; national security processes, regional studies, advanced leadership ethics, doctrine, the military as a profession, officership, military justice, civilian control of the military. A mandatory Leadership Laboratory (Air 3000) provides advanced leadership experiences and the opportunity to apply the leadership and management principles of this course. prereq: No grad credit

**AIR 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AIR 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## African & African American Std (AAAS)

**AAAS 1101. Introduction to Black Caribbean Studies.** (; 3 cr. ; A-F or Audit; Spring Even Year)  
Study of the peoples and cultures of the Black Caribbean; impact of colonization; the evolution, form and content of Black Caribbean cultures, societies and institutions. A survey of the socioeconomic and political development and transformation of the nation-states of the

Black Caribbean. Cultural reproductions of Caribbean racial and ethnic identities. Survey of the Caribbean diaspora; Caribbean social and political thought. Relationship with the United States, Britain, and Canada. Inter-Caribbean geopolitical relationship.

**AAAS 1102. Introduction to Atlantic Slave Trade.** (CDIVERSITY; 3 cr. ; A-F or Audit; Spring Odd Year)

Genesis of the Trans-Atlantic slave trade, survey of the Middle Passage along with historical formations of the slave trade. Examination of roles of the European powers and African nations with the creation of slave communities, identities, and cultures in the new world the political economy of the slave trade. Analysis of cultural and historical legacies of slavery, the abolitionist movement, and resistance to the abolitionist movement including modern day forms of slavery.

**AAAS 1103. Introduction to Africa.**

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

Examination of the histories, cultures, and peoples of Africa. Pre-colonization Africa societies. Colonial and postcolonial contacts with Europe. Brief survey of major social, cultural, economic, and political institutions of Africa and their roles in socioeconomic and political development. Issues facing contemporary African societies. Programs and policies to address Africa's problems. Africa and the world. Positioning Africa and its peoples in world affairs. Course Equivalency: EDUC 1103

**AAAS 1104. Introduction to Black America.** (CDIVERSITY; 3 cr. ; A-F or Audit; Every Spring)

Examination of black America in historical and contemporary periods to the post Obama era. African roots in the formation of black American society; genesis of slavery; impact of slavery on black America; contestation of slavery; black oppression; powerlessness and marginality. Black agitation for civil and economics rights; African American social, cultural, economic, and political thoughts; the persistency of structural racial inequities on blacks; closing the gap of inequality; future of black America. prereq: credit will not be granted if already received for AAAS 1100

**AAAS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AAAS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AAAS 3005. Roots and Rebellion: Study Abroad in Jamaica.** (GLOBAL PER; 3 cr. ; A-F only; Periodic Spring & Summer)

This three week study abroad course draws on history, literature, cultural studies, and music to explore Jamaican resistance to colonialism and slavery. Students will explore Jamaican culture first hand by visiting cultural heritage sites that attest to the Jamaican experiences of oppression, resistance, and rebellion. Presentations by local community leaders and

heritage professionals will bring the history and culture of Jamaica alive for students. prereq: consent of the International Programs and Services office

**AAAS 3091. Independent Study.** (; 1-3 cr. ; A-F only; Every Fall, Spring & Summer)  
Independent research with a faculty member. prereq: instructor consent

**AAAS 3095. Special Topics: (Various Titles to be Assigned).** (; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)  
Various topics in African and African American Studies

**AAAS 3201. The African American Family.** (; 3 cr. ; A-F or Audit; Every Spring)

This course is about the past and current structure of the African American family. It traces the development and formation of the African American family beginning from the period of slavery through emancipation, reconstruction, and the post-Obama modern era. The course will feature the patterns and trends in African American family formation, marriage, family life, single parenthood, issues affecting black children and youth, the roles of matriarchs, relationships between black men and women, and the impact of economic and political forces on urban and rural black family life. Attention is given to class and the socioeconomic dynamics of African American life, the rise of the black middle class, the persistence of the urban underclass and the implications for America. The negotiation of bi-racial and multiracial black family identities is stressed, including the current formation of African American diaspora families. prereq: minimum 60 credits

**AAAS 3202. African Story-Telling and Folklore.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

This course is about the importance of story-telling and folklore in diverse African societies. It will examine the social context of the types, forms, and genres of story-telling in African societies and the folklores associated with story-telling. It traces the history of story-telling in African societies before and after colonization, the cultural expressions and meanings of folklore, uses and applications of story-telling and folklore, and the role of community in defining the boundaries of story-telling and folkloric culture.

**AAAS 3304. Social Inequalities in Education.** (3 cr. ; A-F or Audit; Periodic Fall)

This course will examine past and current factors that contribute to the persistence of educational inequalities in the United States. Using a sociological frame of reference, the course will provide students with an understanding of 1) national trends in the achievement gap; 2) policies and programs that have been implemented to close the social inequalities in educational and 3) assessment of the effectiveness of policies to close the achievement gap. prereq: Preferred AAAS 1104 or WS 2101

**AAAS 3305. African American Cinema.** (3 cr. ; A-F or Audit; Every Fall)

This course will investigate how the imagery, poetics and politics of race have played out in the history of American film. Our focus will be African American cinema - which can be loosely defined as films written and/or directed by African Americans - but we will also consider the unique contours of its texts against the larger backdrop of Hollywood's representation of African Americans. In addition, we will explore the role of this medium in shaping social realities.

**AAAS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AAAS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AAAS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Agricultural Education (AGED)

**AGED 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AGED 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AGED 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AGED 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AGED 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## American Indian Studies (AMIN)

**AMIN 1001. Introduction to American Indian Studies.** (CDIVERSITY; 3 cr. ; A-F or Audit; Every Fall)

This course serves non-majors, majors, and minors, introducing them to the history, methodologies, and community-oriented aspirations of American Indian studies. Students will collaboratively explore texts, topics, intellectuals, and issues crucial to the field, thereby preparing themselves and one another to be ethically-engaged residents of the Anishinaabe lands in which our campus is situated, and to excel in other courses both within and well-beyond UMD's AMIN curriculum.

**AMIN 1010. American Indian Experience to 1900.** (CDIVERSITY; 3 cr. ; A-F or Audit; Every Fall)

Introduction to the social, economic, political, and cultural changes and continuities of American Indian life up to 1900. Native-European encounters, the formation of the United States, and the establishments of hundreds of treaties between the federal government and Native nations has continued relevance for both Native peoples and

Americans today. Students will critically interrogate how we interpret the past and how these narratives shape and inform the present. Credit will not be granted if already received for 1110.

**AMIN 1020. American Indian Experiences: 1900-present.** (HUMANITIES,CDIVERSITY; 3 cr. ; A-F only; Every Spring)  
Through a chronological and biographical approach, the social, economic, political, and cultural changes and continuities of American Indian life from 1900 to the present will be introduced. Significant changes experienced by American Indians as well as their ability to adapt, resist, and thrive will be analyzed. prereq: Credit will not be granted if already received for 1120.

**AMIN 1103. Beginning Ojibwe I.** (COMM & LAN; 3 cr. ; A-F only; Every Fall)  
Speaking and comprehension of basic Ojibwe speech patterns. Development of rudimentary reading knowledge.

**AMIN 1104. Beginning Ojibwe II.** (COMM & LAN; 3 cr. ; A-F only; Every Spring)  
Speaking and comprehension of basic Ojibwe speech patterns. Development of rudimentary reading knowledge. prereq: 1103 or instructor consent

**AMIN 1606. Introduction to American Indian Literature.** (CDIVERSITY,HUMANITIES; 3 cr. ; A-F only; Periodic Fall & Summer)  
Introduces American Indian literatures from a variety of tribal perspectives as well as a wide range of genres including oratory, poetry, short stories, and novels. The major tropes and significant theories of American Indian literature will be covered. prereq: Credit will not be granted if already received for 1106.

**AMIN 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AMIN 2015. Ojibwe History and Modern Culture.** (SUSTAIN; 3 cr. ; A-F only; Periodic Spring)  
This course examines the cultural and political history of the Anishinaabe/Ojibwe/Chippewa life from origins to present day. Students will be introduced to the seasonal round and longstanding efforts for sustainability as well as the changes and continuities in these practices.

**AMIN 2405. American Indian Families and Society.** (SOC SCI,CDIVERSITY; 3 cr. ; A-F or Audit; Every Fall)  
Indigenous North American families before European contact; impact of contact, events and governmental policies upon family structure and survival: Native parenting past and present; current issues for American Indian families.

**AMIN 2605. Survey of American Indian Arts.** (FINE ARTS,CDIVERSITY; 3 cr. ; A-F only; Periodic Fall & Spring)  
Traditional arts of American Indians and the cultures that produced them; techniques, motifs, and aesthetics of Indian textiles and utilitarian and ceremonial arts. prereq: Credit will not be granted if already received for 2105.

**AMIN 2801. Introduction to Tribal Administration and Governance.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course will provide an overview of tribal administration and governance. It will introduce students to principles of tribal sovereignty, tribal self-determination, and self-governance. Students will learn the significance of tribal constitutions, tribal jurisdiction and tribal laws. Students will be introduced to the interaction of federal, state, and tribal governments and how these interactions impact the governance of Native Nations. Students will be introduced to a variety of tribal government systems, and some common practices and problems in the administration of a tribal government.

**AMIN 2820. Foundations of Indigenous Leadership.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Foundations of Indigenous Leadership includes a historical survey of Indigenous leaders with special emphasis on the Great Lakes region. In addition, students will explore and examine their leadership qualities, identify strengths, and develop leadership goals.

**AMIN 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AMIN 3206. Federal Indian Policy.** (CDIVERSITY,SOC SCI; 3 cr. ; A-F only; Periodic Fall & Spring)  
Examination of the formulation, implementation, evolution, and comparison of Indian policy from pre-colonial to self-governance. Introduces students to the theoretical approaches structuring research of federal Indian policy, views, and attitudes of the policy-makers and reaction of indigenous nations. Discussion of the policies and the impact related to those policies. prereq: minimum 30 credits; this course previously titled: Indian-White Relations; credit will not be granted if already received for 3106.

**AMIN 3230. American Indian Tribal Government and Law.** (CDIVERSITY,SOC SCI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
American Indian tribal governments and leadership, historically and today, have aimed at the promotion and protection of the nation, overseen domestic and foreign affairs, and provided for the basic needs and desires of their citizens. This course provides students a general background of the history, development, structure, and politics associated with indigenous governments, analyzing how these institutions have been modified to meet ever-changing internal needs and external pressures. prereq: minimum 30 credits

**AMIN 3393. Projects in American Indian Studies.** (1-6 cr. [max 10 cr.] ; Student Option; Periodic Fall, Spring & Summer)  
Directed reading, research, or experiential learning activity such as involvement in social action; work plan and assignments must be approved by instructor. prereq: instructor consent; maximum 10 credits

**AMIN 3410. Fur Trade in Canada and the United States.** (CDIVERSITY; 3 cr. ; A-F only; Periodic Fall)

Historical review and analysis of Canadian and U.S. Indians in the fur trades. prereq: minimum 30 credits

**AMIN 3420. American Indians in Sports.** (CDIVERSITY; 3 cr. ; A-F or Audit; Fall Even, Spring Odd Year)  
The role of sports and games in Native tradition and tribal sovereignty; development of individual and tribal self-determination; indigenous and adapted games and sports integration of tribal epistemologies into sports; Native sports figures and leaders; history of Native sports pre-Contact through the present. prereq: 30 credits; credit will not be granted if already received for 3110.

**AMIN 3430. Global Indigenous Studies.** (GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
This course fosters a consideration of the planet's indigenous peoples, emphasizing their various and varying cultural, territorial, political, social, legal, aesthetic, economic, and intellectual contributions and claims. Exploring indigenous peoples' relationships with one another, with settler governments, with non-governmental organizations, and with supranational institutions, students in the course will develop a broad understanding of the increasingly global trajectories of indigenous studies.

**AMIN 3450. American Indian Women.** (CDIVERSITY; 3 cr. ; A-F or Audit; Fall Odd, Spring Even Year)  
American Indian women in tribal societies before and after European contact; Indian women as stewards of knowledge, tradition, and society; impact of colonization; traditional and contemporary female leadership. prereq: minimum 30 credits

**AMIN 3660. American Indian Novel.** (CDIVERSITY,HUMANITIES; 3 cr. ; A-F or Audit; Periodic Spring)  
Approximately four novels by American Indian authors are read with an explanation of the novels and the milieu that produced them. Credit will not be granted if already received for 3260.

**AMIN 3810. Fundamentals of Tribal Strategic Management.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course examines the theory and practice of strategic planning and management for tribal governments, public agencies, nonprofit organizations, collaborations, and tribal communities.

**AMIN 3820. Fundamentals of Tribal Project Management.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course covers the processes of project management based upon the Project Management Institute (PMI) standards and knowledge areas. By the completion of the course, students will be able to demonstrate knowledge of project management terms and techniques such as: the triple constraint of project management and project management knowledge areas. They will also have the tools and techniques of project management such as: selection methods; work breakdown

structures; Gantt charts, network diagrams, critical path analysis; cost estimates; earned value management; and motivation theory and team building.

**AMIN 3830. Fundamentals of Tribal Operations Management.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
This course will provide an overview of effective operations within tribal governments. Beginning with an analysis of various tribal constitutions and the branches of tribal governments, students will examine the functionality of tribal government organizational structures. Students will examine how execution of day-to-day operations works within that larger tribal organization. This class also explores how amending tribal constitutions can improve the delivery of services to community members.

**AMIN 3995. Special Topics: (Various Title to be Assigned).** (; 3 cr. [max 12 cr.] ; A-F only; Periodic Fall & Spring)  
Study of topics not included in regular curriculum. prereq: minimum 30 credits

**AMIN 3997. Internship in American Indian Studies.** (3 cr. [max 6 cr.] ; S-N only; Every Fall, Spring & Summer)  
Supervised experience in a workplace relevant to a student's academic and career interests; work plan and assignments must be approved by instructor. prereq: American Indian Studies major, completion of at least 90 credits and instructor consent

**AMIN 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AMIN 4230. Introduction to Federal Indian Law.** (CDIVERSITY,SOC SCI; 3 cr. ; A-F only; Periodic Fall & Spring)  
Federal Indian law has had a profound effect on our lives, liberties, and properties of indigenous peoples. At times, U.S. policy and Supreme Court ruling have worked to protect aboriginal rights, while at other times they have had devastating consequences. This course examines the role of the U.S. Supreme Court as a policy-making institution in their dealings with Indigenous nations, requiring us to ask about the origins of federal judicial power and their application indigenous peoples. prereq: minimum 60 credits; credit will not be granted if already received for AMIN 3333

**AMIN 4250. American Indian Diplomacy: Treaties, Compacts, and Agreements.** (GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Indigenous Nations have long engaged in diplomatic arrangements with one another, foreign nations, colonial/state governments, and the United States. Such political engagements affirm the inherent sovereignty of First Nations, recognizing the distinctive rights and power unique to Native peoples and were used to forge friendships, end wars, cede lands and resources, create reservations, and reserve hunting and fishing rights. This course examines the history of First Nations treaty making, the legal and political status of Indian treaties and agreement, the ambiguities and

problems in indigenous-state diplomacy and treaty litigation. prereq: minimum 60 credits

**AMIN 4410. American Indian Philosophies.** (CDIVERSITY,HUMANITIES; 3 cr. ; A-F or Audit; Fall Odd Year)  
In this course, we examine both historical and contemporary philosophical writings by American Indian thinkers from an array of different tribal nations. Engaging with Indigenous notions of time, gender, environmental interrelationships, and spiritual wellbeing, we explore the implications of these philosophies in addressing contemporary issues of environmental devastation, race/gender inequity, and, most critically, Native cultural and social resurgence in the 21st century. pre-req: minimum 60 credits

**AMIN 4630. American Indians and the Media.** (CDIVERSITY,HUMANITIES; 3 cr. ; A-F only; Periodic Fall & Spring)  
Examination of Native controlled and non-Native images of American Indians in varied media including journalism, television, and advertising from the times of European contact to the present. Explorations and comparisons of historic images with the contemporary. Students will participate in a hands-on media watch research project. prereq: minimum 60 credits

**AMIN 4640. American Indians in the Movies.** (CDIVERSITY,HUMANITIES; 3 cr. ; A-F or Audit; Every Fall)  
Indian Country at the beginning of the film era; government Indian policies during the film era; silent film; war and romance; westerns; Indian and White heroes and heroines; stereotypes; modern Native-made film. prereq: 60 credits

**AMIN 4810. Business Processes in Tribal Administration.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course examines fundamental business "best practices" in accounting, economics, operations, organizational management, statistics, financial management, marketing, and human resources within the specific context of Tribal enterprises and government.

**AMIN 4840. Current Issues and Opportunities in Tribal Administration and Governance.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course will explore contemporary issues, challenges, and opportunities for tribal governments and consider innovative administrative/governance approaches. The significance of how external decisions by the federal or state government might impact tribal decision making will be examined.

**AMIN 4990. Directed Research in American Indian Studies.** (3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)  
American Indian Studies majors may register for advanced study and individual research on a selected topic or theme in American Indian Studies. prereq: American Indian Studies major, completion of at least 90 credits and instructor consent. No graduate credit.

**AMIN 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AMIN 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## American Sign Language (ASL)

**ASL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ASL 2001. Beginning American Sign Language I.** (COMM & LAN; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Introduction to basic vocabulary in American Sign Language and the fingerspelling alphabet. prereq: Credit will not be granted if already received for CSD 2001.

**ASL 2002. Beginning American Sign Language II.** (COMM & LAN; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Expansion of vocabulary base in American Sign Language. In-depth study of principles of American Sign Language as used receptively and expressively in communication with deaf individuals. prereq: 2001 or instructor consent; credit will not be granted if already received for CSD 2002

**ASL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ASL 3003. Intermediate American Sign Language I.** (COMM & LAN; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Intermediate-level study of grammatical and linguistic features of ASL; focus on understanding deaf culture and fluency in expressive and receptive skills. prereq: 2002 or instructor consent; credit will not be granted if already received for CSD 5003

**ASL 3004. Intermediate American Sign Language II.** (COMM & LAN; 3 cr. [max 4 cr.] ; A-F or Audit; Every Fall & Spring)  
Continued intermediate-level study of grammatical and linguistic features of ASL; focus on understanding deaf culture and fluency in expressive and receptive skills. prereq: 3003 or instructor consent; credit will not be granted if already received for CSD 5004

**ASL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ASL 4005. Advanced American Sign Language.** (COMM & LAN; 3 cr. [max 4 cr.] ; A-F or Audit; Every Fall & Spring)  
Advanced level study of American Sign Language vocabulary and structure. Expressive and receptive skill development. Additional focus on use of ASL by the deaf community. prereq: 3004 or instructor consent; no grad credit; credit will not be granted if already received for CSD 4005

**ASL 4100. Linguistics of American Sign Language.** (; 3 cr. ; A-F only; Every Fall & Summer)  
Introductory study of the linguistics of ASL. Comparative study of the linguistic structure of ASL and English. Overview of language as a

system within a cultural context. prereq: 3004 or instructor consent, no grad credit

**ASL 4105. History of the American Deaf Community.** (CDIVERSITY; 3 cr. ; A-F or Audit; Every Spring)

Historical roots of the American Deaf Community, including the establishment and growth of the Deaf Education system, the role of the residential schools in Deaf Culture, power and culture differentials, and systemic oppression. Interrelationship of American Sign Language and the deaf community. History, customs and practices of the American Deaf Community. Dynamics of minority cultural existence. Application of cultural theory to evaluation of the deaf life experience in the United States from 1800-present. prereq: no grad credit

**ASL 4110. Deaf Culture.** ( ; 3 cr. ; A-F only; Every Spring & Summer)

Exploration of the history of the deaf community in the United States. Topics will include the deaf community as a cultural and linguistic group with cultural norms, values and traditions. Minority dynamics and cross-cultural interactions also will be covered. ASL will be the language of instruction. prereq: 3004 or instructor consent, no grad credit

**ASL 4295. Special Topics: Various Titles to be assigned.** ( ; 1-3 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Special topics in American Sign Language to be assigned. pre-req: 2001

**ASL 4298. American Sign Language Skill Building Workshop.** (1 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Instruction and intensive practice in various subjects related to American Sign Language. prereq: 2002 or instructor consent, no grad credit

**ASL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

**ASL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

## Anatomy and Cell Biology (ANAT)

**ANAT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

**ANAT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

**ANAT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

**ANAT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

**ANAT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

## Anthropology (ANTH)

**ANTH 1080. Understanding Global Cultures.** (GLOBAL PER,SOC SCI; 4 cr. ; A-F only; Fall Odd Year)

Explores nations around the globe towards the goal of developing a cross-cultural understanding of how cultures function. Explores America as a foreign culture, looking at the United States from the viewpoints of foreign anthropologists and other scholars, using comparative ethnographic perspectives to interpret aspects of American culture.

**ANTH 1602. Biological Anthropology and Archaeology.** (SOC SCI; 4 cr. ; A-F or Audit; Every Fall & Spring)

Origin and development of extinct and living human forms, primatology, human biological variations, the race concept, evolution, and development of human societies up to the earliest stages of ancient civilizations.

**ANTH 1604. Cultural Anthropology.** (GLOBAL PER,SOC SCI; 4 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to representative cultures of the world and to concepts and methods of cultural anthropology, focusing on range of variation and degree of uniformity in human behavior and in cultural adaptations.

**ANTH 1612. Introduction to Archaeology.** (SOC SCI; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Basic principles of archaeology with examples of their application to world prehistory.

**ANTH 1620. Introduction to Public Culture: Earth Citizenship, Science, and Culture.** (GLOBAL PER; 4 cr. ; A-F or Audit; Every Fall)

Integrative approach connecting culture, science, and law to the practical work of managing critical shared resources for the public good in the 21st century. Course examines how governance of shared natural resources (climate, water, wildlife) is connected to governance of community and cultural resources (internet, electricity grids, knowledge, and storytelling). Topics highlight diverse approaches to citizenship and sustainability as found in cli-sci fiction, public science, public art, land trusts, and indigenous land stewardship traditions.

**ANTH 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

**ANTH 2001. Career Development in Anthropology.** (2 cr. ; A-F only; Periodic Fall & Spring)

Overview of career opportunities for anthropological skill sets. The mechanics of career development: locating jobs; matching skills to job requirements; networking; writing resumes, cover letters, CV's, and graduate application essays. A focus on the lifelong process of building a career.

**ANTH 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

**ANTH 3080. Cultural Constructions of the Body.** ( ; 4 cr. ; A-F or Audit; Every Fall & Spring)

Contemporary cultural constructions of the human body. How biology and culture intersect in body building, menstruation, childbirth, and tattooing. Students gain skills in reading the body as social text and learn core theoretical approaches to cultural studies of the body. prereq: minimum 30 credits or instructor consent

**ANTH 3100. Business Anthropology.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Demonstrating the rich area of Applied Anthropology, this course surveys the ways in which anthropologist work in and on transnational corporations. Anthropological research in marketing and consumer behavior, as well as in the organizational culture of contemporary and historical businesses influences various industries, particularly in technology and new media products. Contemporary corporations also consume anthropology, often deploying anthropological language and concepts with or without any ethnographic fieldwork. Students will discover various anthropological encounters with the business world, and will have the opportunity to contribute and engage in those encounters over social media. prereq: minimum 30 credits

**ANTH 3156. Digital and Participatory Research Methods.** ( ; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

This course teaches participatory research and media production as practiced in anthropology as a transformative process through which students can become agents of change. The course engages students through scholarly and active learning to develop research skills, including digital and participatory methods in collaboration with people studied, to facilitate cultural and visual literacy. Course emphasizes field techniques, data analysis, and interpretation, and the use of digital technologies (such as videos, social media, etc.) as course of data as well as means of communication. Lab. prereq: minimum 30 credits

**ANTH 3200. Exploring Sustainability & Culture - Study Abroad.** (GLOBAL PER; 6 cr. ; Student Option; Periodic Spring & Summer)

Taught on site at selected country. Introduces students to fieldwork based experiences in sustainability and community engaged scholarship. Course generally involves travel, extensive outside of the classroom work, and a service learning component with post project reflection. pre-req: instructor consent; admission to an approved study abroad program requires consent from the International Programs and Services Office

**ANTH 3300. Energy, Culture and Society.** (GLOBAL PER; 4 cr. ; A-F or Audit; Spring Even Year)

This course takes a cross-cultural and interdisciplinary view of energy. It examines the history of energy generation and use in the US with attention to economic and ecological systems as well as cultural assumptions asking how did the US grow to be the largest consumer of energy in the history of the world? By studying case studies of electrification in



the global north and south; post-Fukushima nuclear energy politics in Japan and Germany; the impact of global gas and oil markets on local US communities, and the growth of renewable energy, this course aims to give students methods, tools and perspectives to understand, critique, and ultimately influence (personal and societal) assumptions, policies, economics, and technical systems surrounding energy generation and use. prereq: minimum 30 credits

**ANTH 3618. Ancient Middle America.** (3 cr. ; A-F or Audit; Periodic Fall)

Survey of major pre-Hispanic cultures of Mesoamerica, including the Olmecs, Maya, Toltecs, Mixtecs, and Aztecs. Using comparative ethnographic and archaeological materials, the course explores the arrival of hunter-gatherer-foragers, the beginnings of agriculture, and formation of early villages, native mathematical and calendar and writing systems, the florescence of regional art styles, and the religious sociopolitical, and economic development of Classical and Postclassical civilizations through the arrival of the Spanish Conquistadors. prereq: minimum 30 credits

**ANTH 3622. Archaeology of the Old World.**

(3 cr. ; A-F or Audit; Periodic Fall & Spring) Survey of major themes arising with Homo sapiens, e.g., domestication, urbanism, social inequality, gender relations, development of hierarchical political structure, and human impacts on, and adaption to the environment. Examples drawn from cultural areas in Europe, Africa, and Near East and/or Asia. prereq: minimum 30 credits

**ANTH 3624. Archaeology of North America.**

(3 cr. ; A-F or Audit; Periodic Fall & Spring) Survey of archaeological data for major cultural areas of North America north of Mexico. prereq: minimum 30 credits

**ANTH 3628. Women in Cross-Cultural Perspective.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Cross-cultural survey of gender systems, focusing on contemporary women's lives around the world. prereq: minimum 30 credits

**ANTH 3632. Latin American Cultures.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Survey of social, political, economic, and religious organization of contemporary national and native cultures of Mexico, Central America, and South America. prereq: 1604, minimum 30 credits

**ANTH 3635. Peoples and Cultures of Europe.**

(; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer) Exploration of European peoples to develop a cross-cultural understanding of how cultures function. Survey of social, political, economic, religious, family and kinship, gender, urban, globalism/globalization. prereq: minimum 30 credits

**ANTH 3638. Peoples and Cultures of the Middle East.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Examines how anthropologists study the cultures and social institutions of the modern

Middle East. Focus on religion, family life, gender, politics, economy, urban ways of life, kinship and marriage, and the impacts of globalism. prereq: minimum 30 cr or instructor consent

**ANTH 3640. What is a City?: Archaeological Perspectives on Urbanism.** (SUSTAIN; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Survey of historically and archaeologically documented urban case studies and thematic concepts, e.g., the use of space, political and economic implications of living in a city, abandonment of cities, and the impact of cities on the environment. Liberal Education sustainability credit will be effective fall 2015. prereq: Min 30 cr or instructor consent

**ANTH 3641. The City in Film.** (FINE ARTS; 4 cr. ; A-F or Audit; Every Fall)

Exploration of the modern industrial, postmodern global and relocalized sustainable city through film. Films dramatizing the transformation of urban society by industrialization, the car, globalization, and New Urbanism (US and Europe) as well as the emergent megacities of India, China, and Africa highlight the historical trajectory of the modern urban form and question its future in relation to a sustainable planet. Students produce a short digital city film as a final project.

**ANTH 3691. Independent Study in**

**Anthropology.** (1-4 cr. [max 8 cr.] ; A-F only; Every Fall, Spring & Summer)

Directed reading and research in ethnography leading to preparation of paper. prereq: preferred minimum 30 credits; instructor consent required

**ANTH 3888. Anthropology of Food.**

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

Advanced survey and comparative study of the relationship between food and culture in the past and present. Topics include the prehistoric, biological, and cultural aspects of the collection, production, distribution, preparation, and consumption of food, and an analysis of its social, cultural, political, and economic significance. prereq: minimum 30 credits

**ANTH 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**ANTH 4100. Visual Anthropology.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Visual Anthropology encompasses the anthropological study of all visual representations. This course will engage students in histories and analyses of representations and visual product artifact from many cultures. Artifacts and visual objects studies may include sand painting, tattoos, sculptures and reliefs, cave painting, jewelry, hieroglyphics, painting, photographs, and new media production,. The study of human vision, properties of media, and relationship between visual and form and function are also central to this anthropological subfield. Student will have the opportunity to create small visual objects on a weekly basis during the bulk of the semester. prereq: minimum 30 credits

**ANTH 4500. The New Commons: Governing Shared Resources for Present and Future Generations.** (SUSTAIN; 4 cr. ; A-F or Audit; Every Fall)

This course examines efforts and provides skills to manage water, climate, wildlife, and internet, cultural heritage and other key pieces of ecosystem and community infrastructure at global and local levels as "commons," shared resources governed by culturally diverse, engaged communities for present and future generations. prereq: Minimum 90 credits or grad student; credit will not be granted if already received for CST 4500

**ANTH 4616. Culture and Personality.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Role of culture in forming of personality; problems of individual adjustment to demands of culture. Psychological and sociopsychological approach to culture. prereq: 1604, min 60 cr

**ANTH 4620. Archaeological Method and Theory.** (4 cr. ; A-F or Audit; Fall Even Year)

Principles of archaeology including data collection, data analysis, history of the field, theoretical approaches, laws, and professional ethics. prereq: minimum 60 credits or instructor consent; no grad credit

**ANTH 4621. Myth and Sacred Symbols.** (; 3 cr. ; A-F or Audit; Periodic Spring)

Interpretation of myths and sacred symbols found in beliefs and rituals of selected traditional cultures. prereq: 1604, min 60 cr

**ANTH 4631. Anthropology and**

**Environment.** (SUSTAIN; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

In-depth study of some of the methods and concepts concerning the interrelations of certain human populations with their environments in diverse natural, cultural, historical, and evolutionary settings. prereq: 60 cr

**ANTH 4632. Anthropology of Landscapes.**

(SUSTAIN; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Cross-cultural examination of concepts related to landscape and space. Topics include culturally constructed landscapes, notions of belonging, memory, pilgrimage, commemoration, and ways of gaining food and resources. Theoretical background and analytical examples drawn from the four subfields of anthropology: cultural, physical, linguistics, and archaeology. Liberal Education sustainability credit will be effective fall 2015. prereq: minimum 60 credits or grad student or instructor consent

**ANTH 4633. Ethnobotany.** (SUSTAIN; 4 cr. ; A-F only; Periodic Fall & Spring)

Advanced survey and study of interrelations between humans and plants, including material, symbolic, ritualistic and other aspects of human-plant interactions. Combines cultural anthropology and botany to investigate the roles of plants as food, medicine, natural resources and/or gateways to culturally sanctioned religious experiences. Liberal Education sustainability credit will be effective

fall 2015. prereq: minimum 60 credits or instructor consent

**ANTH 4640. Medical Anthropology.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Comparative, cross-cultural examination of sickness and healing. Drawing from ethnographic work on indigenous, alternative, and Euro-American medical systems as well as shamanism, the course works with symbolic, social, political, and historical perspectives. prereq: minimum 60 credits or grad student, or instructor consent

**ANTH 4644. Anthropology of Law.** (4 cr. ; A-F or Audit; Spring Odd Year)

Introduces key concepts, issues, and methods of legal anthropology and considers how, in various parts of the world, legal systems are integrating local and indigenous conceptions of justice with the formal procedures and institutions of the state. Particular attention is given to culturally creative uses of law to achieve public justice with respect to environmental and economic domains. prereq: minimum 60 credits or instructor consent; no grad credit

**ANTH 4651. Development of Anthropological Theory.** (4 cr. ; A-F or Audit; Every Fall)

Theoretical perspectives from mid-19th century to the present; examines the interrelationship of method and theory, and implications for practice of anthropology. prereq: minimum 90 credits, no grad credit

**ANTH 4652. Cultural Theory for Wicked Problems.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

A wicked problem is a social or cultural problem difficult to solve for many reasons: incomplete or contradictory knowledge, the number of people or opinions involved, the large economic burden of solutions, and the interconnected nature of these with other problems. This course explores the ways that cultural theory provides critical insights in complex contemporary arenas such as government policy, nonprofit work, law, business, communications, education, health issues, environment and conservation, natural resources management, risk management, natural disaster responses, and more. The goal of the course is to teach students the value of cultural theory in understanding and working within the complexities of the contemporary world. prereq: minimum 30 credits

**ANTH 4653. Senior Seminar.** (3 cr. ; A-F or Audit; Every Spring)

Contemporary topics in selected branches of anthropology. Active participation in group research project to develop and enhance anthropological research skills. prereq: minimum 90 credits or instructor consent; no grad credit

**ANTH 4654. Biological Anthropology.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

The human skeleton as source of information about individual variations, population structure, and human evolution. Study of human remains from archaeological sites, morphology, paleopathology, and relevant

statistical methods. Lectures and labs emphasize acquiring practical experiences in analysis and interpretation. prereq: minimum 60 credits or instructor consent

**ANTH 4655. Forensic Anthropology.** (4 cr. ; A-F or Audit; Every Spring)

This class is designed to familiarize students with the fundamentals of forensic anthropology, including identification of skeletal elements, pathology, age, sex, and population affinity, stature, occupational markers and selected other topics. prereq: minimum 60 credit or instructor consent; no grad credit

**ANTH 4691. Independent Study.** (1-4 cr. ; A-F only; Every Fall, Spring & Summer)

Directed reading and research leading to preparation of a final written and/or digital project. prereq: preferred 60 credits and instructor consent

**ANTH 4695. Special Topics: (Various Titles to be Assigned).** (1-5 cr. [max 10 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Seminar on topics in selected branches of anthropology. prereq: minimum 60 cr

**ANTH 4696. Field Research in Archaeology.** (1-10 cr. ; A-F only; Periodic Summer)

Archaeological excavation, survey, and research in actual sites. Location may vary. prereq: instructor consent

**ANTH 4697. Anthropology Internship.** (2-6 cr. ; S-N only; Every Fall, Spring & Summer)

Supervised experience in a workplace relevant to students academic interests within the major: social service agency, museum, immigration services, school or other, approved by instructor. In consultation with instructor, students will also complete assignments relevant to the job setting, e.g., setting learning objectives, techniques for measuring progress, and/or report writing. prereq: preferred minimum 60 credits, instructor consent, no grad credit

**ANTH 4699. Honors Project.** (2-4 cr. ; A-F only; Every Fall, Spring & Summer)

Advanced individual project in any area of anthropology demonstrating sound theoretical, methodological, and research foundations. Topic chosen in consultation with the honors advisor. The student will give a public presentation of their written and/or digital final project. prereq: instructor consent; no grad credit

**ANTH 4910. Teaching Assistantship in Anthropology.** (1-3 cr. ; A-F only; Every Fall, Spring & Summer)

Practical experience in teaching-related activities in anthropology courses. prereq: Minimum 60 credits and instructor consent, no grad credit; maximum 3 credits between ANTH 4997 and 4910

**ANTH 4985. Critical Animal Studies.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

This course explores the ways in which animal lives intersect with human lives, including the evolution of social, cultural, scientific, and religious attitudes toward animals. We will examine the dynamics of power and visualization in the ways animals are culturally

framed and constructed. Students will also learn to critically analyze a variety of ethical debates about animals in society, such as the eating of animals, animal experimentation, zoos, hunting, ownership, and legal status. prereq: minimum 30 credits earned or instructor consent; no grad credit

**ANTH 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ANTH 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Applied Human Sciences (AHS)

**AHS 3100. Risk Management.** (2 cr. ; A-F or Audit; Every Fall)

Proactive approach to managing risks associated with conducting health, physical education, and recreation programs. Emphasis on planning for a safe environment. prereq: Major in Exercise Science or Environmental and Outdoor Education or instructor consent

**AHS 3300. Health and Physical Education in the Elementary School.** (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Developing health and physical education programs for the elementary school classroom teacher. Emphasis on planning appropriate health and physical education lessons and teaching developmental movement experiences. prereq: IESE Major, successful completion of IESE 1010

**AHS 4999. Senior Project.** (3-12 cr. ; S-N or Audit; Every Fall & Spring)

Selection and completion of a project approved and supervised by faculty. prereq: Hlth Educ or PE or REC or Ex Science candidate, minimum 90 credits, instructor consent

## Applied Material Science (AMS)

**AMS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AMS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AMS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AMS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AMS 5101. Materials Analysis & Design I.** (6 cr. ; A-F or Audit; Every Fall)

Overview of the structure, properties, processing, and performance of traditional materials of metals, ceramics, and polymers. Course will be delivered via an integrated learning approach, where course content taught in the lectures and labs will be applied to 2-3 projects concurrently throughout the semester on product or equipment design. prereq: CHE 3231 or ME 2105 or Grad student or instructor consent

**AMS 5102. Materials Analysis & Design II.** (; 6 cr. ; A-F or Audit; Every Spring)

Overview of design, manufacturing and experimental characterization of fiber reinforced polymer (FRP) composite materials and degradation of materials. Course will be delivered via an integrated learning approach, where course content taught in the lectures and labs will be applied to 2-3 projects concurrently throughout the semester on product or equipment design. pre-req: AMS 5101 or MATH 1297 and CHEM 11545 and PHYS 2015 or Grad student or instructor consent

**AMS 5555. Applied Materials Science****Project Credits.** (; 3-6 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Master of Applied Science project work as determined by faculty adviser and student with approval by the program director of graduate studies. pre-req: MS AMS candidate, instructor consent

**AMS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Art (ART)****ART 1001. Art Today.** (FINE ARTS; 3 cr. ; A-F or Audit; Every Summer)

Introductory survey of influence of art and roles of artists in varied sociocultural contexts, emphasizing recent art and its historical sources.

**ART 1002. Introduction to Art.** (FINE ARTS; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Studio course with strong lecture component for those with little or no creative experience in art, introducing various materials, techniques, and concepts. Studio work, lectures, class discussions, viewing artworks, and outside reading. pre-req: Not for art majors or minors except those in art history

**ART 1003. Introduction to Design.** (FINE ARTS; 3 cr. ; A-F or Audit; Every Spring & Summer)

Introductory survey of the design of visual communication and the design of everyday objects, emphasizing the social and historical meaning of design and the ways in the design shapes public and private experience. From clothes to cars, from websites to street signs, from plates to phones to plazas, design can help or hinder users perform tasks while it helps them construct identity and meaning.

**ART 1004. Sustainable Visual Culture****Practices.** (SUSTAIN; 3 cr. ; A-F or Audit; Every Fall & Spring)

The course examines art and design practices worldwide that are responding to current sustainability challenges and offering transformative solutions. We will explore definitions, principles and goals of sustainability and identify current global challenges, including water protection and land use, energy and waste, ecosystems and habitat, ecological debt and social inequity, framed within the intersection of class, gender and race. Within a participatory, interactive learning environment, we will analyze the

work of artists and designers that are creating strategies to transition to live within planetary boundaries. Case studies of participatory and ecological art, cradle-to-cradle design and biominicry, are among the practices that will be introduced, discussed and critiqued. Through active learning methods, including journaling, collaging, photographing and working in pairs and groups, participants will explore their own relationship to sustainable ways of living.

**ART 1009. Fundamentals of Drawing.** (FINE ARTS; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Stimulation of visual and conceptual skills through dynamics of drawing as well as lectures/presentations and group discussions. pre-req: Not for art majors or minors

**ART 1010. Drawing I.** (FINE ARTS; 3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to the drawing experience and problems concerned with translation of three-dimensional visual experience into two-dimensional form. pre-req: preArt or Art BA or Arts Admin BA or preArt Educ K-12 or Art Educ K-12 BFA or Art History BA or preGraphic Design or Graphic Design BFA or preStudio Art or Studio Art BFA or Theatre-Costume Design BFA or Art minor or instructor consent

**ART 1011. 2-D Design.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to two-dimensional design through study of design elements and principles, including visual organization and color theory and their application in various media. pre-req: preArt or Art BA or Arts Admin BA or preArt Educ K-12 or Art Ed K-12 BFA or Art History BA or preGraphic Design or Graphic Design BFA or preStudio Art or Studio Art BFA or preMarketing & Graphic Design or Marketing & Graphic Design BBA or Art Min or instructor consent

**ART 1012. 3-D Design.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to basic concepts and materials of three-dimensional form and space. pre-req: preArt or Art BA or Arts Admin BA or preArt Educ K-12 or Art Educ K-12 BFA or Art History BA or preGraphic Design or Graphic Design BFA or preStudio Art or Studio Art BFA or Art minor or instructor consent

**ART 1013. 2-D Digital Design.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Two-dimensional studio and graphic design concepts using the computer as a creative tool. Instruction presented only on the macOS. pre-req: preArt or Art BA or Arts Admin BA or preArt Educ K-12 or Art Ed K-12 BFA or Art History BA or preGraphic Design or Graphic Design BFA or preStudio Art or Studio Art BFA or preMarketing & Graphic Design or Marketing & Graphic Design BBA or Art Min or Arts in Media Min or Photo Min or instructor consent

**ART 1105. Fundamentals of Painting.** (FINE ARTS; 3 cr. ; A-F or Audit; Every Fall)

This course offers a hands-on opportunity to learn both traditional and contemporary painting techniques and to develop concepts for painting, while investigating the socio-economic, historical and personal motivations

behind creative expression. Students will also be introduced to basic visual semiotic theory, which will help them understand the structure of visual communication. Students will develop their own ideas and styles through specifically designed assignments with targeted goals.

**ART 1125. Watercolor I.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Basic concepts and techniques. pre-req: 1002 or 1010 or instructor consent

**ART 1126. Watercolor II.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Advanced concepts and techniques. pre-req: 1125 or instructor consent; credit will not be granted if already received for 3125

**ART 1305. Social Multiples: Availability and Circulation.** (FINE ARTS; 3 cr. ; A-F or Audit; Every Spring)

A survey of the historical and contemporary uses of printed material to engage communities in political, cultural, and ethical conversation.

**ART 1306. Fundamentals of Screenprinting.** (FINE ARTS; 3 cr. ; A-F or Audit; Every Fall & Summer)

Introduction to methods and material used for water-based screen-printing, which offers a simple and direct way of creating visual images from hand crafter or digital sources. The instruction of this course allows students to build upon basic concepts in order to develop more complex and personally meaningful work. Projects will include topics addressing social communication, personal motivations, collaborations, and non-traditional uses (i.e., installation or sculptural work). Includes additional information on theoretical, legal, cultural, and historical aspects of screen-printing. pre-req: Not for Art majors or minor

**ART 1405. Fundamentals of Ceramics I.**

(FINE ARTS; 3 cr. ; A-F or Audit; Every Spring & Summer)

Basic handbuilding and glazing of earthenware ceramics. pre-req: Not for art majors or minors

**ART 1605. Fundamentals of Photography.**

(FINE ARTS; 3 cr. ; A-F or Audit; Every Spring & Summer)

Introduction to photography and its roles in the communications culture. Basic photographic principles and introduction to digital darkroom. Assignments emphasize creative thinking. Requires digital camera with adjustable shutter speeds and apertures. Laptop and software required; instruction presented only on the Mac platform. pre-req: Not for art majors or minors

**ART 1814. Creating Across Cultures.** (FINE ARTS, CDIVERSITY; 3 cr. ; A-F or Audit; Every Fall & Spring)

Underrepresented visual arts of cultural groups within U.S. society.

**ART 1900. Visual Literacy.** (FINE ARTS; 3 cr. ; A-F or Audit; Every Fall & Spring)

Various forms of visual expression--art, commercial imagery, typography, architecture, graffiti, etc.--as rhetoric. Introduction to variety of theories and/or modes of criticism, and consideration of their value for explanation of visual expression. pre-req: Credit will not be granted if already received for 2900

**ART 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ART 2014. 3-D Modeling and Animation.** ( ; 3 cr. ; A-F or Audit; Every Spring)

This course will introduce fundamental concepts and techniques for creating 3-D computer graphics using one of several industry-standard computer programs, 3ds Max. Through a clear sequence of tutorial assignments and projects, students will gain an understanding of the underlying principles of 3-D modeling and animation, including materials, lights, cameras, and rendering. Students learn to express personal ideas and concepts through the creative use of 3-D graphics. prereq: ART 1013

**ART 2016. Digital Arts: Mixed-Media Studio.**

( ; 3 cr. [max 6 cr.] ; A-F or Audit; Every Spring) Introduction to digital art studio practice with a focus on digital imaging and cross-media experimentation. Course builds on skills, techniques, and critique of digital art concepts such as image compositing, appropriation, collage, and remixing. Creative projects include development of a serial approach to visual imagery. Readings and presentations discuss current trends in digital culture and key works by digital artists. Instruction presented only on macOS. prereq: ART 1013 or instructor consent repeatable: Allow up to 2 repetitions totalling up to 6 credits.

**ART 2018. Digital Arts: Interactive Media.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Creative use of interactive media in contemporary studio art practice. Discussion of emerging media formats and current trends in interactive art. Collaborative projects informed by conceptual dialogue in digital culture and significant works by net artists. Development of game-like interactive experiences via social networking, virtual worlds, or locative media. Experimental works may be created using open source software or other interactive design tools. Laptop required (Mac or PC). prereq: art major or minor or instructor consent

**ART 2030. Digital Arts: Time-based Media.**

(3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring) Introduction to time-based media practice and theory through presentations, readings, studio time, and hands-on assignments. Creative exploration of vital forms of contemporary time-based art such as video art, sound/sonic art, basic animation, and performance art. prereq: ART 1013 or instructor consent repeatable: Allow up to 2 repetitions totalling up to 6 credits.

**ART 2040. Digital Filmmaking: Visual Narratives.** ( ; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Introduction to the fundamental of digital video production and basic concepts of cinematic narrative. Beginning hands-on experience using digital video tools to create short narrative works. Creative studio art approach to low budget film techniques and project collaboration. Individual and team projects include visual concept development,

storyboarding, video production, and digital editing. Emphasis on the visual language of filmmaking and critical appreciation of cinematic media. prereq: 1013 or Journalism major or film minor or instructor consent

**ART 2100. Painting I.** (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Color and pigment theory, basic concepts and explorations in technology and imagery. Painting traditions and contemporary directions. prereq: ART 1009 or 1010 and 1011 or instructor consent

**ART 2200. Sculpture I.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Sculptural materials, methods, and concepts, with problems relating to form, time, and space; experience with various sculptural forms and media, emphasizing creative expression. prereq: ART 1012 or instructor consent repeatable: Allow up to 2 repetitions totalling up to 6 credits.

**ART 2300. Printmaking I: Intaglio, Relief.** (3 cr. ; A-F or Audit; Every Fall)

Introduction to methods and materials used in zinc plate etching and relief printing from wood and linoleum. Technical, aesthetic, and contextual considerations encountered in production of meaningful artwork. Theoretical, legal, critical, and historical aspects of printmaking. prereq: ART 1009 or 1010 and 1011 or instructor consent

**ART 2301. Printmaking I: Litho, Screen.** (3 cr. ; A-F or Audit; Every Spring)

Introduction to methods and materials used in lithographic printmaking from stones and plates and water-based screenprinting. Content includes technical, aesthetic and contextual considerations encountered in the production of meaningful artwork. Additional information on theoretical, legal, critical and historical aspects of printmaking. prereq: 1006 or 1009 or 1010, 1011, art or art education major or art minor or instructor consent; credit will not be granted if already received for 1301

**ART 2303. Printmaking I: Screenprinting.** (3 cr. ; A-F or Audit; Periodic Summer)

Introduction to methods and material used for water-based screen-printing, which offers a simple and direct way of creating visual images from hand crafter or digital sources. The instruction of this course allows students to build upon basic concepts in order to develop more complex and personally meaningful work. Projects will include topics addressing social communication, personal motivations, collaborations, and non-traditional uses (i.e., installation or sculptural work). Includes additional information on theoretical, legal, cultural, and historical aspects of screen-printing. prereq: 1009 or 1010, 1011, art or art education major or art minor or instructor consent

**ART 2400. Ceramics I.** (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Handbuilding methods, surface enhancement, and conceptual support for pottery and/or ceramic sculpture. prereq: 1012, art or art education major or art minor or instructor

consent; credit will not be granted if already received for 1400

**ART 2500. Jewelry and Metals I.** (3 cr. ; A-F or Audit; Every Fall)

Basic jewelry design, fabrication, and surface enhancement techniques. prereq: ART 1011 or 1013 or instructor consent

**ART 2600. Photography I.** ( ; 3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to photographic concepts, materials, and the digital darkroom. Varied thematic assignments within the visual arts context. Requires digital camera with adjustable shutter speeds and apertures. Instruction presented only on macOS. prereq: ART 1013 or instructor consent; credit will not be granted if already received for ART 1605

**ART 2810. Art in Elementary Education.**

(FINE ARTS; 3 cr. ; A-F or Audit; Every Fall & Spring)

Instructional problems relating to the growth and development of artistic expression in children. Studio experience relating to elementary art curriculum. prereq: pre-Elementary education major

**ART 2905. Design Technology I.** (3 cr. ; A-F or Audit; Every Fall)

Fundamentals of graphic reproduction and Web site design; application of digital programs used in preparing print and web work. Instruction presented on the macOS. prereq: ART 1013 or instructor consent

**ART 2906. Design Technology II.** (3 cr. ; A-F or Audit; Every Spring)

Advanced concepts and digital program applications for print and web graphic contexts. prereq: 2905, graphic design major or GDM BFA or pre-MGD BBA or MGD BBA or instructor consent; laptop required; digital instruction presented only on the Mac platform.

**ART 2907. Typography I.** ( ; 3 cr. ; A-F or Audit; Every Fall)

Introduction to fundamentals of typography in print and screen media. Presents terminology, history, and theories of letterforms. Students will perform directed assignments to develop typographic skills on computer and by hand. prereq: ART 1013 and Graphic design major or GDM BFA or MGD or pre-MGD BBA or digital arts and photography emphasis or instructor consent; laptop required; digital instruction presented only on the Mac platform.

**ART 2911. Graphic Design I.** ( ; 3 cr. ; A-F or Audit; Every Spring)

Introduction to theory and practice of graphic design. Meaning and aesthetics of image juxtaposition; resonance of type and image. prereq: 2905, 2907, graphic design major or GDM BFA or pre-MGD BBA or MGD BBA or instructor consent; laptop required; digital instruction presented only on the Mac platform.

**ART 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ART 3031. Digital Arts: Installation and Collaborative Media.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Intermediate digital art studio course with a focus on interdisciplinary media and collaborative processes used to create site-specific installations and participatory art pieces. Reading and presentations discuss current trends in collaborative projects and key works by installation artists. Multimedia installation projects may include traditional art media, video projection, sound, and audience participation. prereq: 2030, art or art education major, pre-art education major or pre-graphic design major, or art minor or instructor consent; credit will not be granted if already received for 5030

**ART 3040. Digital Filmmaking: Experimental Techniques.** (3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall & Spring)

Exploration of hands on experimental processes and techniques used in contemporary digital video and animation. Introduction to history and theory of experimental film and video works. Focus on digital video production, digital compositing, digital animation techniques, and non-linear video editing skills. Emphasis on innovative, narrative, and non-narrative approaches to creative video projects. Discussion of audience and exhibition options for experimental digital video works. prereq: 2030 or 2040 or instructor consent

**ART 3100. Painting II.** (3 cr. [max 9 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Painting in specialized interest area, using student/instructor-generated semester goals outline. prereq: 2100, art or art education major, pre-art education major or pre-graphic design major, or art minor or instructor consent; max 9 credits

**ART 3200. Sculpture II.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Sculptural materials, methods, and concepts, with problems relating to form, time, and space; experience with various sculptural forms and media, emphasizing creative expression. prereq: 2200, art or art education major or art minor or instructor consent

**ART 3214. Sculpture II: Robotics and Physical Computing.** (FINE ARTS; 3 cr. [max 6 cr.] ; A-F or Audit; Every Spring)

Intermediate and advanced sculpture robotics and physical computing: Approaches to sculpture, digital control of objects, kinetic sculpture and sound in installation events, performances, and exhibitions. prereq: 2200, art or art education major or art minor or instructor consent

**ART 3300. Printmaking II.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Spring)

Continued exploration of processes explored in either or both of the introductory courses. Increased technical challenges combined with refinement of image and concept. Some photographic and mixed-media processes; increased experience in editioning and critical review. prereq: 2300, 2301, art or art education major or art minor or instructor consent

**ART 3305. Sustainability Studio: Theory and Practice.** (FINE ARTS,SUSTAIN; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Within a studio-based context, this course examines the potential of art and design to address issues of sustainability. Drawing from historical and contemporary precedents, student will explore and analyze solutions to the interdependence and growing incongruity between the natural environment and societal demands. As a combined media course, students will use a range of technical and conceptual methods, synthesizing previously learned studio experience and skills, examining the potential of found, ready made, and/or recycled materials to fulfill sustainable challenges.

**ART 3400. Ceramics II.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Advanced handbuilding and surface enhancement techniques; development of a stylistically consistent body of work. prereq: 2400 or instructor consent

**ART 3405. Fundamentals of Ceramics II.** (FINE ARTS; 3 cr. [max 6 cr.] ; Student Option; Every Spring)

Handbuilding or wheel-throwing, glazing, and firing of ceramics. prereq: 1405 or instructor consent; not for art majors or minors

**ART 3425. Ceramics II Wheel Throwing.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to the potter's wheel and clay throwing techniques. Glazing and firing; surface work and enhancement, with conceptual support for pottery and sculptural clay forms. prereq: 2400, art or art education major or art minor or instructor consent

**ART 3500. Jewelry and Metals II.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Fall)

Advanced application of jewelry techniques and design. prereq: ART 2500 or instructor consent repeatable: Allow up to 2 repetitions totalling up to 6 credits.

**ART 3600. Photography: Alternative Processes.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Fall)

Continued experience with photographic concepts using alternative processes techniques applied within a creative context. Portfolio requirements are project-based. Fall semester will cover the basics of alternative process workflow using cyanotype chemistry in the darkroom. Spring semester will cover the basics of medium format film cameras, and the collaborative process as it related to photographic image making. Instruction presented only on macOS. prereq: ART 1605 or 2600 or instructor consent repeatable: Allow up to 2 repetitions totalling up to 6 credits.

**ART 3615. Photography: Inventing with Light.** (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

This course provides a working knowledge of studio lighting equipment and techniques as they apply to the creative production of still photographs and short digital videos. Students will incorporate these lighting techniques, as well as advanced digital image making skills, into their conceptual practice, demonstrating technical and aesthetic skills related to contemporary and historical practice in the art of artificial lighting. Students will

conceptualize how the lighting studio can transform their means of creative production. Requires digital still and/or video cameras with adjustable shutter speeds and apertures. Instruction presented only on the macOS. prereq: ART 2600, pre-Studio Art-DAP or Studio Art-DAP BFA or Photography minor or instructor consent

**ART 3700. Drawing II.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Individually supervised projects supporting involvement in other studio areas. prereq: ART 1009 or 1010 or instructor consent repeatable: Allow up to 2 repetitions totalling up to 6 credits.

**ART 3715. Figure Drawing.** (3 cr. ; A-F only; Periodic Spring)

The study of the human form, its structures and movements related to aesthetic considerations. Intermediate and advanced issues include perspective, space, foreshortening, proportioning and appropriation for the purposes of approaching the figure as an expressive and conceptual tool of art making. prereq: ART 1009 or 1010 or instructor consent

**ART 3809. Art in Elementary Education Methods.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Instructional problems based on the growth of artistic expression in children, philosophy of art education, and contemporary problems. Museum and multicultural based experiences are combined with outreach opportunities to develop inclusive elementary art curriculum and assessment. prereq: 0903, art education candidate

**ART 3811. Teacher as Artist: Postmodern Theory and Practice.** (3 cr. ; A-F or Audit; Periodic Spring)

Experience the complex role of the teacher as artist in the postmodern classroom and studio. Focuses on building professional expertise in the field of art education, museum education and contemporary artistic practice. Students will plan for an exhibition of their work in Tweed Museum of Art. prereq: 0903, [3809 or 3810], Art education major or instructor consent

**ART 3812. Nordic Art and Design in Sweden and Denmark.** (GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Summer)

In this study abroad trip to Sweden and Denmark, students will explore a variety of artistic styles, media, practices, traditions, and innovations in Nordic Art from medieval to contemporary times. pre-req: minimum 30 credits, GPA of 2.5 or higher, department consent

**ART 3814. Digital Media in Art Education.** (3 cr. ; A-F or Audit; Every Fall)

Theoretical and practical experiences with emerging visual technologies. Assignments will integrate contemporary pedagogical theories of visual culture and digital media in art education. Art projects will use the computer as a creative tool. prereq: Art education major or instructor consent

**ART 3815. Art in Secondary Education.** (3 cr. ; A-F or Audit; Every Spring)

Nature and objectives of art programs in secondary school; content and methods. Development of secondary art curriculum and classroom site visits. prereq: 3811, art education majors only or instructor consent

**ART 3906. Emerging Media Design.** (; 3 cr. ; A-F or Audit; Every Fall)

An introductory course using emerging media devices and applications to design solutions for the web. This includes learning the basics of HTML (Hyper Text Markup Language) and CSS (Cascading Style Sheets) in order to develop web-based content. Using system thinking, marketing theory and a variety of methods to generate images and other visual content, designing for social media platforms will be explored. pre-req: 2906

**ART 3922. Graphic Design II.** (3 cr. ; A-F or Audit; Every Fall)

Continuation of theory and practice of graphic design. Introduction to professional practices. Materials meaning, aesthetics, and practical use. prereq: 2911, graphic design major or GDM BFA or MGD BBA or instructor consent; laptop required; digital instruction presented only on the Mac platform.

**ART 3933. Graphic Design III.** (; 3 cr. ; A-F or Audit; Every Spring)

Continuation of theory and practice of graphic design. Graphic design as an organizational and informative medium and as a purely aesthetic pursuit. prereq: 3922, graphic design major or GDM BFA or MGD BBA or instructor consent; laptop required; digital instruction presented only on the Mac platform.

**ART 3937. Typography II.** (; 3 cr. ; A-F or Audit; Every Spring)

Advanced exploration of typography concepts and issues in screen and print media. prereq: 2907, 3922, graphic design major or GDM BFA or MGD BBA or instructor consent; laptop required; digital instruction presented only on the Mac platform.

**ART 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ART 4016. Digital Arts: Advanced Projects.** (; 3 cr. [max 9 cr.] ; A-F or Audit; Every Fall & Spring)

Advanced Digital Arts Studio for students interested in exploring interdisciplinary or advanced projects using current or emerging technologies. Students develop self-directed focus and creative project goals. Advanced projects may concentrate on mixed-media print, time-based media, interactive media, installation art, or collaborative art formats. Students hone a body of digital artwork through research experimentation and critique. Laptop required. prereq: no grad credit

**ART 4040. Digital Filmmaking: Advanced Projects.** (3 cr. [max 9 cr.] ; A-F only; Every Fall)

Advanced digital film projects in narrative, experimental, animation, or documentary formats. Students develop a single ambitious project over the semester, defining their own approach and focus. Develop project pitch,

including visual concept, production plans, and storyboards. Hone video production technique and digital video editing skills. Emphasis on collaboration and creative process from pre-production through final craft of short digital film for contemporary audience. prereq: ART 2040 or 3040 or instructor consent

**ART 4091. Individual Study in Electronic Arts.** (1-3 cr. [max 9 cr.] ; A-F or Audit; Every Fall & Spring)

Individually supervised projects in electronic arts media. prereq: 2014 or 3018, art or art education major and instructor consent

**ART 4100. Painting III.** (3 cr. [max 9 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Advanced individually supervised projects using both traditional and contemporary painting media and techniques. prereq: 3100, art or art education major or art minor or instructor consent; no grad credit

**ART 4191. Individual Study in Painting.** (1-3 cr. [max 9 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Instruction tailored to individual's needs outside of traditional class structure. prereq: Two semesters painting, instructor consent; no grad credit

**ART 4200. Sculpture III.** (3 cr. [max 9 cr.] ; A-F or Audit; Every Fall & Spring)

Sculpture in area of specialized interest. prereq: ART 3200 or 3214, art or art education major or art minor or instructor consent; no grad credit repeatable: Allow up to 3 repetitions totalling up to 9 credits.

**ART 4291. Individual Study in Sculpture.** (1-3 cr. [max 9 cr.] ; A-F or Audit; Every Fall & Spring)

Individual study in sculpture. prereq: 2 semesters sculpture, instructor consent; no grad credit

**ART 4300. Printmaking III.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Spring)

Further exploration of print processes. Emphasis on refinement of technical skills as well as development of concepts and imagery. Experimentation encouraged in nontraditional, collaborative, and cross-disciplinary approaches. Increased experience in editioning and alternative formats combined with a more comprehensive critical review. prereq: 3300, art or art education major or art minor or instructor consent

**ART 4391. Individual Study in Printmaking.** (1-3 cr. [max 9 cr.] ; A-F or Audit; Every Fall & Spring)

Graduate students complete a project by contract with instructor, supported by a research paper. prereq: 3300, department consent

**ART 4400. Ceramics III.** (1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Technical and conceptual refinement of advanced body of ceramic work. prereq: ART 3400, art or art education major or art minor or instructor consent; no grad credit repeatable: Allow up to 2 repetitions for a maximum of 6 credits.

**ART 4491. Individual Study in Ceramics.**

(1-3 cr. [max 9 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Directed study in specific areas. prereq: 2 semesters ceramics, department consent

**ART 4600. Photography: Digital Portfolio.** (; 3 cr. [max 9 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Intensive digitally-based portfolio development in area of special interest. Selected readings in photographic theory and criticism. Requires digital camera with adjustable shutter speeds and apertures. Instruction presented only on the Mac OS. prereq: ART 1900 and 1605 or 2600 or instructor consent repeatable: Allow up to 3 repetitions totalling up to 9 credits.

**ART 4650. Alternative Processes Portfolio.**

(3 cr. [max 9 cr.] ; A-F only; Periodic Spring)  
Intensive portfolio development using alternative contemporary and historic photographic ideas and processes. Processes that may be explored are: cyanotype, salt prints, photo-polymer gravure, camera-less image capture, toy and home-made cameras. The processes explored are relative to the resources available in conjunction with student interest. Multi-disciplinary approach to image making is encouraged. Instruction presented only on macOS. prereq: ART 3600 or instructor consent repeatable: Allow up to 3 repetitions totalling up to 9 credits.

**ART 4675. Photography: The Photographic Book.** (; 3 cr. [max 9 cr.] ; A-F only; Every Spring)

Creation of one or more individual photographic book projects, with emphasis on effective sequencing of images and appropriate book form for the specific body of work. Selected readings in book arts relating to photography. Graduate student book projects are complemented by a related research project. Requires digital camera with adjustable shutter speeds and apertures. Instruction presented only on macOS. prereq: ART 4600 or instructor consent repeatable: Allow up to 3 repetitions totalling up to 9 credits.

**ART 4691. Individual Study in Photography.** (1-3 cr. [max 9 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Graduate students complete a project by contract with instructor, supported by a research paper. prereq: 2 semesters of photography, department consent

**ART 4700. Drawing III.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Individually supervised projects supporting involvement in other studio areas. Graduate students produce a technically and conceptually sophisticated portfolio of drawing, supported by a research paper. prereq: 3700, art or art education major or art minor or instructor consent

**ART 4791. Individual Study in Drawing.** (1-3 cr. [max 9 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Graduate students complete a project in drawing by contract with instructor, supported by a research paper. prereq: 2 semesters of drawing, instructor consent

**ARTH 4793. Intermedia Studio.** (1-3 cr. [max 27 cr.]; A-F or Audit; Every Fall, Spring & Summer)  
Directed study emphasizing intermedia concerns. pre-req: 2 semesters work in each subject area with instructor consent; no grad credit

**ARTH 4812. Senior Seminar.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Current visual arts and design issues investigated through research, lectures, assigned readings, discussion, writing assignments, and presentations. pre-req: Art Education K-12 BFA or Studio Art BFA

**ARTH 4813. Senior Seminar II: Studio Practice.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Preparation for the emerging studio professional in such areas as documenting work, building an exhibition history, and arts-related employment opportunities, through lectures, presentations, discussion, assigned readings, writing assignments, and field experience. pre-req: Studio Art BFA

**ARTH 4897. Visual Culture Internship.** (1-9 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
For advanced students. Field research and experience working with arts programming, practice, or management in public or private agency, including the University. pre-req: Graphic Design major or Graphic Design concurrent registration is required (or allowed) in Marketing major or General Studio BFA major or Art BA major, instructor consent; 1 cr for each 45 hrs of fieldwork; no grad credit

**ARTH 4898. Art BA Senior Exhibition.** (1 cr. ; S-N only; Every Fall & Spring)  
Students, with faculty guidance, exhibit work in department display cases and work is reviewed by a 3-person committee. pre-req: Senior Art BA major, department consent; no grad credit

**ARTH 4899. Senior Presentation/Exhibition.** (1 cr. ; A-F or Audit; Every Fall & Spring)  
Students, singly or in pairs, plan/prepare/present under guidance of faculty/museum staff an exhibition of their work in Tweed Museum of Art or an approved alternative public venue. pre-req: Senior art major, instructor consent; no grad credit

**ARTH 4903. Art Education Student Teaching Seminar.** (1 cr. ; A-F or Audit; Every Fall & Spring)  
For students currently student teaching in art (K-12). Students will share concerns and situations, suggestions, and gain group support. The seminar supplements the field experience and builds on issues of supervision, evaluation, professional development, and the culminating Standards of Effective Practice art education portfolio. pre-req: Art ed major and Educ 4500, EdSe 4600, EIEd 4650; concurrent registration is required; no grad credit

**ARTH 4908. Interactive Design I.** (; 3 cr. [max 6 cr.]; A-F or Audit; Every Spring)  
Interactivity in graphic design, concentrating on computer-based interactive presentations. pre-req: 3922, graphic design major or GDM BFA or MGD BBA or digital art and

photography emphasis or Grad Student or instructor consent; credit will not be granted if already received for 5909: laptop required; digital instruction presented only on the Mac platform.

**ARTH 4909. Interactive Design II.** (; 3 cr. [max 6 cr.]; A-F or Audit; Every Fall)  
Interactivity in graphic design, concentrating on computer-based interactive presentations. pre-req: 4908, graphic design major, or digital art and photography emphasis or Grad Student, or instructor consent; credit will not be granted if already received for 5910: laptop required; digital instruction presented only on the Mac platform.

**ARTH 4922. Senior Design Studio I.** (; 3 cr. [max 6 cr.]; A-F or Audit; Every Fall)  
Exploration of advanced graphic design topics through an extensive project for print and/or screen: research, creative production and development of a presentation system. Done individually or in groups. pre-req: 3933 or 3937 or instructor consent, no grad credit

**ARTH 4933. Senior Design Studio II.** (; 3 cr. [max 6 cr.]; A-F or Audit; Every Fall & Spring)  
Professional presentation, portfolio development and professional practice. pre-req: 3933 or instructor consent

**ARTH 4944. Graphic Design IV.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Continuation of theory and practice of graphic design. Research-based development of design systems in multiple media. Instruction presented only on macOS. pre-req: ART 3933 and Graphic Design BFA or instructor consent

**ARTH 4955. Graphic Design V.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Continuation of theory and practice of graphic design. Advanced projects. Instruction presented only on a macOS. pre-req: ART 3933 and Graphic Design BFA or instructor consent

**ARTH 4991. Independent Study in Graphic Design.** (1-3 cr. [max 9 cr.]; A-F or Audit; Every Fall, Spring & Summer)  
Independent work in graphic design pre-req: 2 semesters work in graphic design and graphic design major and instructor consent

**ARTH 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARTH 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Art History (ARTH)

**ARTH 1303. History of World Art I.** (GLOBAL PER,HUMANITIES; 3 cr. ; A-F or Audit; Every Fall)  
Development of world art and architecture from prehistory through Middle Ages.

**ARTH 1304. History of World Art II.** (HUMANITIES; 3 cr. ; A-F or Audit; Every Spring)  
Development of world art and architecture from Renaissance to present.

**ARTH 1305. History of World Art III.** (GLOBAL PER,HUMANITIES; 3 cr. ; A-F or Audit; Every Fall)  
Examines the arts and visual culture of the Americas, Asia and Africa. This course aims to develop a critical understanding of art forms from global cultures. We will examine a range of visual material including painting, sculpture, ceramics, and architecture, from prehistoric times to present. We will also examine the critical debates that frame the study of "non-Western" art.

**ARTH 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARTH 2300. The City as a Work of Art.** (HUMANITIES; 3 cr. ; A-F only; Every Spring)  
The city as a work of art and center of culture. A study of artistic representations combined with references to primary texts. Use of case studies of particular urban centers to explore the rise of the city and the history of urban planning around the globe.

**ARTH 2380. A Global History of Contemporary Art.** (; 3 cr. ; A-F or Audit; Every Spring)  
This course maps the trajectories of art and design from the 1970's to the present, paying close attention to: global movements; the terrains of the category called contemporary art; the modes through which globalization affects and challenges this terrain; and the role of art in world politics.

**ARTH 2390. US Art and Visual Culture in the 20th Century.** (HUMANITIES,CDIVERSITY; 3 cr. ; A-F or Audit; Every Fall)  
This course offers an introduction to US art and visual culture - including architecture, painting, photography, sculpture, advertising, and performance art - from the 20th century, with some additional contextualization from the 19th century. More than simply offering a survey of stylistic changes over time, the class explores the social and political meanings of art. Students will acquire the tools necessary to analyze what art reveals about the nation's values and beliefs. While offering students exposure to a range of issues that are of critical concern to American society, the course will pay particular attention to questions surrounding gender, race, and ideology.

**ARTH 2620. History of Photography.** (; 3 cr. ; A-F or Audit; Every Spring)  
Conceptual and technical evolution of the photographic medium from its inception to the present, with special emphasis upon its development within art, design and new media contexts. pre-req: Art or Art Education major or Studio Art BFA or Graphic Design BFA or Graphic Design & Marketing BFA or Photography minor or instructor consent

**ARTH 2892. Independent International Study.** (GLOBAL PER; 1-3 cr. [max 6 cr.]; A-F or Audit; Periodic Summer)  
An elective course for students traveling abroad with an instructor outside of the United States. Includes art history lectures, site visits, scholarly readings, and assigned writings. Credits may also be granted for travel,



research, and/or research and/or internships in/at international museums or at foreign sites. Requires advanced planning and final research paper/project. Credits granted depend upon nature and scope of project. prereq: Instructor consent; this course cannot be substituted for any course in the art history major or minor.

**ARTH 2901. History of Graphic Design.** (; 3 cr. ; A-F or Audit; Every Spring)

Introduction to the history of graphic design, from the origins of written communication to present. Graduate students complete a substantial research paper or project on a topic in consultation with the instructor. prereq: Graphic Design major or Graphic Design and Marketing Major or Art History major or minor or Studio Art major or Digital Art and Photography minor or Arts in Media minor or instructor consent

**ARTH 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARTH 3110. Art of the Ancient Americas.** (; 3 cr. ; A-F or Audit; Fall Odd Year)

A selective visual introduction to the Americas before the Spanish Conquest, focusing on the form, function, and symbolism of Ancient American art and architecture and its role in the construction and maintenance of political power, religious belief and practice, concepts of space, and bodily performance.

**ARTH 3130. Modern and Contemporary Mexican Art.** (3 cr. ; A-F or Audit; Every Fall)

This course focuses on modern and contemporary visual culture of Mexico from approximately 1860 to the present. It examines the dominant art forms of late nineteenth and twentieth century Mexico: these include post-revolutionary muralism and social realism; movements, artists, and visual genre outside of the nationalist traditional; abstraction, surrealism, the international avant-garde, urban planning, photography, print culture, film, performance, and conceptual art.

**ARTH 3140. Women in Art/Visual Culture in Latin America.** (; 3 cr. ; A-F or Audit; Fall Even Year)

This course focuses on representations of women and by women in the art and visual culture of Mexico and other Latin American countries, examining the many ways in which the image of female body in Latin America has been used to construct and typify regional understandings of gender, class, racial, and national identities. Distinguishing between women as subject matter and women as producers of art, we will also look to female artists in the nineteenth, twentieth and twenty-first centuries to investigate how they might be engaging with and/or critiquing traditional iconographical representations.

**ARTH 3150. Contemporary Global Exhibition.** (; 3 cr. ; A-F or Audit; Every Spring)

This class will examine the transformation of art worlds and urban spaces by the development of contemporary global exhibitions, such as various Art Biennales now held around the globe, Art Basel, Documenta, and the

Sculpture Projects Munster. In particular, we will examine how such exhibitions, as well as globalization in general, have transformed the way art is created, distributed, and received.

**ARTH 3330. Renaissance Art & Architecture: Europe 1300 - 1550.**

(HUMANITIES; 3 cr. ; A-F or Audit; Spring Even Year)

Explores the art and architecture of Europe between 1300 and 1550. Focuses on issues central to understanding the period: relationship between patrons and artists, the changing status of the artist; the intersection of art and politics; representations of religious beliefs; and critical approaches to the study of artists and their oeuvre.

**ARTH 3331. European Architecture and its Legacy.** (HUMANITIES; 3 cr. ; A-F or Audit; Fall Even Year)

Studies the history of architecture and the built environment in Europe from antiquity through 1800 by focusing on theoretical writings and representative building. In addition, the course will explore theories of spatial analysis and the legacy of western architecture into the present day.

**ARTH 3340. Baroque and Rococo: European Art & Architecture 1550 - 1750.** (; 3 cr. ; A-F or Audit; Fall Odd Year)

Explores the art and architecture produced in Europe during the Early Modern Period c. 1550 - c. 1750 (periods often referred to as the Baroque and Rococo). Includes study of canonical works and the artists that produced them; analysis of primary and secondary source materials; introduction to art historical methodologies; and consideration of the regional variations of the "baroque."

**ARTH 3360. Art and Social Change in Europe, Russia, and the United States.** (; 3 cr. ; A-F or Audit; Every Spring)

What is the relationship between artistic practice and politics? How do artists and their audiences engage with the visual in times of great social change? How do art and visual culture help us to engage with, understand, and change the world? This seminar offers weekly units that offer close examinations of major cultural moments of the modern and contemporary era, and range from the experimental and autonomous to the coercive and fascist. Topics will traverse Europe, Russia, and the United States from the 19th and into the 21st centuries. The exact content of the seminar may vary annually.

**ARTH 3361. Being and Becoming Modern: European Art 1855 - 1955.** (; 3 cr. ; A-F or Audit; Fall Even Year)

This seminar traces a history of art practice from the mid-19th to the mid-20th century across the European continent. It follows key movements and figures of modern art, while emphasizing the social, political, and philosophical events that inform them. Beginning with Realism, and ending at the beginning of the Cold War, this course is bracketed by important questions pertaining to the role of the artist in reflecting upon, critiquing, and influencing national and global

culture, writ large. Throughout the term we will also look beyond the limited scope of the fine arts canon to the larger visual cultures that inform and disrupt its boundaries. The exact content of the seminar, including its time period, may vary annually.

**ARTH 3370. Dreamworld and Catastrophe: Art and Visual Culture in the Cold War.** (; 3 cr. ; A-F or Audit; Every Spring)

The Cold War marked a period of nearly five-decades of intense ideological, political, and economic division, which impacted all areas of the globe. This course examines art and visual culture across the period's two major world powers to demonstrate both fundamental discords as well as shared preoccupations. More than a study of the traditional geographies of the capitalist West and the communist East, this course offers insight into how the Cold War's globalization reached all areas of the globe, from the African continent to Latin America to Southeast Asia. A particular emphasis will be placed on experimental forms of culture, particularly in the late Cold War era.

**ARTH 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARTH 4330. Methods and Theories of Art History and Visual Studies.** (; 3 cr. ; A-F or Audit; Fall Odd Year)

This seminar, an exit requirement for all Art History majors, introduces major issues of method and critique in the study of art and visual culture. It focuses on understanding disciplinary and critical modes of scholarly inquiry in the visual arts, including the role of historical research. The course emphasizes intensive reading, discussion, and writing. prereq: ARTH 3370 and Art History major

**ARTH 4999. Senior Paper Art History.** (; 1 cr. ; A-F or Audit; Every Fall & Spring)

Students write and/or revise a final paper demonstrating their competency in art historical research and writing. prereq: Major in ArtH with 90 credits, instructor consent, no grad credit

**ARTH 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ARTH 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Astronomy (AST)

**AST 1040. Introductory Astronomy.** (NAT SCI; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Survey of present knowledge of solar system, interstellar space, stars, galaxies, and universe. Historical development of astronomy as a science. Taught in day school and in Individualized Learning Program format.

**AST 1050. Native Skywatchers: Indigenous Ethno- and ArchaeoAstronomy.**

(CDIVERSITY; 3 cr. ; A-F or Audit; Every Fall) Students are informed about the regional-historical, socio-cultural, philosophical



and scientific-technical foundations of Turtle Island (American Indian) Indigenous astronomy in several contextual settings well enough to critically understand, in a conscientized manner, how to approach and address contemporary issues such as star knowledge preservation and transmission protocols, indigenous language and sacred site preservation, light pollution and dark sky preservation, telescope construction ethics and the implications for establishing and maintaining place-based, indigenous education standards in mainstream science at schools, universities, museums and parks.

**AST 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AST 2050. General Astronomy.** (NAT SCI; 3 cr. ; A-F or Audit; Fall Odd Year)  
An algebra-based introduction to astronomy and cosmology with an emphasis on the physical principles underlying astronomical phenomena. Provides a physical and mathematical overview of the solar system, the nature and evolution of stars, galaxies, dark matter and dark energy, the large-scale structure of the Universe, the Big Bang and Inflation. Intended for students majoring in the physical sciences, engineering, or mathematics. pre-req: PHYS 1001 or 2013 or 2017

**AST 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AST 3091. Independent Study.** (1-3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Directed readings and projects on topics not normally covered in other courses. prereq: Instructor consent

**AST 3094. Astronomical Research.** (1-3 cr. [max 6 cr.]; A-F or Audit; Every Fall, Spring & Summer)  
Supervised research in the laboratory or other setting prereq: Instructor consent

**AST 3100. Astronomy Outreach Education.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
The principles and operation of planetarium projection and their use in developing planetarium shows with an emphasis on K-12 outreach and education. K-12 science standards will be addressed. pre-req: AST 1040 or 2050

**AST 3561. Astrophysics.** (3 cr. ; A-F or Audit; Spring Odd Year)  
The application of physical laws and processes to the understanding of astrophysical objects: celestial mechanics, energy transport, stellar structure and evolution, the interstellar medium, stellar remnants, galactic structure and dynamics, large scale structure and cosmology. prereq: PHYS 2021

**AST 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AST 4110. Observational Astronomy.** (3 cr. ; A-F or Audit; Spring Odd Year)

Applied principles of astronomical observation; review of optical telescopes and mounts; locating and tracking objects; remote telescope operation, CCD, CMOS, and film astrophotography, astrometry, photometry, spectroscopy, astronomical image processing and analysis. prereq: Phys 2015 or 2018 or instructor consent

**AST 4400. Astrogeology.** (3 cr. ; A-F or Audit; Every Spring)

In this astrogeology course we will explore the formation and evolution of celestial bodies in our solar system such as planets and their moons, asteroids, comets, and meteoroids. Topics will include determining internal structure of planetary bodies, dynamical processes, how to read the surface record (geology) of various bodies and leverage that record to understand internal processes and planet evolution, and comparative planetology with the goal to understand first-order cause and effect of planetary dynamics. prereq: (PHYS 2012 or 2015 concurrent registration is required (or allowed) in 2016) or (GEOL 2120 or 2312), minimum 60 credits, (Geological Sciences or Physics major or graduate student) or instructor consent.

**AST 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**AST 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## BIO (BIO)

**BIO 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BIO 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BIO 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BIO 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BIO 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Behavioral Sciences (BHSC)

**BHSC 5491. University as Change Agent: Extension Approaches to Strengthening Community Wellbeing.** (; 1 cr. ; S-N or Audit; Every Fall)

This online course is a broad introduction to University extension education models that play key roles in the Land Grant University mission to bring communities together to strengthen rural health and vitality. A broad overview of examples from (but not limited to) food systems, forestry, and health and how to work in those content areas with youth, adults, families and communities will be presented. The objective is for students to

learn skills that can be applied to strengthening community health systems or to their own field of study. This will be transdisciplinary, connecting students and faculty from different disciplines. Students will leave the course with skills and understanding of extension structure and functions that will serve them in their professional lives. prereq: Undergrad, upper div or grad student, instructor consent

## BioMedical Sciences (BMS)

**BMS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BMS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BMS 3011. General Physiology.** (4 cr. ; A-F or Audit; Every Spring)  
Lectures and demonstrations illustrate key aspects of function and mechanisms of action of major organ systems. Primarily for students preparing for nursing, dental hygiene, pre-professional programs, communication disorders, life science teaching, majors in natural sciences. prereq: Biol 1761 or Chem 1102 or instructor consent

**BMS 3194. Biochemistry Undergraduate Research.** (1-3 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Laboratory experience in biochemistry and molecular biology research. prereq: instructor consent

**BMS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BMS 4094. Directed Research in Pharmacology I.** (1-10 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Directed Research in Pharmacology prereq: Upper div sci major, instructor consent

**BMS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BMS 5001. Introduction to Pharmacology.** (2 cr. ; A-F only; Every Spring)  
Elementary course in pharmacology. Actions and use of drugs in selected health conditions. prereq: 5601 or 3011 or equivalent

**BMS 5101. Principles of Neuroscience.** (4 cr. ; A-F or Audit; Every Fall)  
Principles of Neuroscience is an introductory course to general neuroscience that will review the organization and function of the nervous system, from its cellular constituents to circuits and the emerging properties of the brain. The course will start with a description of cell types, ion channels, neurotransmitters and their receptors, and the generation of action potentials. Then, we will review the development of the nervous system and the generation of circuits. Next, we will review each of the senses and how this sensory input is transformed into how we perceive the world. The next section will focus on the motor system, including central motor neurons,

relaxes, and motor control in the basal ganglia and cerebellum. The last section will be dedicated to complex functions of the brain, including consciousness, emotion, memory, hemostasis, circadian rhythms, and how genes control behavior. Throughout the course, we will review neurological and psychiatric disorders and discuss the genetic and cellular bases of this perturbation. The course will also include the review of techniques in modern neuroscience and journal club of the review of controversial topics in modern neuroscience. pre-req: PSY 3621, PSY 3061 or BIOL 3100, can be co-enrolled in PSY 3621 or PSY 3061

**BMS 5201. Topics in Biochemistry.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
In-depth coverage and expansion of selected biochemical principles introduced in introductory undergraduate courses. prereq: Chem 3322 or Chem 4341 or instructor consent

**BMS 5202. Cellular and Molecular Biology.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
In-depth coverage of selected topics in cellular and molecular biology. Most topics will have been introduced in undergraduate courses. prereq: Biol 2102 or Biol 5231 or Chem 4342 or instructor consent

**BMS 5204. Pharmacology Seminar.** (1 cr. [max 4 cr.] ; A-F or Audit; Every Fall & Spring)  
Presentation of selected research problems and current journal articles. prereq: Grad student, instructor consent

**BMS 5211. Literature Seminar.** (1-2 cr. ; S-N or Audit; Every Fall & Spring)  
Oral presentation of written literature review and research data reflecting student's research interests and thesis research results.

**BMS 5292. Readings in Physiology.** (1-3 cr. ; Student Option; Every Fall, Spring & Summer)  
Topics in physiology selected for each student; written reviews prepared and discussed. prereq: instructor consent

**BMS 5294. Research in Physiology.** (1-15 cr. ; Student Option; Every Fall, Spring & Summer)  
Introduction and use of lab techniques and equipment used for research in various subspecialties of physiology, including neurophysiology, cardiovascular physiology, endocrinology, respiratory and transport process, electrophysiology, and renal physiology. prereq: instructor consent

**BMS 5501. Neurobiochemistry.** (2 cr. ; A-F or Audit; Every Spring)  
Current concepts on anatomical and compositional properties of brain; membranes and transport; neurotransmission; receptors and signal transduction mechanisms; energy, carbohydrate, protein, lipid, and nucleic acid metabolism; development and diseases of the central nervous system. prereq: Chem 3322 or Chem 4351 or instructor consent

**BMS 5545. Immunology.** (3 cr. ; A-F or Audit; Every Fall)  
The immune system including the cells and molecules which work cooperatively to resist

disease and aberrations resulting in immune disorders. prereq: department consent

**BMS 5546. Immunopathology.** (3 cr. ; A-F or Audit; Every Spring)

A rigorous analysis of the immune-defense mechanisms in disease processes, including infection, inflammation and autoimmune disorders utilizing the Problem-Based Learning method to address the selected content and to study current technical literature. prereq: 5545, instructor consent

**BMS 5555. Molecular Pathogenesis: Current Concepts.** (3 cr. ; A-F or Audit; Spring Even Year)

Study of current discoveries in microbial pathogenesis and the molecular techniques used in elucidating pathogenic mechanisms of viral, bacterial and parasitic agents. A survey of current literature related to human infectious disease including malignant transformation. prereq: Biol 2201 or equivalent, Biol 4501 or equivalent or instructor consent

**BMS 5591. Problems in Medical Microbiology and Immunology.** (1-4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Independent study on tutorial basis. Emphasis on basic and clinical microbiology problems, including immunology. Investigative work and appropriate reading arranged with tutorials consistent with interests and capabilities of individual students. prereq: Open to med students or qualified upper division and grad students with instructor consent

**BMS 5601. Grand Challenges in Physiology.** (; 3 cr. [max 4 cr.] ; A-F or Audit; Every Fall)  
In dept examination of current physiological problems involving the major mammalian organ systems, integrating knowledge from the molecular to system level. prereq: BIOL 3703 or BIOL 3772 or EXSC 3400 or equivalent or graduate student or instructor consent

**BMS 5602. Physiology of Organ Systems II.** (2 cr. ; A-F or Audit; Every Fall)  
Advanced study of organ system functions in context of interaction of organism with environment. prereq: 5601 or instructor consent

**BMS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Biology (BIOL)

**BIOL 1001. Biology and Society.** (NAT SCI,SUSTAIN; 4 cr. ; A-F or Audit; Every Fall & Spring)

This course covers basic biology as it pertains to contemporary issues. Biology coverage includes cell biology, genetics, evolution and ecology. In addition to helping students understand biology, students will learn to more critically evaluate science that is presented in the media. (3 hrs lect, 2 hrs lab) prereq: For nonmajors

**BIOL 1011. General Biology I.** (NAT SCI; 5 cr. ; A-F or Audit; Every Fall & Spring)  
Fundamental concepts of biology, including chemical basis of life, cell structure

and function, energy transformations, photosynthesis, cellular respiration, genetics, molecular biology, DNA technology, development, origin of life, and evolution. (4 hrs lect, 2.5 hrs lab) prereq: 1 yr high school Chem or 1 semester college Chem, Math ACT 21 or higher or MATH 1005 or higher; credit will not be granted if already received for BIOL 1013

**BIOL 1012. General Biology II.** (SUSTAIN; 5 cr. ; A-F or Audit; Every Fall & Spring)

Fundamental concepts of biology, including classification and diversity of life, anatomy, physiology, and development of prokaryotes, protists, fungi, animals, and plants; behavior; population, community, and ecosystem ecology. (4 hrs lect, 2.5 hrs lab) prereq: A grade of C- or better in 1011

**BIOL 1170. Human Biology.** (NAT SCI; 4 cr. ; A-F or Audit; Every Spring)

This course offers an exploration of biological principles through the study of the structure, function, and heredity of the human body. Primarily we will cover basic cell structure, gene expression, organ systems, basic principles of heredity and inheritance of human traits. To understand these topics the fundamental concepts and principles of chemistry will be included. Through this course students with a basic science background will be able to expand their understanding of biology. Students will actively learn concepts with the laboratory component.

**BIOL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BIOL 2001. Our Food: Science and Production.** (NAT SCI,SUSTAIN; 3 cr. ; A-F or Audit; Every Fall)

This course will examine 3 large aspects of the food we eat: food science, human nutrition, and agricultural production methods. We will look at the main components of food, and how manipulation of food molecules creates different flavors, textures, and structures. We will then focus on the relative nutritional value of different foods and their effects on the human body, including illnesses related to poor nutrition. Finally, we will explore modern agricultural practices and discuss ways to enhance stability and sustainability in our food supply. pre-req: minimum 30 credits

**BIOL 2095. Special Topics: (Various Titles to be Assigned).** (; 1-4 cr. [max 8 cr.] ; Student Option; Periodic Fall & Spring)  
Special topics in Biology

**BIOL 2102. Cell Biology Laboratory.** (2 cr. ; A-F or Audit; Every Spring)

Writing intensive course using contemporary cell biology research techniques, hypothesis testing and communication of results. prereq: A grade of C- or better in both 1011 and 1012 or 1013, concurrent registration is allowed for 3100 or 2110

**BIOL 2110. Cell and Molecular Biology.** (3 cr. ; A-F or Audit; Every Spring)  
Introduction to the basic principles of the structure and function of cells including protein and nucleic acids, and the molecular basis

of gene expression including transcription, translation and regulation in both prokaryotes and eukaryotes. pre-req: BIOL 2201 with a grade of C- or better; credit will not be granted if already received for BIOL 2101 or 3100.

**BIOL 2201. Genetics.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Basic principles of Mendelian inheritance, molecular genetics, chromosomal aberrations, and population genetics. (3 hrs lect) prereq: A grade of C- or better in both 1011 and 1012, CHEM 1114 or CHEM 1155 or CHEM 1175, pre or co req; may be taken without lab BIOL 2202

**BIOL 2202. Genetics Laboratory.** (; 2 cr. ; A-F only; Every Fall & Spring)

Writing intensive course that uses an array of experimental approaches to gain understanding of the principles of genetics. prereq: A grade of C- or better in 1011, 1012 and 2201 (concurrent registration is allowed for 2201)

**BIOL 2410. Ecology and Evolution.** (3 cr. ; A-F or Audit; Every Fall)

Introduction to Darwinian biology and the complexity and connections of life. Topics include: genes in populations; natural selection, molecular and macroevolution, foundation ecological principles, ecological interactions, population and community ecology. pre-req: BIOL 2201 with a grade of C- or better; credit will not be granted if already received for BIOL 3802 or 4801 or 4802

**BIOL 2571. Microbiology for Human Health.** (; 4 cr. ; A-F or Audit; Every Fall)

This course will introduce students to the microbiological issues they will face as health care professionals. We will cover the basic science of microorganisms primarily bacteria, viruses, and fungi. We will examine the impacts of these microbes on patient health, of microbial infections, modes of preventative care, and how the human immune response protects the body against infection and disease. This course cannot be used for upper division credit for BA or BS majors in the Biology Department. 3 hours lecture and 2 hours lab pre-req: BIOL 1011 and 1012; credit will not be granted if already received for BIOL 3502 or 4501; This course cannot be used for Biology majors to fulfill biology elective credit except in the Biology BA Human Biology track.

**BIOL 2801. General Ecology.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Relationships between life and environment for individuals, populations, communities, and ecosystems; surveys of environmental factors and biomes. May be taken without lab 2802. (3 hrs lect) prereq: A grade of C- or better in both 1011 and 1012; may be taken without lab BIOL 2802

**BIOL 2802. Ecology Laboratory.** (2 cr. ; A-F or Audit; Every Fall)

Writing-intensive course that introduces sampling, data analysis and interpretation, hypothesis testing, ethical considerations in scientific practice. Includes field studies (4 hrs lab) prereq: A grade of C- or better in

1011, 1012 and 2801, concurrent enrollment is allowed in 2801.

**BIOL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**BIOL 3011. Writing for the Duluth Journal of Undergraduate Biology.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Spring)

This course is for the contributors and editors of the Duluth Journal of Undergraduate Biology. Students in this course produce, edit, and peer review manuscripts to be considered for publication in the Duluth Journal of Undergraduate Biology. The course will include the study and practice of writing tasks in science, as well as making scientific posters and oral presentations. Students will explore rhetorical situations in professional practice, research methods, document design, editing, effective collaboration, and ethical issues in the production of professional documents. pre-req: BIOL 1012 and BIOL 1011 or 1013, minimum 60 credits and instructor consent

**BIOL 3094. Experimental Biology.** (2 cr. [max 4 cr.] ; A-F or Audit; Periodic Fall)

Students taking this course will be able to get hands-on experiences with research techniques. Importantly, this will give students not able to join a research laboratory the opportunity to do original research. In this course, students will be able to build more advanced research techniques that are not accessible in more conventional laboratory courses. Along with gaining advanced research techniques, students will improve their ability to find and interpret relevant primary research articles, as well as improve their science presentation skills through writing and oral presentations. Students will typically work in small groups to test a hypothesis, and so this course will also provide experience in working as part of a scientific team. pre-req: BIOL 2102 or 2202

**BIOL 3100. Cell Biology.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Structure and function of prokaryotic and eukaryotic cells. Topics include membranes and membrane trafficking, cytoskeleton, signal transduction, cell cycle regulation and experimental methods used in cell studies. Examples will come from all phyla of life. (3 hrs lect) pre-req: A grade of C- or better in BIOL 1011 or 1013, 2201, CHEM 1152 or 1162 or 1155 and 1156 or 1175 and 1176; may be taken without lab BIOL 2102; credit will not be granted if already received for BIOL 2101

**BIOL 3101. Molecular Biology of Cancer.** (; 3 cr. ; A-F or Audit; Every Summer)

Overview of mechanisms underlying the development of human cancer. Topics include intracellular signaling systems including oncogenes and tumor suppressors, cell cycle, tumorigenesis, multi-step carcinogenesis, invasion and metastasis and genetic instability in cancer. The detection and modern treatment of cancer will also be discussed. prereq: 2101 or 2110 or 3100

**BIOL 3102. Cell Biology of Human Disease.** (; 3 cr. ; A-F or Audit; Summer Even Year)

Topics in human cellular biology as related to human diseases. A focus on learning to read primary literature and critically analyze and communicate scientific ideas. prereq: 2101 or 2110 or 3100

**BIOL 3103. Biology of Aging.** (; 3 cr. ; A-F or Audit; Summer Even Year)

This course will examine the cellular, genetic and physiological basis of aging including the evolution of lifespan in organisms including plants, worms, animals and humans. The course will also discuss current therapies of age-related disorders. Emphasis of reading and analysis of the primary literature. pre-req: BIOL 3100 or 2101 or 2110

**BIOL 3301. Patterning the Embryo.** (3 cr. ; A-F or Audit; Every Fall)

Important topics in developmental biology from the historical literature up to recent presentations with focus on learning how to read and critically analyze primary literature, and how to communicate ideas in written and oral scientific presentations. prereq: 1011, 1012, Min 60 cr

**BIOL 3401. Evolution.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Origin, history, opposition, and evidence supporting evolutionary ideas. Basic concepts: origin of life, phylogeny, biological history, mechanisms of evolutionary change, population genetics, speciation, tempo of evolution, macroevolution, extinction, biogeography, evolution of social systems, altruism. (3 hours lecture) prereq: A grade of C- or better in all of the following Biology courses 1011, 1012, 2201 or IBS Grad student; credit will not be granted if already received for 3802, 4801 or 4802

**BIOL 3402. Evolution in the news.** (1 cr. ; A-F or Audit; Every Fall & Spring)

This one credit course is designed to be taken concurrently with or after having completed Evolution BIOJL 3401. This companion to the core Evolution course will provide opportunities for students to read and discuss the primary literature in evolutionary biology that is ripped from the headlines of leading journals or has received attention in the popular press. pre-req: BIOL 3401 previous or concurrent

**BIOL 3502. General Microbiology.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Morphology of microorganisms; growth; environmental and physiological types; physical and chemical control; taxonomy; viruses; genetics of bacteria; practical applications, including medical, water, soil, and food microbiology. (2 hrs lect, 4 hrs lab) prereq: BIOL 2201 or IBS Grad student

**BIOL 3512. Biology of HIV and AIDS.** (; 3 cr. ; A-F or Audit; Every Summer)

A comprehensive overview of the current AIDS pandemic ranging from molecular and biomedical aspects to societal and psychological aspects. Molecular biology of HIV, the immune system's response, diagnosis, prevention, treatment, and social implications will be discussed. prereq: 1012; credit will not be granted if already received for BIOL 2512

**BIOL 3601. Plant Diversity.** (3 cr. ; A-F or Audit; Every Fall)

Evolutionary survey of plants, focusing on diversity of life histories and patterns of organization. Fossil and extant groups, including algae, fungi and nonvascular and vascular land plants. (2 hours lecture, 3 hours lab, field trip) prereq: 1012

**BIOL 3603. Plant Taxonomy.** (3 cr. ; A-F or Audit; Every Spring)

Introduction to taxonomy of vascular plants, emphasizing seed plants; representative families; terminology; literature; use of keys. (2 hrs lect, 2 hrs lab) prereq: 1012

**BIOL 3701. Animal Diversity.** (4 cr. ; A-F or Audit; Every Spring)

Survey of major animal phyla, focusing on phylogeny, anatomy, physiology, and ontogeny. (2 hrs lect, 4 hrs lab) prereq: 1012

**BIOL 3703. Animal Physiology.** (3 cr. ; A-F or Audit; Every Fall)

Examination of principles, patterns, and mechanisms of biological function from the level of cells and tissues to the whole animal. Primary focus on comparative vertebrate physiology. (2 hours lecture, 2 hours lab) prereq: 1011, 1012, one semester college chemistry

**BIOL 3760. Marine Biology.** (3 cr. ; A-F only; Spring Even Year)

A multidisciplinary approach will be used to explore the diverse ecosystems of the marine realm. Emphasis will be on the ecological and physiological adaptations that have allowed animals to colonize habitats ranging from the intertidal zone to the abyss. prereq: 1011, 1012

**BIOL 3761. Field Studies in Marine Biology.** (4 cr. [max 8 cr.] ; A-F or Audit; Periodic Summer)

Introduction to the marine environment by visiting either US i.e. Friday Harbor, WAS or MBL, Woods Hole, MA) or International (i.e. Leigh, New Zealand) marine lab and conducting both laboratory and field research. Topics include ecology, animal physiology, animal behavior, ichthyology and fisheries biology. Lectures will precede daily field trips where students will make in situ measurements and/or bring specimens back to the laboratory for study. prereq: 1011 or instructor consent; Course may only be repeated if location is different.

**BIOL 3763. The Biology of Gender.** (3 cr. ; A-F or Audit; Every Spring & Summer)

This course examines the ways in which biology and biological processes contribute to maleness, femaleness, and other ness in humans. The course will focus on current and historical scientific literature to explore the myriad ways that chemistry, genetics, anatomy, physiology, and evolution play roles in the expression of sex and gender in many species (including humans). pre-req: BIOL 1012

**BIOL 3771. Human Anatomy.** (4 cr. ; A-F or Audit; Every Fall)

Human anatomical form and function. Lectures cover the structure and function of the major body systems. Topics include tissue types,

organs, and organ systems, including the integumentary, skeletal, articular, muscular, nervous, respiratory, digestive, cardiovascular, urinary and reproductive systems in the context of the science of biology. The lecture material is reinforced through observations of microscope slides, anatomical models and charts, and the dissection of a cat and sheep organs and observations of human cadavers. Suitable for biology majors/minors and pre-professional students interested in entering health related professions. Provides (2hrs lect, 4hrs lab). prereq: 1011, 1012; credit will not be granted if already received for 1761 or 2769

**BIOL 3772. Human Physiology.** (4 cr. ; A-F or Audit; Every Spring)

Integrative study of major human organ systems including cardiovascular, muscle, respiratory, gastrointestinal, renal physiology and quantitative aspects of physiology. Examination of principles, patterns, and mechanisms regulating and maintaining homeostasis in normal human physiological processes from the level of cells and tissues to the whole animal. Suitable for biology majors and pre-professional students interested in entering health related professions. (3 hrs lecture, 3 hrs lab) pre-req: C- or better in BIOL 3771 or 2769, CHEM 1114 or 1155 or 1175 or equivalent full year of college chemistry, MATH 1250 or above.

**BIOL 3830. Aquatic Food Webs.** (3 cr. ; A-F or Audit; Periodic Summer)

Classic and modern topics in aquatic food web ecology including biogeography, predator-prey interactions, competition, life-history strategies, and energy flow. Emphasis on phytoplankton, zooplankton, fish, and macroinvertebrates. Instruction includes lectures, field and laboratory exercises, and reading and discussion. prereq: 1012

**BIOL 3835. Freshwater Ecology.** (3 cr. ; A-F or Audit; Spring Even Year)

Exploration of freshwater habitats and their biological diversity with emphasis on how human behavior is affecting those habitats and biodiversity. prereq: 2801 or concurrent

**BIOL 3987. Communication in Biology.** (2 cr. ; A-F 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: Minimum 90 credits, Biology or Cell and Molecular Biology major; credit will not be granted if already received for 3997 AND 3998

**BIOL 3990. Special Topics: (Various Titles to be Assigned).** (1-5 cr. ; Student Option; Periodic Fall, Spring & Summer)

Specific topics submitted for biology department review. Topic announced before course offered. prereq: 1012

**BIOL 3993. Laboratory Teaching**

**Experience.** (1-2 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Participation in teaching biology lab courses: help set up labs, participate in teaching of labs,

and share in instruction of review labs. prereq: instructor consent required, biol or cell biol major, 90 cr incl 25 cr Biol; max 2 cr may be applied toward Biol major

**BIOL 3994. Undergraduate Research.** (1-3 cr. [max 6 cr.] ; S-N or Audit; Every Fall, Spring & Summer)

Advanced independent work in special fields. prereq: A grade of C or better in both 1011 and 1012, 60 cr, department consent required; max 4 cr may be applied to biol or cell biol major as upper div elective

**BIOL 3996. Internship in Biology.** (1-2 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Credit given for professional work experience outside an academic department. Requires prior department approval and coordination with faculty sponsor. prereq: A grade of C- or better in both 1011 and 1012, department consent required; max 1 cr may be applied to biol or cell biol major

**BIOL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**BIOL 4199. Frontiers in Cell Biology.** (3 cr. ; A-F or Audit; Fall Odd Year)

Analysis and discussion of current literature and topics. prereq: 2201 and 3100; credit will not be granted if already received for 5199

**BIOL 4201. Leverage bioinformatic tools to manage big data and answer primary biology questions.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Biology has moved into a new era of big data, especially in the field of genomics. This course will introduce basic principles of bioinformatics and how to apply bioinformatic tools to process large genomic datasets. This course will emphasize how to evaluate currently available software, implement software, build pipelines for analysis, interpret outputs, apply statistics and finally produce publication appropriate figures. pre-req: BIOL 2201, no grad credit

**BIOL 4231. Molecular Biology.** (3 cr. ; A-F only; Every Spring)

Contemporary molecular biology techniques, linkage analysis, mutation, DNA repair and recombination, genetics of viruses and bacteria, transposable genetic elements, genetics of mitochondria and chloroplasts, genomics, genetic control of animal development and the vertebrate immune system. (3 hours lecture) prereq: BIOL 2201, BIOL 2101 or 3100, CHEM 3322 or CHEM 4351 (concurrent registration is allow for CHEM 3322) or IBS Grad student; credit will not be granted if already received for 5231

**BIOL 4232. Molecular Biology Laboratory.** (2 cr. ; A-F only; Every Spring)

Regulation of gene expression in prokaryote and eukaryotes explored through use of recombinant DNA technologies. prereq: 4231 or 4231 (concurrent enrollment is allowed), CHEM 3322 or Biochemistry and Molecular Biology or IBS Grad student; credit will not be granted if already received for 5232

**BIOL 4361. Developmental Biology.** (3 cr. ; A-F or Audit; Every Spring)

Molecular and cellular mechanisms of development, emphasizing animal systems and including cell cycle, gametogenesis, fertilization, morphogenetic movements, differentiation of cell types, cell-cell interactions, pattern formation, gene expression, organogenesis, metamorphosis, regeneration, and aging. (2 hrs lect, 3 hrs lab) prereq: 2201 and (2101 or 2110 or 3100) or IBS Grad student; credit will not be granted if already received for 5361

**BIOL 4504. Biology of SARS-CoV-2 and COVID 19.** (3 cr. ; A-F or Audit; Every Summer)

In-depth analysis of the COVID-19 pandemic including the following: molecular analysis of the causative agent SARS-CoV-2, clinical courses and epidemiology of the disease, population prevention and treatment of COVID-19, modeling and international health regulations regarding the pandemic, and comparisons of how different countries have addressed the pandemic. pre-req: BIOL 2110 or 3100

**BIOL 4511. Medical Microbiology.** (3 cr. ; A-F or Audit; Every Fall)

Overview of the dynamic relationships between human hosts and pathogenic microbes. Topics include the human immune system, antimicrobial therapy, pathogenic bacteria, viruses, and pathogenic eukaryotic species. prereq: 3502 or 4501

**BIOL 4512. Medical Microbiology**

**Laboratory.** (2 cr. ; A-F or Audit; Every Fall) Course examines the basic principles of diagnostic medical microbiology, particularly related to infectious diseases of bacteria, fungi, and protozoan parasites. Relevant clinical examples are provided and will be examined both as case studies and as hands-on laboratory exercises. Skills acquired will include diagnostic skills, interpretation of laboratory tests relevant for infectious diseases, mastering of sterile technique, and development of problem-solving skills to identify etiological agents of disease. Requires previous completion or concurrent enrollment in BIOL 4511. pre-req: BIOL 3502 and previous or co-req BIOL 4511

**BIOL 4604. Plant Physiology.** (4 cr. ; A-F or Audit; Every Spring)

Mechanisms underlying plant function, growth and development: metabolism, water relations, mineral nutrition, transport, internal and external regulators of growth and development, stress physiology, biotechnology. Lab exercises evaluate physiological processes that enable plants to grow under varied conditions found in nature, such as water relations, mineral nutrition, metabolism, growth and development. prereq: 2201 and 1 year college chemistry or IBS grad student

**BIOL 4731. Entomology.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Structure, life history, ecology, classification, evolution, principles of control, and significance of insects in our society. Field collections. (2 hrs lect, 3 hrs lab and field) prereq: 1012 or IBS Grad student

**BIOL 4761. Ichthyology.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Physiologic, taxonomic, ecologic, economic, and behavioral aspects of fishes. Lab emphasis on fishes of Great Lakes region, including field conducted independent study. (2 hrs lect, 3 hrs lab, field) prereq: 2801 or IBS Grad student

**BIOL 4763. Ornithology.** (3 cr. ; A-F or Audit; Periodic Spring)

Lab and field identification of birds, their migration and habitats; biological, taxonomic, and economic considerations. (2 hours lecture, 2 hours lab and field) prereq: 2801 or IBS Grad student

**BIOL 4764. Mammalogy.** (3 cr. ; A-F or Audit; Periodic Fall)

Origin, taxonomy, distribution, physiology, ecology and behavior of mammals. Laboratory and fieldwork includes collection, preparation and identification of Minnesota species. (2 hrs lecture, 3 hours lab, field) prereq: 2801 or IBS Grad student

**BIOL 4804. Methods in Forest Ecology.** (3 cr. ; A-F or Audit; Fall Odd Year)

Project based course that delves into methods for studying plant populations, succession, demographics and forest stand dynamics. Large portion of the class is field-based and will involve surveying vegetation, establishing and monitoring long-term plots and developing a management plan for selected field sites. Course will have two 50-minute lectures and a two-hour lab each week. pre-req: BIOL 2801 or IBS graduate student

**BIOL 4818. Biotic Response to Climate**

**Change.** (3 cr. ; A-F or Audit; Periodic Spring) Many species are already responding to climate change, as evidenced by earlier budburst, flowering, and arrival of insect and bird pollinators. In only a few cases can we distinguish between phenotypic responses to longer growing seasons and warmer temperatures (plasticity) and evolutionary change in response to altered patterns of natural selection. Climate change will pose strong evolutionary challenges to native populations. In this course we will explore the fundamental response of the biota to these changes" extinction, migration, and adaptation. prereq: Biol 2201, no grad credit

**BIOL 4839. Coral Reef Field Studies.**

(GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Spring) Field study on San Salvador, Bahamas focusing on the biological and geological studies of the coral reef complex and associated habitats of the Caribbean. We will examine the ecology and taxonomy of associated biota as well as the physical, chemical and sedimentary processes in coral reef environments. prereq: BIOL 1011 and 1012 or GEOL 1110 or IBS Grad student

**BIOL 4850. Food and Humans.** (3 cr. ; A-F or Audit; Fall Odd Year)

In this course we will examine the evolutionary genetics underlying the process of plant and animal domestication, and the evolution of weeds and insect pests in the new environment

provided by human-initiated agriculture. Classical readings on the origin of agriculture and agricultural pests (weeds and insects) and the latest findings in this constantly changing field will be examined. Students will learn key concepts regarding the response of plants and animals to natural and artificial selection, and the application of population genetics, phylogenetics, quantitative genetics, and genetic mapping to major questions in agricultural genetics. Past and current challenges in agricultural productivity and sustainability will be addressed throughout the course. prereq: 2201, 3401 or IBS graduate student

**BIOL 4861. Lake Ecology.** (3 cr. ; A-F or Audit; Every Spring)

This course offers a hands-on introduction to the ecology of lake ecosystems with a focus on lakes of the temperate and boreal regions, particularly Minnesota. We explore how factors including temperature, light, water chemistry, water motion, nutrients, and organisms interact in aquatic environments to determine the distribution, abundance, and behavior of aquatic biota. Laboratory exercises reinforce and expand on lecture materials and include the identification of fish, zooplankton, benthos, and phytoplankton as well as field excursion to area lakes. pre-req: BIOL 2801, no grad credit

**BIOL 4863. Ecosystems Ecology and Biogeochemistry.** (3 cr. ; A-F or Audit; Every Spring)

Ecosystems ecology is the integrated study of the flows of materials and energy through ecosystems, which includes both the living (biotic) and non-living (abiotic) components. Biogeochemistry is a major subfield of ecosystems ecology, and deals with the cycling of nutrients through ecosystems. In this class, we will discuss the integration of ecosystems and biogeochemistry in terrestrial environments, specifically focusing on how human activities influence ecological systems and vice versa. It is my hope that you walk away from this course with a better understanding of how large environmental issues such as climate change and invasive species affect ecological systems. pre-req: BIOL 2801, CHEM 1153 or CHEM 1173 or instructor consent; no grad credit

**BIOL 4891. Animal Behavior.** (3 cr. ; A-F or Audit; Periodic Fall)

Known behavior of various vertebrate and invertebrate phyla, emphasizing adaptive significance and the genetics and ontogeny of behavioral patterns. Mating, aggressive, nutritive, and nurturing behavior and relation to ecology of animal populations. (2 hrs lect) prereq: BIOL 2410 or 2801 or IBS Grad student

**BIOL 4992. Senior Seminar: Classic Readings in Natural History.** (1 cr. ; S-N or Audit; Every Spring)

Readings and discussion of the classics of natural history writing from authors such as Charles Darwin, Charles Lyell, John Wesley Powell, Peter Freuchen, Rachel Carson, Paul Errington, and E.O. Wilson, among others. prereq: Seniors who have declared a natural history minor, no grad credit

**BIOL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BIOL 5001. Teaching and Learning in the Life Sciences.** (1 cr. ; S-N only; Every Spring)  
Exploration of learning theory and educational practices designed to help develop skills in the classroom. Topics will include: learning styles, classroom management, assessment, active and cooperative learning, and educational technology. prereq: grad student or prior teaching experience; instructor consent

**BIOL 5201. Leverage bioinformatic tools to manage big data and answer primary biology questions.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Biology has moved into a new era of big data, especially in the field of genomics. This course will introduce basic principles of bioinformatics and how to apply bioinformatic tools to process large genomic datasets. This course will emphasize how to evaluate currently available software, implement software, build pipelines for analysis, interpret outputs, apply statistics and finally produce publication appropriate figures. pre-req: BIOL 2201 or grad student

**BIOL 5240. Ecological Genetics.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Examines basic concepts in population and quantitative genetics. Focus is on techniques that reveal the genetic structure and adaptive value of ecologically important traits. This course has two 50 minute lectures and one 2-hour laboratory per week., prereq: 1012, 2201, Stat 1411 or IBS grad student

**BIOL 5511. Virology.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Viruses and hosts; effects of viral infections on cells; expression of viral genome in procaryotic and eucaryotic cells; epidemiology and pathogenesis of viruses, including emerging ones; viral evolution. (2 hrs lect, 3 hrs lab) prereq: 3502 or 4501, or IBS Grad student or instructor consent

**BIOL 5515. Microbial Diversity and Phylogeny.** (3 cr. ; A-F only; Periodic Fall)  
Evolutionary survey and characteristics of microorganisms focusing on autotrophic and heterotrophic prokaryotes from various habitats. Isolation, examination, and identification of bacteria from field collections using microscopic, physiological, biochemical, molecular, phylogenetic, and computer database techniques. (2 hours lecture and 2 hours lab) prereq: 2101 or 3100 or 3502 or 4501 or IBS Grad student

**BIOL 5604. Plant Physiology.** (4 cr. ; A-F or Audit; Every Spring)  
Mechanisms underlying plant function, growth and development: metabolism, water relations, mineral nutrition, transport, internal and external regulators of growth and development, stress physiology, biotechnology. Lab exercises evaluate physiological processes that enable plants to grow under varied conditions found in nature, such as water relations, mineral nutrition, metabolism, growth and development. pre-req: BIOL 2201 or IBS grad

**BIOL 5772. Neural Systems and Behavior.** (3 cr. ; A-F or Audit; Periodic Spring)  
Review of the basic neurophysiological components of animal behavior. Emphasis will be on well-studied neuroethological models such as weakly electric fish, bats, owls and crayfish. prereq: 1012, 3703 or IBS Grad student or instructor consent

**BIOL 5801. Microbial Ecology.** (2 cr. ; A-F or Audit; Periodic Spring)  
Microorganisms in natural environments: diversity, distribution, energetics, and growth of heterotrophic and autotrophic microbes in oxic and anoxic habitats. Roles of microbial populations and communities in biogeochemical cycling, ecosystem functioning, landscapes, and industrial, agricultural, and environmental applications. prereq: (2101 or 3100) and (2801 or 3502 or 4501), or WRS or IBS Grad student

**BIOL 5805. Fisheries Ecology and Management.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Lectures, readings and computer exercises relating to current issues in fisheries ecology. Computer exercises will emphasize techniques used by scientists working in the field and prepare the student for the use of quantitative research tools for independent research. Includes 2 one-hour lectures and 1 three-hour lab weekly. prereq: 2801, 2802, college-level course in statistics or WRS or IBS Grad student

**BIOL 5807. Mathematical Ecology.** (3 cr. ; A-F or Audit; Fall Odd Year)  
Development and use of mathematical models to describe ecological patterns and processes. prereq: (2801, (Math 1290 or Math 1297)) or WRS or IBS Grad student

**BIOL 5808. Landscape Ecology: Theory and Application.** (3 cr. ; A-F or Audit; Periodic Fall)  
Key issues in landscape ecology including scale, measuring landscape patterns, mechanisms shaping landscapes, implications of landscape patterns on plant and animal populations, communities, and ecosystems, and implementing landscape principles for natural resource management. prereq: 2801, 2802 or WRS or IBS Grad student

**BIOL 5809. Ecological Statistics.** (3 cr. ; A-F only; Every Spring)  
Directed toward graduate students with previous introductory statistical experience, this class covers common statistical methods used in ecology. The class includes classroom and computer lab components (using the R statistical computing environment) and provides students with the practical experience necessary to make decisions regarding the treatment and analysis of data, interpretation of statistical analyses and the presentation of study results. This course has one 2-hour lecture and one 2-hour laboratory per week. pre-req: IBS or WRS grad student or instructor consent

**BIOL 5818. Biotic Response to Climate Change.** (3 cr. ; A-F or Audit; Every Spring)  
Many spaces are already responding to climate change, as evidenced by earlier

budburst, flowering, and arrival of insects and bird pollinators. In only a few cases can we distinguish between phenotypic responses to longer growing seasons and warmer temperatures (plasticity) and evolutionary change in response to altered patterns of natural selection. Climate change will pose strong evolutionary challenges to native populations. In this course, we will explore the fundamental response of the biota to these changes: extinction, migration, and adaptation. pre-req: grad student

**BIOL 5833. Stream Ecology.** (3 cr. ; A-F or Audit; Fall Even Year)  
Studies of stream communities and ecosystems as influenced by biological interactions and physical factors. Emphasis on North Shore streams. (2 hrs lect, 6 hrs lab and field) prereq: 2801 or WRS or IBS Grad student

**BIOL 5861. Lake Ecology.** (3 cr. ; A-F or Audit; Every Spring)  
This course offers a hands-on introduction to the ecology of lake ecosystems with a focus on lakes of the temperate and boreal regions, particularly Minnesota. We explore how factors including temperature, light, water chemistry, water motion, nutrients, and organisms interact in aquatic environments to determine the distribution, abundance, and behavior of aquatic biota. Laboratory exercises reinforce and expand on lecture materials and include the identification of fish, zooplankton, benthos, and phytoplankton as well as field excursions to area lakes. prereq: WRS or IBS Grad student

**BIOL 5863. Ecosystems Ecology.** (3 cr. ; A-F or Audit; Every Spring)  
Ecosystems ecology is the integrated study of the flows of materials and energy through ecosystems, which includes both the living (biotic) and non-living (abiotic) components. Biogeochemistry is a major subfield of ecosystems ecology, and deals with the cycling of nutrients through ecosystems. In this class, we will discuss the integration of ecosystems and biogeochemistry in terrestrial environments, specifically focusing on how human activities influence ecological systems and vice versa. It is my hope that you walk away from this course with a better understanding of how large environmental issues such as climate change and invasive species affect ecological systems. pre-req: BIOL 2801, CHEM 1153 or CHEM 1173 or graduate student

**BIOL 5865. Conservation Biology.** (2 cr. ; A-F or Audit; Periodic Spring)  
Introduction to science of species, habitat, and ecosystem conservation and management. prereq: 2801 or IBS Grad student

**BIOL 5870. Wetland Ecology.** (3 cr. ; A-F or Audit; Fall Odd Year)  
Hydrology, nutrient cycling, and productivity of wetland ecosystems and the adaptations and interactions of resident biota; assessment, management, conservation, restoration, and creation of wetlands. Two daylong weekend field trips required. prereq: 2801, 2802 or WRS or IBS Grad student

**BIOL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Botany (BOT)

**BOT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BOT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BOT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BOT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BOT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Business (BUS)

**BUS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BUS 2100. Fundamentals of Accounting.** (; 2 cr. ; A-F or Audit; Every Spring)  
Introduction to financial and managerial accounting. Basic financial statement preparation. Basic decision making by managers using financial information. prereq: CUE major or or BTAG or Business Administration Certificate or Museum Studies Certificate or college consent; this course cannot be used to fulfill a LSBE major/minor requirement.

**BUS 2200. Fundamentals of Economics.** (; 2 cr. ; A-F or Audit; Every Spring)  
The course will provide a general description of the U.S. economy and an introduction to the framework used by economists to analyze economic issues. prereq: CUE major or BTAG or Business Administration Certificate or college consent; this course cannot be used to fulfill a LSBE major/minor requirement.

**BUS 2300. Fundamentals of Operations Management.** (; 2 cr. ; A-F or Audit; Every Spring)  
Introductory survey of production and operations as a functional area of management, including operations strategy and sustainability; manufacturing and service process design; project management; global supply chain, capacity and inventory management. Current industry best practices, such as lean six-sigma will also be discussed. prereq: CUE major or BTAG or Business Administration Certificate or college consent; this course cannot be used to fulfill a LSBE major/minor requirement.

**BUS 2400. Fundamentals of Organizational Management.** (; 2 cr. ; A-F or Audit; Every Spring)  
This course presents students with a broad introduction to management processes and the

complex world of managing in today's business environment. Topics include what managers do and skills they must possess to achieve organizational objectives, the management functions of planning, organizing, leading, and controlling and organizational dynamics such as globalization, social responsibility, and change. prereq: CUE major or BTAG or Business Administration Certificate or Museum Studies Certificate or pre-Civil Engineering or Civil Engineering major or Resilient Precast Concrete Engineering Certificate student or college consent; this course cannot be used to fulfill a LSBE major/minor requirement.

**BUS 2500. Fundamentals of Applied Statistics.** (; 2 cr. ; A-F or Audit; Every Fall)  
This course introduces students to the fundamental of modern business statistics. Emphasis is on application of the statistical concepts to decision making in an uncertain environment. Topics include summary statistics, probability distributions and statistical inference. which includes estimation, hypothesis testing and regression analysis. The application of computers in statistical analysis is introduced. prereq: CUE major or Business Administration Certificate or BTAG or college consent; this course cannot be used to fulfill a LSBE major/minor requirement.

**BUS 2600. Fundamentals of Financial Management.** (; 2 cr. ; A-F or Audit; Every Fall)  
The objective of this course is to help the student to develop an understanding of the concepts and techniques of financial management in the modern business enterprise. Evaluation of the financial risks, returns, and costs is the necessary framework in which all business policies must be examined. Students are expected to have a basic understanding of the concepts and methods of financial management by the completion of this course. Specific topics of coverage include financial statement analysis, time value of money, risk and return, the valuation of equity and bonds, capital budgeting and the cost of capital analysis. Moreover, the course also serves as a foundation for advanced work in finance. prereq: CUE major or BTAG or Business Administration Certificate or college consent; this course cannot be used to fulfill a LSBE major/minor requirement.

**BUS 2700. Fundamentals of Marketing.** (; 2 cr. ; A-F or Audit; Every Fall)  
This course introduces students to the discipline of marketing as it is practiced by organizations. Emphasis is on understanding how to best serve the consumer needs utilizing the most appropriate value proposition. The four P's of marketing (product, place, price, and promotion) are introduced in the context of a globally competitive environment. prereq: CUE major or BTAG or Business Administration Certificate or Museum Studies Certificate or college consent; this course cannot be used to fulfill a LSBE major/minor requirement.

**BUS 2800. Fundamentals of Human Resource Management.** (; 2 cr. ; A-F or Audit; Every Fall)

This course introduces students to the field of Human Resource Management (HRM). Course materials and assignments are designed to help students understand why organizations have an HRM function, what are the primary functional areas of HRM, how a well-developed HRM system can benefit organizations, and the respective roles of line managers, employees, and HRM professional in carrying out good HRM policies and practices. prereq: CUE major or BTAG or Business Administration Certificate or college consent; this course cannot be used to fulfill a LSBE major/minor requirement.

**BUS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BUS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BUS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BUS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Business Analytics (BA)

**BA 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BA 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BA 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BA 4410. Data Visualization.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Data visualization is the art and science of presenting data effectively in order to facilitate knowledge sharing and decision making. How to present and visualize data is an important skill for business professions to develop. This course will teach the principles and techniques that empower students to understand and interpret data, as well as make effective decisions based on data. Students will learn the benefits of effective data presentation and visualization, understand the principles and methods of visualization, and apply the principles using popular data visualization technologies. pre-req: FMIS 2201 or MIS 2201, LSBE candidate or Business Analytics minor, no grad credit, credit will not be granted if already received for MIS 3231

**BA 4420. Data Analytics for Managerial Decision Making.** (3 cr. ; A-F or Audit; Every Spring)  
This course introduces the basic elements of business analytics and how to analytically think about data and its role in business. The goal of the course is to provide students with the toolset and capabilities as they analyze data to ask the right questions that matter to businesses and help solve business problems.



Topics include data preprocessing, exploratory data analysis (EDA), predictive analytics, modeling and model evaluation. The course is designed to trigger passion for analytics, develop data-analytic thinking demonstrate how analytics matter in different business domains, illustrate real-world examples in different business contexts while working hands-on using data analytics is as such an art as it is a science. pre-req: MIS 2201, ECON 2030, LSBE candidate or Business Analytics minor, no grad credit. Credit will not be granted if already received for MIS 3241, MIS 4241, CIA 3760 or CIA 4761 or CIA 5761

**BA 4440. Spreadsheet Modeling and Decision Analysis.** (3 cr. ; A-F or Audit; Every Fall)

This course is a practical introduction to mathematical spreadsheet models with an emphasis on predictive and prescriptive analytics for making business decisions. Concepts covered include data exploration and slicing and dicing data using spreadsheets, optimization, sensitivity analysis, network modeling, simulation, regression, decision analysis, cluster analysis, and time series forecasting. Students are expected to communicate insights from the analysis in written and oral formats appropriate for a general audience. pre-req: MIS 2201, ECON 3020, LSBE candidate or Business Analytics minor or instructor approval, no grad credit

**BA 4460. Big Data Analytics.** (3 cr. ; A-F or Audit; Every Spring)

This course is a practical introduction to managing big data in the enterprise and covers aspects of technology infrastructure, data warehousing and structuring data for use in the organization. Using state-of-the-art open source big data ecosystems and cloud resources for data acquisition, extraction, cleansing, transformation and loading, the course demonstrates how the ecosystem integrates with other analytic tools to provide solutions for practical use cases. pre-req: MIS 3220 or equivalent, LSBE candidate or Business Analytics minor or instructor consent, no grad credit

**BA 4490. Business Analytics Capstone.** (3 cr. ; A-F or Audit; Every Spring)

This course is a corporate practicum in the development and delivery of business analysis for strategic decision making in organizations. It involves the application of the principles and tools of business analytics to real-world problems in a business domain. The final deliverable is the development and presentation of analytical insights and recommendations. pre-req: MIS 3220, ECON 3020, BA 4410, BA 4420, BA 4440 or 4460 or a Group C course taken concurrently, LSBE candidate, no grad credit

**BA 4497. Business Analytics Internship.** (3 cr. ; A-F or Audit; Every Fall, Spring & Summer) Work-integrated learning program providing practical experiences within the student's major field. Students participate in approved business analytics internship within an organization while completing the internship course alongside the experience. pre-req: LSBE candidate, consent

of Internship Director, two of the following courses: MIS 3220, BA 4410, 5410, 4420, 5420, 4440, 4460

**BA 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**BA 5410. Data Visualization.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Data visualization is the art and science of presenting data effectively in order to facilitate knowledge sharing and decision making. How to present and visualize data is an important skill for business professions to develop. This course will teach the principles and techniques that empower students to understand and interpret data, as well as make effective decisions based on data. Students will learn the benefits of effective data presentation and visualization, understand the principles and methods of visualization, and apply the principles using popular data visualization technologies. Students enrolled in the 5410 version of the course will have to fulfill an extra assignment/project to earn graduate credit. pre-req: FMIS 2201 or MIS 2201, LSBE candidate or Business Analytics minor, credit will not be granted if already received for MIS 3231

**BA 5420. Data Analytics for Managerial Decision Making.** (3 cr. ; A-F or Audit; Every Spring)

This course introduces the basic elements of business analytics and how to analytically think about data and its role in business. The goal of the course is to provide students with the toolset and capabilities as they analyze data to ask the right questions that matter to businesses and help solve business problems. Topics include data preprocessing, exploratory data analysis (EDA), predictive analytics, modeling and model evaluation. The course is designed to trigger passion for analytics, develop data-analytic thinking demonstrate how analytics matter in different business domains, illustrate real-world examples in different business contexts while working hands-on using data analytics is as such an art as it is a science. Students enrolled in the 5420 version of the courses will have to fulfill an extra assignment/project to earn graduate credit. pre-req: MIS 2201, ECON 2030, LSBE candidate or Business Analytics minor. Credit will not be granted if already received for MIS 3241, MIS 4241, CIA 3760 or CIA 4761 or CIA 5761

**BA 5460. Big Data Analytics.** (3 cr. ; A-F or Audit; Every Spring)

This course is a practical introduction to managing big data in the enterprise and covers aspects of technology infrastructure, data warehousing and structuring data for use in the organization. Using state-of-the-art open source big data ecosystems and cloud resources for data acquisition, extraction, cleansing, transformation and loading, the course demonstrates how the ecosystem integrates with other analytic tools to provide solutions for practical use cases. Students enrolled in the 5460 version of the course will have to fulfill an extra assignment/project to earn graduate credit. pre-req: MIS 3220

or equivalent, LSBE candidate or Business Analytics minor or instructor consent

**BA 5490. Business Analytics Capstone.** (3 cr. ; A-F or Audit; Every Spring)

This course is a corporate practicum in the development and delivery of business analysis for strategic decision making in organizations. It involves the application of the principles and tools of business analytics to real-world problems in a business domain. The final deliverable is the development and presentation of analytical insights and recommendations. Students enrolled in this 5490 version of the course will have to fulfill an extra assignment/project to earn graduate credit. pre-req: MIS 3220, ECON 3020, BA 4410, BA 4420, BA 4440 or 4460 or a Group C course taken concurrently, LSBE candidate

**BA 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

## Business Communication (BCOM)

**BCOM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**BCOM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**BCOM 3141. Business Communications.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Principles of business communication and their application to oral, written, and nonverbal communication. prereq: LSBE candidate or Economics major or college consent; credit will not be granted if already received for FMIS 3141

**BCOM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**BCOM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**BCOM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

## Business Law (BLAW)

**BLAW 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**BLAW 2001. The Legal Environment.** (HUMANITIES; 3 cr. ; A-F only; Every Fall, Spring & Summer) Introduction to U.S. legal system and its impact on modern business operations. Ethical, economic, social, and political perspectives of legal environment. Constitutional law, administrative regulation, torts and products liability, contracts, business organizations, employment/labor law. prereq: Minimum 30 credits

**BLAW 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )



Non Direct Equivalent

**BLAW 3001. Law and Ethics for Financial Professionals.** (3 cr. ; A-F only; Every Fall & Spring)

Examination of the legal and ethical issues faced by financial professionals. Topics include agency, bankruptcy, insider trading and other securities laws, obligations of corporate directors and officers, negotiable instruments and secured lending transactions. prereq: LSBE candidate or department consent

**BLAW 3201. Law for Entrepreneurs.** (3 cr. ; A-F only; Every Fall)

Introduction to legal topics relevant to entrepreneurs, including law of agency, government regulation of employment, property and bailments, forms of business organizations bankruptcy. prereq: LSBE candidate or college consent

**BLAW 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BLAW 4301. Estate Planning Concepts and Strategies.** (3 cr. ; A-F or Audit; Periodic Spring)

Examines the basics of estate planning, including both the legal and tax aspects of developing an estate and/or incapacity plan. Topics include: probate and probate substitutes, wills and other estate planning documents, gifting and insurance strategies, use of trusts, and federal estate, gift and generation-skipping taxation. prereq: Acct 3401, LSBE candidate or college consent; credit will not be granted if already received for 3301; no grad credit

**BLAW 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BLAW 5301. Estate Planning Concepts and Strategies.** (3 cr. ; A-F or Audit; Periodic Spring)

Examines the basics of estate planning, including both the legal and tax aspects of developing an estate and/or incapacity plan. Topics include: probate and probate substitutes, wills and other estate planning documents, gifting and insurance strategies, use of trusts, and federal estate, gift and generation-skipping taxation. pre-req: ACCT 3401, MBA student or department consent

**BLAW 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Business and Economics (BE)

**BE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Business, Office/Economic Educ (BOEE)

**BOEE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BOEE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BOEE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BOEE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**BOEE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## CDIS (CDIS)

**CDIS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CDIS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CDIS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CDIS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CDIS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## CHM (CHM)

**CHM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## CI (CI)

**CI 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CI 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CI 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CI 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CI 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## COM (COM)

**COM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## COML (COML)

**COML 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COML 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COML 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COML 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COML 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## COS (COS)

**COS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**COS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## CSCI (CSCI)

**CSCI 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CSCI 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CSCI 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CSCI 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CSCI 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## CW (CW)

**CW 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CW 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CW 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CW 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CW 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Career Exploration & Education (CNED)

**CNED 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CNED 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CNED 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CNED 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CNED 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Chemical Engineering (CHE)

**CHE 1011. Introduction to Chemical Engineering..** ( ; 3 cr. ; A-F or Audit; Every Fall & Spring)

Investigation of chemical engineering careers. Use of science and mathematics in chemical engineering. Introduction to fundamental topics: process flow diagrams, continuous and batch operations, material and energy balances, fluid flow, heat and mass transfer, reactor design, material science, process control, engineering economics. Group dynamics and ethics. Team project on industrial case study. prereq: Pre or coreq Chem 1153 and 1154 or Chem 1161 and Math 1296 or Math 1596

**CHE 1090. Chocolate in Trinidad - A Short Term Study Abroad Program.** (GLOBAL PER; 3 cr. ; A-F or Audit; Spring Odd Year)

Production of chocolate from the starting raw materials collected from a cocoa tree plantation, sugar cane plantation, and milk from dairy farm. Follow progress from raw agricultural products to finished chocolate using the unit operation concepts of fermentation, air drying, roasting, grinding, winnowing, refining, conching, tempering, flavoring, and molding. Complete class having produced real chocolate from the basic raw materials. This class will also explore the impact and meaning that chocolate has had on cultures around the world. Historical perspectives will include readings about Olmec and Aztec civilizations, Colonization, Industrial revolution, Globalization and Commodification, and the environmental/labor focused Direct Trade production. Cultural perspectives will include how different groups of people have experienced chocolate from religious, medicinal, political, and gender/labor based perspectives. Technological perspectives will look at the various practices associated with raw material production (farming), trade and transportation, refining as a drink and as a luxury commodity, and onto mass production. Course will also explore the impact of current trends on the future of chocolate, including climate change, demographic shifts in raw material producers, and new consumer attitudes for socially responsible and sustainable consumption. pre-req: Instructor consent

**CHE 1090. Chocolate in Trinidad - A Short Term Study Abroad Program.** (GLOBAL PER; 3 cr. [max 6 cr.] ; A-F or Audit; Spring Odd Year)

Production of chocolate from the starting raw materials collected from a cocoa tree plantation, sugar cane plantation, and milk from dairy farm. Follow progress from raw agricultural products to finished chocolate using the unit operation concepts of fermentation, air drying, roasting, grinding, winnowing, refining, conching, tempering, flavoring, and molding. Complete class having produced real chocolate from the basic raw materials. This class will also explore the impact and meaning that chocolate has had on cultures around the world. Historical perspectives will include readings about Olmec and Aztec civilizations, Colonization, Industrial revolution, Globalization

and Commodification, and the environmental/labor focused Direct Trade production. Cultural perspectives will include how different groups of people have experienced chocolate from religious, medicinal, political, and gender/labor based perspectives. Technological perspectives will look at the various practices associated with raw material production (farming), trade and transportation, refining as a drink and as a luxury commodity, and onto mass production. Course will also explore the impact of current trends on the future of chocolate, including climate change, demographic shifts in raw material producers, and new consumer attitudes for socially responsible and sustainable consumption. pre-req: Instructor consent

**CHE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHE 2001. Introduction to Environmental Engineering.** ( ; 3 cr. ; A-F or Audit; Every Fall & Spring)

Comprehensive survey of environmental engineering. Fundamental science and engineering principles as basis for analyzing environmental issues. Federal laws on air pollution, wastewater discharge, and hazardous waste. Wastewater treatment, air pollution control, waste minimization, resource recovery, and recycling. prereq: Chem 1113 or higher, Math 1250 or higher

**CHE 2011. Design of Engineering Experiments.** ( ; 3 cr. ; A-F or Audit; Every Fall & Spring)

Basic theories of experimental design, data analysis, and statistical process control, emphasizing their application to chemical engineering practice. prereq: Math 1297 and (prereq or coreq 2111 or 2211)

**CHE 2111. Material and Energy Balances.** ( ; 3 cr. ; Student Option; Every Fall & Spring)  
Elementary principles of chemical processes, emphasizing material and energy balances. prereq: Chem 1151 or 1161 or 1153 and 1154, Math 1296 or 1596 minimum grade of C

**CHE 2121. Chemical Engineering Thermodynamics.** ( ; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Application of thermodynamic principles to chemical engineering, emphasizing pressure-volume-temperature relationships, thermodynamic laws, thermochemistry, chemical equilibrium, and phase relationships. prereq: 2111 or 2211, (prereq or coreq Math 3280)

**CHE 2211. Materials and Energy Balances.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Elementary principles of chemical processes, emphasizing material and energy balances and problem solving. pre-req: Minimum grade of C in the following courses CHEM 1151 or 1161 or (1153 & 1154) or (1173 & 1175) and MATH 1296 or 1596

**CHE 2500. Global Quality Regulatory Framework.** ( ; 3 cr. ; A-F or Audit; Every Fall)  
This course provides students an understanding of the role of regulators with

an overview of global regulations as stated in the U.S. Code of Federal Regulations (CFR), EudraLex Directives and Annexes, and Emerging Market regulations for the pharmaceutical, medical device, biotech, animal health and consumer goods industries. Explores the relationship between regulatory requirements and legal accountability while introducing fundamental concepts in regulations related to clinical trial development, management, ethics, data integrity, data security, privacy, change control and validation. pre-req:

**CHE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHE 3031. Computational Methods in Chemical Engineering.** (; 3 cr. ; A-F or Audit; Every Spring)  
Modeling and simulation of chemical engineering processes; computational methods applied to chemical engineering; use of computation and process simulation tools. pre-req or coreq: CHE 2121, MATH 3280

**CHE 3032. Chemical Process Modeling and Simulation.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Fundamental concepts and techniques involved in chemical process modeling and simulation. Use of process simulation software for analysis and design of unit operations and flowsheets. pre-req: CHE 2121, 3031, pre or co-req 3112

**CHE 3097. Chemical Engineering Internship.** (; 1 cr. [max 3 cr.]; A-F or Audit; Every Summer)  
Practical work experience with employer associated with student's academic area; arranged by mutual agreement among student, department, and employer. pre-req: BSChE candidate, instructor consent

**CHE 3111. Fluid Mechanics.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Mass and energy balances, Bernoulli's equation, momentum balance, laminar and turbulent flow, boundary layer theory, pumps, compressors, and turbines. pre-req: BSChE cand, minimum grade of C+ in the following courses: CHE 2111 or 2211, Phys 2011 or 2013 and 2014, Math 3280, or instructor consent;

**CHE 3112. Heat and Mass Transfer.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Theory and practice of heat and mass transfer. Fundamentals of diffusion, conduction, convection, and radiation with application to design of heat and mass transfer equipment and systems. pre-req: BSChE candidate, 3111, (pre-req or coreq 2121) or instructor consent

**CHE 3196. Cooperative Education I.** (1 cr. [max 3 cr.]; A-F or Audit; Every Fall, Spring & Summer)  
Practical work experience with an employer closely associated with student's academic area. Arranged by mutual agreement among student, department, and employer. Formal written report of work completed must be submitted to department at end of experience. pre-req: BSChE cand, instructor consent

**CHE 3211. Chemical Engineering Laboratory I.** (COMM & LAN; 3 cr. ; A-F or Audit; Every Fall)  
Introduction to statistical uncertainty analysis and design of experiments. Experiments illustrating physicochemical, fluid mechanics, and heat and mass transfer principles. Technical report writing and presentation. Standard laboratory practice and safety. pre-req: BSChE candidate, CHE 2011, 3031, 3112

**CHE 3231. Properties of Engineering Materials.** (; 3 cr. ; A-F or Audit; Every Spring)  
Thermodynamic, mechanical, and kinetic properties of materials: structure and bonding in metals, alloys, corrosion, crystals, semiconductors, polymers, colloids, ceramics, interfaces, and composites. pre-req: BSChE cand, 2121, Chem 1152 or 1162

**CHE 3241. Principles of Particle Technology.** (3 cr. ; A-F or Audit; Every Fall)  
The science and engineering dealing with the production, handling, modification and use of a wide variety of particulate materials, both wet and dry, in sizes ranging from the sub-micron to the centimeter scale. pre-req: BSChE candidate, (pre-req or coreq 3111), Phys 2012 or 2015 and 2016, instructor consent

**CHE 3296. Cooperative Education II.** (2 cr. [max 4 cr.]; A-F or Audit; Every Fall, Spring & Summer)  
Continuation of practical work experience with an employer closely associated with student's academic area. Arranged by mutual agreement among student, department, and employer. Formal written report of work completed must be submitted to department at end of experience. pre-req: BSChE candidate, CHE 3196 and department consent

**CHE 3311. Transport Processes: Unit Operations of Fluid Flow and Heat Transfer.** (5 cr. ; A-F or Audit; Every Summer)  
Bernoulli's equation, momentum balance, laminar and turbulent flow, boundary layer theory, pumps, compressors, and turbines. Fundamentals of diffusion, conduction, and radiation with application to design of fluid and heat transfer unit operations. pre-req: BSChE candidate, CHE 2121 pre or co-req, PHYS 2011 or 2013 and 2014 or 2017 and 2014, MATH 3280, instructor consent. Credit will not be granted if already received for CHE 3111 or CHE 3112 and ME 3111 or ME 4112 or CE 3221

**CHE 3501. Product Development and Validation.** (; 3 cr. ; A-F or Audit; Every Spring)  
Introduction to the major design processes that are critical to life science product, process and specification development, including cradle to grave product and process development, prototype builds, scalability, design of experiments, variability, control, specification development and validation methodology. pre-req: CHE 2500

**CHE 3502. Risk and Failure Analysis in Life Science Industries.** (; 2 cr. ; A-F or Audit; Every Spring & Summer)

Distinctions of the life science industries related to the specific regulations that apply to consumer health products. Use of risk analysis techniques, including FMEA, Fault Tree and 5 Why's, to analyze a holistic set of data (in-production, across product lines, across equipment, human variability, on-market, on-stability, validation studies, change control, etc.) that lead to scientifically justified investigations supported by evidence, and the identification of effective corrective and preventative actions (CAPA). pre-req: ChE 2500

**CHE 3601. Food Engineering.** (3 cr. ; A-F or Audit; Spring Odd Year)  
Application of basic science and engineering fundamentals to chemical engineering unit operations in the food industry. Multiple case studies from industry will be included. pre-req: CHE 2211, CHE 3231 or ME 2105

**CHE 3791. Independent Study.** (1-3 cr. ; Student Option; Every Fall, Spring & Summer)  
Directed individual study arranged with instructor and head of department before registration. pre-req: BSChE cand, department consent

**CHE 3894. Chemical Engineering Research.** (1-3 cr. [max 6 cr.]; Student Option; Every Fall, Spring & Summer)  
Experience in a selected research area. Student must present a satisfactory written report and oral presentation. Course may also be used for portion of a research proposal. pre-req: BSChE candidate, maximum 6 credits, instructor consent

**CHE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHE 4111. Separations.** (3 cr. ; A-F or Audit; Every Fall)  
Application of principles of mass transfer. Design of distillation, gas absorption, liquid extraction, drying, leaching, and membrane separation processes. pre-req: BSChE Candidate, 2121, 3031, 3112; no grad credit

**CHE 4141. Material and Minerals Processing.** (3 cr. ; A-F or Audit; Every Fall)  
Flow sheets and unit operations of processes for the separation of commercially valuable minerals from their ores; particle characterization, comminution, concentration, handling; economics, environment, introduction to pyro and hydrometallurgy. pre-req: Chem 1153, 1154, Math 1297, Phys 2013

**CHE 4142. Extractive Metallurgy: An Introduction to metals' extraction.** (3 cr. ; A-F or Audit; Every Fall)  
Designed for the senior undergraduate and graduate audience, this course covers the basics of pyro, hydro, and electro-metallurgy. Relevant theories on thermodynamics and chemical kinetics are reviewed as a basis for a first description of industrial metals production. Thermodynamics and kinetics are presented with a focus on applications to industrial processes. Iron, copper, and aluminum production are used as examples of

pyro, hydro, and electro-metallurgy. Students taking this course will have a good command of the terms and methods employed in metals extraction. pre-req: CHE 2121 and 3112 or 3311 or instructor consent

**CHE 4196. Cooperative Education - Process Improvement.** (; 3 cr. ; A-F or Audit; Periodic Summer)

Practical Lean Six Sigma Process Improvement work experience with an employer closely associated with student's academic area. Arranged by mutual agreement among student, instructor, department, and employer. Student will complete process improvement projects at the employer's worksite guided by the instructor and supervisor with formal progress reports at various stages of the project. pre-req: BSChE and co-op student, instructor consent; no grad credit

**CHE 4211. Chemical Engineering Laboratory II.** (3 cr. ; A-F or Audit; Every Spring)

Statistical design of engineering experiments. Experiments illustrating principles of separations and reactor design. Technical report writing and presentation. Standard laboratory practice and safety. pre-req: BSChE candidate, 3211, 4111, 4301; no grad credit

**CHE 4231. Solar Energy and Photovoltaics.** (3 cr. ; A-F or Audit; Spring Odd Year)

Fundamentals of solar energy generation, conversion and storage. Various solar energy harvesting technologies including solar thermal, solar fuel, and solar photovoltaic will be investigated. pre-req: CHE 3231 or ME 2105, no grad credit

**CHE 4301. Chemical Reaction Engineering.** (; 3 cr. ; A-F or Audit; Every Fall & Summer)

Theory of rates of chemical reactions. Application of rate data to design of batch, tubular, continuous stirred-tank, and catalytic-chemical reactors. pre-req: BSChE candidate, 2121, 3112; no grad credit

**CHE 4401. Process Control.** (; 3 cr. ; A-F or Audit; Every Spring)

Dynamic behavior of open-and closed-loop systems. Design and operation of automatic controllers for chemical process systems. pre-req: BSChE candidate, CHE 2121, 3031, 3112, pre or co-req CHE 4301, PHYS 2012 or 2015 and 2016; no grad credit

**CHE 4402. Process Dynamics and Control.** (3 cr. ; A-F or Audit; Every Spring)

Dynamic behavior of open-and closed-loop systems. Design and operation of automatic controllers for chemical process systems. The programming of a microcontroller. pre-req: BSChE candidate, 2121, 3031, 3112, (pre-req or coreq 4301), Phys 2012 or 2015 and 2016; no grad credit

**CHE 4501. Chemical Engineering Design I.** (SUSTAIN; 3 cr. ; A-F or Audit; Every Fall)

Preliminary design of chemical processing or hazardous waste treatment plant. Use of engineering economics and calculation of rate return and hazardous waste management as applied to chemical plants. Market survey,

flow sheet preparation, material and energy balances. pre-req: BSChE candidate, 3031, 3112, (pre or co-req 3032, 4111, 4301); no grad credit

**CHE 4502. Chemical Engineering Design II.**

(3 cr. [max 4 cr.] ; A-F or Audit; Every Spring) Continuation of ChE 4501. Equipment design, instrumentation, process control, hazardous waste management plan, plant safety, economic feasibility, and institute analysis for process chosen. pre-req: BSChE candidate, 4501; no grad credit

**CHE 4601. Biochemical Engineering I.** (3 cr. ; A-F or Audit; Every Fall)

Application of chemical engineering principles to design and operation of industrial biological processes, emphasizing enzyme and cell growth kinetics. pre-req: 2111 or 2211, minimum 60 credits or instructor consent; credit will not be granted if already received for 5601

**CHE 4603. Biorenewable Resources.**

(SUSTAIN; 3 cr. ; A-F or Audit; Every Spring) Comprehensive investigation of the engineering systems involved in the sustainable production of fuels, chemicals, and materials from bioresources. pre-req: 2111 or 2211 or instructor consent

**CHE 4613. Air Pollution Control.** (3 cr. ; A-F or Audit; Every Spring)

Analysis of what air pollution is, where it comes from and where it goes on the local, regional and global scales. Discussion of the regulatory apparatus concerning air quality. Design of air pollution control equipment. pre-req: CHEM 1155, 1156, MATH 1297 or 1597, PHYS 2015, 2016

**CHE 4701. Biochemical Engineering II.** (3 cr. ; A-F or Audit; Every Spring)

Continuation of ChE 4601/5601. Advanced design and operation of bioreactors for varied cultivation methods, transport limitations, and reactor types. Operation and control considerations for aeration, agitation, heat transfer, and instrumentation. Unit operations for recovery and purification of products. Microbial, animal, plant, and mixed culture applications. pre-req: 4601 or 5601; credit will not be granted if already received for 5701

**CHE 4711. Biomedical Engineering.** (3 cr. ; A-F or Audit; Every Fall)

Overview of the field of Biomedical Engineering. Topics covered include cell and tissue engineering, transport phenomena in biological systems, biomaterials, bioelectricity and neural engineering, development of biomedical devices, and government regulations in the biomedical industry. pre-req: MATH 3280, PHYS 2013 or 2017, minimum 60 credits or instructor consent; credit will not be granted if already received for 5711; no grad credit.

**CHE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHE 5011. Process Optimization: Lean Six Sigma.** (; 3 cr. ; A-F or Audit; Every Fall)

Emphasis on applying Lean and 6 Sigma process design and improvement techniques,

data driven decision making, cultural transformation and effective change communication. pre-req: Instructor consent required; credit will not be granted if already received for CHE 5193

**CHE 5021. Transport Phenomena.** (3 cr. ; A-F or Audit; Every Fall)

Study of the fundamentals and field equations for momentum, heat and mass transport with emphasis on the prediction of transport rates in chemical engineering applications. pre-req: 3112 or Grad student or instructor consent

**CHE 5022. Transport Processes in Wells and Pipelines.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Exposes students to various elements of fluid and heat flows that occur in oil/gas wells and pipelines. The fundamentals of multiphase flow are explained in terms of single-phase flow mechanics and configuration of the phases. Simplicity in modeling approach is retained. Field examples are used to reinforce understanding of the models. pre-req: 3111, 3112 or Grad student or instructor consent

**CHE 5031. Chemical Engineering Analysis.** (3 cr. ; A-F or Audit; Fall Odd, Spring Even Year)

Development of mathematical and statistical models for chemical engineering systems; simulation of these systems using digital computers; and system optimization and analysis of results. pre-req: 4111 or Grad student or instructor consent

**CHE 5101. Mining Policy.** (3 cr. ; A-F or Audit; Fall Odd Year)

Socioeconomic, cultural, and legal frameworks that affect mineral resources management specific to the mining industry. Historical and contemporary trends in mining policy and practice, resulting public and private governance in the United States with federal, state and local institutional structures for minerals resource management. pre-req: CHE 4141 or 4142 or graduate student or instructor consent

**CHE 5121. Advanced Thermodynamics.** (3 cr. ; A-F or Audit; Every Fall)

Theory and application of phase equilibrium thermodynamics. Estimation and correlation of thermodynamic properties. Multicomponent systems. Solution theory. High pressure equilibria. Corresponding states. pre-req: 2121 or instructor consent

**CHE 5131. Polymer Engineering.** (3 cr. ; A-F or Audit; Every Spring)

Polymeric materials have a tremendous variety of applications in synthetic fibers, packaging, automobiles, electronic instruments, energy, sports, etc. This course will focus on theoretical and engineering applications of polymer design, processing, and production. pre-req: [(ChE 2121 or ME 3211), (ChE 3231 or ME 2105)] or Chem 4641 or instructor consent

**CHE 5250. Advanced Process Control.** (3 cr. ; A-F or Audit; Every Spring)

Investigation into the theory and practical application of the concept of process control dynamics, feedback, and stability. Emphasis

will be on dynamic behavior, physical and empirical modeling, computer simulation, measurement, and control technology, basic control concepts, and advanced control strategies. prereq: 4402 or instructor consent

**CHE 5301. Advanced Chemical Reactor Design.** (3 cr. ; A-F or Audit; Every Spring) Theory of advanced chemical reactor design. Reaction rate theory. Heterogeneous catalysis and transport processes. Analysis of non-ideal reactors, Stability. Optimization. Multiphase systems. prereq: 4301 or instructor consent

**CHE 5321. Theory and Practice of Scanning Electron Microscopy & X-ray Microanalysis.** (3 cr. ; A-F or Audit; Every Fall) Students will be introduced to the basic physics of scanning electron microscopy, including electron beam generation, beam-sample interactions, signal detection and image formation. Students will also learn how characteristic x-rays are produced in a sample and how they are measured and quantified. In the laboratory sessions students will practice basic sample preparation methods and various techniques of scanning electron microscope to produce quality images and data. prereq: minimum 75 credits, CHEM 1155/56 or CHEM 1175/76, PHYS 2012 or 2015/2016 OR Graduate student; instructor consent

**CHE 5555. Project Credits: MEng - Chemical Engineering.** (3-6 cr. ; A-F or Audit; Every Fall, Spring & Summer) Master of Engineering project work as determined by faculty adviser and student with approval by the department director of graduate studies. prereq: MEng candidate, instructor consent

**CHE 5601. Biochemical Engineering I.** (3 cr. ; A-F or Audit; Spring Even Year) Application of chemical engineering principles to design and operation of industrial biological processes, emphasizing enzyme and cell growth kinetics. prereq: 2111 or 2211, grad student and instructor consent; credit will not be granted if already received for 4601

**CHE 5612. Hazardous Waste Process Engineering.** (; 3 cr. ; A-F or Audit; Every Spring) Identification of hazardous substances and their effects. Federal, State and International regulations. Green Engineering - modification of processes to avoid hazardous waste formation. Life Cycle Management of hazardous substances. Design of waste treatment processes. prereq: Grad student or BSChE candidate with ChE 2111 or 2211, 3112 and 4111

**CHE 5613. Air Pollution Control - Advanced Topics.** (3 cr. ; A-F or Audit; Every Spring) Air Pollution Control: Analysis of air pollution constituents, origins, and fates on the local, regional, and global scales. Discussion of the US, EU, and WHO regulatory apparatus concerning air quality. Design of air pollution control equipment. pre-req: CHEM 1155, PHYS 2015, MATH 3280

**CHE 5621. Particle Technology.** (3 cr. ; A-F or Audit; Fall Odd Year)

Applications of particle technology, especially in the chemical and minerals industry context. Particle concepts including: particle characterization, slurry characterization, size reduction, size enlargement, particle separation, and multi-phase processes. The major unit operations common to solids processing: mining, crushing, concentration by sedimentation, filtration, flotation, and pyrometallurgy. prereq: 3111 and Grad Student; credit will not be granted if already received for 4621

**CHE 5701. Biochemical Engineering II.** (3 cr. ; A-F or Audit; Every Spring) Continuation of ChE 4601/5601. Advanced design and operation of bioreactors for varied cultivation methods, transport limitations, and reactor types. Operation and control considerations for aeration, agitation, heat transfer, and instrumentation. Unit operations for recovery and purification of products. Microbial, animal, plant, and mixed culture applications. prereq: 4601 or 5601, grad student; credit will not be granted if already received for 4701

**CHE 5711. Biomedical Engineering.** (3 cr. ; A-F or Audit; Every Fall) Introduction to the field of Biomedical Engineering. Topics covered include cell and tissue engineering, transport phenomena in biological systems, biomaterials, bioelectricity and neural engineering, development of biomedical devices, and government regulations in the biomedical industry. prereq: 3111, 3112 or grad student or instructor consent; credit will not be granted if already received for CHE 4711.

**CHE 5991. Graduate Independent Study in Chemical Engineering.** (1-3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer) Directed study of special interest topics not available in the standard curriculum. Must be arranged with instructor before registration. May include readings, research and/or special projects. prereq: graduate student and instructor consent

**CHE 5995. Special Topics in Chemical Engineering: (Various Titles to be Assigned).** (; 1-4 cr. [max 12 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer) Topics not available in the regular department curriculum. Topics may include specialties of the department or visiting faculty. prereq: Graduate student or instructor consent

**CHE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

## Chemistry (CHEM)

**CHEM 1103. Aspects of Chemistry.** (NAT SCI,SUSTAIN; 3 cr. ; A-F or Audit; Every Fall & Spring) Topics in general, organic, and biological chemistry using sustainability as the underlying theme. Study of chemical principles, their application, and their impact on daily life. Independent unit in contrast to CHEM 1113,

1151, 1153 or 1161. CHEM 1103 alone satisfies the requirements in liberal education categories Natural Sciences and Sustainability. Alternatively, the combination of CHEM 1103 and CHEM 1104 meets liberal education category requirements for Natural Sciences with lab. prereq: Credit will not be granted if already received for 1102, 1113, 1151, 1153, 1161 or 1173.

**CHEM 1104. Aspects of Chemistry Lab.** (NAT SCI; 1 cr. ; A-F or Audit; Every Fall & Spring) Laboratory in general, organic, and biological chemistry. This laboratory optionally accompanies lecture CHEM 1103. The combination of CHEM 1103 and CHEM 1104 meets liberal education category requirements for Natural Science with lab. prereq: Must be taken either after or concurrently with CHEM 1103; credit will not be granted if already received for 1102 (4-credit option), 1113, 1151, 1154, 1161 or 1174.

**CHEM 1105. From the Industrial Revolution to Green Chemistry.** (SUSTAIN; 3 cr. ; Student Option; Spring Even Year) The study of the chemistry associated with scientific and technological discoveries made during the Industrial Revolution in England from 1750-1850. Twenty-first Century "green chemistry" solutions to reduce detrimental impacts of industrialization such as those that occurred during the Industrial Revolution. The study of the lives of selected chemists and natural scientists whose work was located in the Midlands of England.

**CHEM 1113. Introduction to General, Organic, and Biological Chemistry I.** (NAT SCI; 5 cr. ; A-F or Audit; Every Fall) Chemical principles and their applications: atomic and molecular structure, solutions, acids, bases, salts, equilibria. prereq: ACT of 21 or higher or MATH 1005; for students terminating study of chem with no more than 10 cr; credit will not be granted if already received for 1151, 1153/1154, 1161, 1173/74 or 2172

**CHEM 1114. Introduction to General, Organic, and Biological Chemistry II.** (; 5 cr. ; A-F or Audit; Spring Odd Year) Chemical principles and their applications: physical and chemical properties of organic compounds, organic chemistry of living systems; carbohydrates, lipids, proteins, enzymes, nucleic acids, and metabolic pathways. prereq: 1113

**CHEM 1153. General Chemistry I.** (NAT SCI; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer) Fundamental principles of chemistry exemplified by study of elements, compounds, and their reactions. Covers fundamental concepts of the atom, molecule, stoichiometry, chemical reactions, thermochemistry, gas laws, atomic structure, periodic table, chemical bonding, and other selected topics. The companion laboratory, CHEM 1154, should be taken concurrently. The combination of CHEM 1153 and CHEM 1154 meets the lab component of NAT SCI, LE CAT 4. prereq: One year high school chem, Math ACT 24 or higher

or a grade of least C- in Math 1005, Credit will not be granted if already received for 1151 or 1161 or 1173. Fall semester SCSE majors only.

**CHEM 1154. General Chemistry Lab I.** (NAT SCI; 1 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Basic laboratory skills while investigating the fundamental principles of chemistry. Covers fundamental concepts of the atom and molecule, stoichiometry, acid-base reactions, oxidation-reduction reactions, thermochemistry, characteristic properties of anions, gas laws and spectrophotometry. This laboratory accompanies lecture CHEM 1153. The combination of CHEM 1153 and CHEM 1154 meets liberal education category 4 requirements. prereq: Previous or concurrent enrollment in CHEM 1153 or 1173; credit will not be granted if already received for CHEM 1151, 1161 or 1174.

**CHEM 1155. General Chemistry II.** (4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Fundamental principles of chemistry exemplified by study of elements, compounds, and their reactions. Covers intermolecular forces, properties of liquids, solids and solution, chemical kinetics, chemical equilibrium, acids and bases, solubility, thermodynamics, electrochemistry, nuclear chemistry, and other selected topics. Solid knowledge of college algebra and General Chemistry I is required. The companion laboratory course CHEM 1156 should be taken concurrently. prereq: 1151 or 1153 or 1161 or 1173; credit will not be granted if already received for 1152, 1162 or 1175.

**CHEM 1156. General Chemistry Lab II.** (1 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Fundamental principles of chemistry exemplified by laboratory study of elements, compounds, and their reactions. Covers titration, intermolecular forces, colligative properties, kinetics, chemical equilibria, and qualitative analysis. This laboratory accompanies lecture CHEM 1155. prereq: 1151 or 1161 or 1154 or 1174, concurrent or previous enrollment in CHEM 1155; credit will not be granted if already received for Chem 1152, 1162 or 1176.

**CHEM 1173. General Chemistry I for Majors.** (NAT SCI; 4 cr. ; A-F or Audit; Every Fall)

Intended for students pursuing majors in the Department of Chemistry and Biochemistry. Coverage of chemistry principles exemplified by study of elements, compounds, and their reactions. Covers concepts of atomic and molecular structure, chemical bonding, stoichiometry, chemical reactions, thermochemistry, intermolecular forces, gases, liquid and solutions, and other selected topics. Fundamental of applied concept will be explored and enriched using a range of mathematical tools. Additional topics introducing majors to the field and profession will be covered. The companion laboratory course, CHEM 1174 should be taken concurrently. prereq: Math ACT 24 or higher or a grade of at least a C- in Math 1005. Credit will not be granted if already received for Chem 1151 or 1153 or 1161.

**CHEM 1174. General Chemistry I Lab for Majors.** (NAT SCI; 1 cr. ; A-F or Audit; Every Fall)

Intended for students pursuing majors in the Department of Chemistry and Biochemistry. Basic laboratory skills covering fundamental principles of chemistry. Covers concepts of atomic and molecular structure, chemical bonding, stoichiometry, acid-base reactions, oxidation-reduction reactions, thermochemistry, characteristic properties of anions, gas laws, and spectrophotometry. Fundamental and applied concepts will be explored and enriched using a range of mathematical tools. The laboratory accompanies lecture CHEM 1173 and should be taken concurrently. prereq: Previous or concurrent enrollment in CHEM 1173 or 1153

**CHEM 1175. General Chemistry II for Majors.** (4 cr. ; A-F or Audit; Every Spring)

Intended for students pursuing majors in the Department of Chemistry and Biochemistry. Coverage of chemistry principles exemplified by study of elements, compounds, and their reactions. Covers concepts of solids and solutions, chemical kinetics and reaction mechanisms, chemical equilibrium, acids and bases, solubility, thermodynamics, electrochemistry, descriptive chemistry of the elements, coordination chemistry, nuclear chemistry, and other specific topics. Fundamental and applied concepts will be explored and enriched using a range of mathematical tools. Additional topics introducing majors to the field and profession will be covered. The companion laboratory course, CHEM 1176 should be taken concurrently. prereq: CHEM 1173 or CHEM 1153 and BS-Chemistry major or BS-Biochemical major or BA-Chemistry major or BA-Biochemistry major or by instructor consent

**CHEM 1176. General Chemistry II Lab for Majors.** (1 cr. ; A-F or Audit; Every Spring)

Intended for students pursuing majors in the Department of Chemistry and Biochemistry. Basic laboratory skills covering fundamental principles of chemistry: elements, compounds and their reactions. Covers titration, intermolecular forces, colligative properties, kinetics, chemical equilibria, and qualitative analysis. Fundamental and applied concept will be explored and enriched using a range of mathematical tools. The laboratory accompanies lecture CHEM 1175 and should be taken concurrently. prereq: previous of concurrent enrollment in CHEM 1175

**CHEM 1191. Independent Study.** (1-2 cr. [max 4 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

For students wishing to do special work in areas useful to individual programs and objectives when such are not available in regular course offerings. prereq: department consent

**CHEM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHEM 2212. Environmental Chemistry.** (NAT SCI,SUSTAIN; 4 cr. ; A-F or Audit; Periodic Fall)

Study of chemical processes in natural air, water, soil and sediment environments. Sources, reaction, transport, effects, and fates of natural and anthropogenic chemical species will be covered. Methods of analysis of environmental samples, with emphasis on quantitative treatment of data. pre-req: 1152 or 1162 or 1155 and 1156 or 1175 and 1176

**CHEM 2222. Quantitative Analysis.** (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Considered the first course of analytical chemistry, this course aims to explore the concepts of quantification and measurement related to chemical systems. Topics in this course include statistical analysis of error/uncertainty, systematic development of aqueous chemical equilibria, and fundamental principles of electrochemical, spectrophotometric, and chromatographic analyses. prereq: 1152 or 1162 or 1155 and 1156 or 1175 and 1175, concurrent registration in 2223 is strongly recommended

**CHEM 2223. Quantitative Analysis**

**Laboratory.** (1 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Lab companion to 2222 involving the quantitative analysis of organic and inorganic samples using classical and instrumental techniques. Students are instructed in the use of classical and modern computer-controlled instrumentation and techniques, as applied to the acquisition and analysis of experimental data. prereq: 1152 or 1162 or 1155 and 1156 or 1175 and 1176; concurrent registration in 2222 is required

**CHEM 2242. Analytical Chemistry and the Environment in Poland.** (4 cr. ; A-F or Audit; Periodic Summer)

Theory and practice in quantitative analysis, covering statistics, acid-base equilibria, chelometry, spectrometry, and chromatography, including volumetric, spectrophotometric, and separation methods, to be offered in Poland, with field trips to sites of environmental concern. prereq: 1152 or 1162 or 1155 and 1156 or 1175 and 1176, instructor consent; credit will not be granted if already received for 2222, 2232

**CHEM 2541. Organic Chemistry I.** (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Structure and bonding, stereochemistry, functional group reactions. prereq: 1152 or 1162 or 1155 and 1156 or 1175 and 1176; credit will not be granted if already received for 2521

**CHEM 2542. Organic Chemistry II.** (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Functional group reactions, bioorganic chemistry. prereq: 2521 or 2541; credit will not be granted if already received for 2522, 2532

**CHEM 2543. Organic Chemistry I**

**Laboratory.** (1 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Laboratory companion to CHEM 2541. Structure and bonding, stereochemistry, functional group reactions. prereq: 1152 or 1162 or 1155 and 1156 or 1175 and 1176, must be taken after or concurrently with CHEM

2541; credit will not be granted if already received for 2521, CHE 3231, ENGR 2110

**CHEM 2544. Organic Chemistry II**

**Laboratory.** (1 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Laboratory companion to Chem 2542, for non-chemistry majors. Functional group reactions, bioorganic chemistry. prereq: 2521 or (2541 and 2543), must be taken after or concurrently with CHEM 2542; credit will not be granted if already received for 2522, 2532, 2545

**CHEM 2545. Organic Chemistry II**

**Laboratory for B.S. Chemistry Majors.** (2 cr. ; A-F or Audit; Every Spring)  
Laboratory companion to Chem 2542, for B.S. Chemistry majors. Functional group reactions, bioorganic chemistry. prereq: 2521 or (2541 and 2543), must be taken after or concurrently with CHEM 2542; credit will not be granted if already received for 2532

**CHEM 2901. Principles of Green Chemistry.**

(SUSTAIN; 3 cr. ; A-F or Audit; Periodic Spring)  
Survey of the principles of green chemistry emphasizing basic toxicology, the evaluation of waste production and environmental performance, catalysts and organic solvents, renewable resources and intentional design of green reactions and processes. prereq: 2542 or concurrent

**CHEM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHEM 3095. Chemistry Special Topics.** (; 1-5 cr. ; Student Option; Periodic Fall & Spring)  
Special topics in chemistry as assigned.

**CHEM 3097. Internship in Chemistry.** (1-2 cr. ; S-N only; Every Summer)  
Experience in a commercial, government, or industrial setting. Prior department approval and coordination with faculty sponsor are required. prereq: 2521 or 2541 or 2223, chemistry or biochemistry/molecular biology majors and department consent

**CHEM 3194. Chemistry Undergraduate Research.** (1-3 cr. [max 30 cr.] ; S-N or Audit; Every Fall, Spring & Summer)  
Experience in a selected area of research. prereq: department consent

**CHEM 3322. Biochemistry.** (3 cr. ; A-F or Audit; Every Spring & Summer)  
Survey of biochemistry, emphasizing enzyme catalysis, cellular energetics, and major metabolic processes. prereq: 2522 or 2532 or 2542

**CHEM 3324. Biochemistry Laboratory.** (1 cr. ; A-F or Audit; Every Spring & Summer)  
Identification and analysis of biological molecules with emphasis on the macro-molecules, polysaccharides, proteins, and nucleic acids (RNA, DNA). prereq: 2522 or 2532 or 2542; previous or concurrent registration in 3322

**CHEM 3432. Descriptive Inorganic Chemistry.** (3 cr. ; A-F or Audit; Every Spring)  
The course will survey the chemistry of the elements, including periodic trends. Acid

base chemistry, electrochemistry, structures of solids, and bioinorganic chemistry will be discussed. prereq: (2222 or 2242)and 2542

**CHEM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHEM 4184. Undergraduate Seminar I.** (1 cr. ; S-N or Audit; Every Fall)

First course of a two-course senior seminar requirement for B.S. Chemistry and B.S. Biochemistry majors. Students will learn to prepare and present scientific talks. Use of visual aids and computer technology, presentation organization and delivery, and use of scientific literature will be among the skills students will learn. In addition, students will attend and evaluate weekly departmental seminars. prereq: BS Chem or BS Biochem Major

**CHEM 4185. Undergraduate Seminar II.** (; 1 cr. ; A-F only; Every Spring)

Second course of a two-course senior seminar requirement for B.S. Chemistry and B.S. Biochemistry majors. Students will learn to prepare and present scientific talks. Use of visual aids and computer technology, presentation organization and delivery, and use of scientific literature will be among the skills students will learn. In addition, students will attend and evaluate weekly departmental seminars. Students will participate in and present at the annual Departmental Undergraduate Symposium. prereq: 4184

**CHEM 4212. Advanced Environmental Chemistry.** (; 3 cr. ; A-F or Audit; Spring Even Year)

Quantitative, advanced study of chemical processes in the natural environment. This course will cover the chemistry of the atmosphere, hydrosphere, and lithosphere, focusing on the sources, fluxes, cycling, reactions, and transformations of natural and anthropogenic chemicals. pre-req: CHEM 2212 or 2222, CHEM 2541, no grad credit; credit will not be granted if already received for CHEM 5212

**CHEM 4242. Instrumental Analysis.** (; 3 cr. ; A-F or Audit; Every Spring)

Theory of instrumental methods of chemical analysis, including electrochemistry, spectroscopy, and separations. prereq: 2222, 4632 or 4634 or 4642

**CHEM 4243. Instrumental Chemistry Laboratory.** (2 cr. ; A-F or Audit; Every Spring)

Lab companion to 4242 involving the use of computerized chemical instrumentation in the analysis of organic and inorganic samples. Students learn the use of modern programming tools as applied to the control of chemical instrumentation and acquisition and analysis of data there from. prereq: 2223, must be taken after or concurrently with CHEM 4242

**CHEM 4351. Biochemistry I.** (3 cr. ; A-F or Audit; Every Fall)  
Introduction to structural classes of biologically relevant molecules. Descriptions of monomeric

small molecules and their incorporation into macromolecules. Covers amino acids, proteins, fatty acids, lipids, sterols, carbohydrates, nucleic acids, RNA, and DNA structures. prereq: 2222, 2541, 2542, Math 1296, concurrent registration in physical chem recommended - 4363

**CHEM 4352. Biochemistry II.** (3 cr. ; A-F or Audit; Every Spring)

Introduction to metabolism of carbohydrates, fatty acids, sterols, nucleic acids, amino acids, and xenobiotics. Common metabolic pathways of glycolysis, gluconeogenesis, citric acid cycle, et. The interrelated nature of these pathways and their cellular regulation will be covered. prereq: 4351

**CHEM 4363. Biochemistry Laboratory.** (2 cr. ; A-F or Audit; Every Fall)

Applications of biochemistry and molecular biology techniques. prereq: 2223, 2522 or 2532 or 2544 or 2545, BS-BMB major, concurrent registration in 4351 is required

**CHEM 4373. Physical Biochemistry: Statistical Bio-Thermodynamics.** (; 3 cr. ; A-F or Audit; Every Fall)

This course is a quantitative treatment of physical principles and theories in physical biochemistry with a focus on applications of statistical bio-thermodynamics to primary literature-based approaches in the field. Developing expertise in the application of theory to real-world problem solving in the field is emphasized. pre-req: (4632 or 4634 or 4641) and (4351 or 3322); no grad credit

**CHEM 4374. Physical Biochemistry Laboratory.** (2 cr. ; A-F or Audit; Every Spring)

This capstone course will provide students with the opportunity to critically address research problems in the field of biochemistry via a team-based "open-ended", investigative approach. They will be challenged to utilize and build upon their fundamental knowledge and experience, garnered from previous coursework, to design and carry out experiments focused on understanding the physical chemical basis of biochemical phenomena. prereq: 4373, no grad credit

**CHEM 4435. Inorganic Chemistry Laboratory.** (1 cr. ; A-F or Audit; Every Fall)

Preparation and study of the properties of selected inorganic compounds. prereq: 3432, must be taken after or concurrently with CHEM 4436

**CHEM 4436. Inorganic Chemistry.** (3 cr. ; A-F or Audit; Every Fall)

Atomic structure and properties of elements based thereon. Chemical bonding. Chemistry of coordination compounds. Mechanisms of selected inorganic reactions. Group theory and spectroscopy applied to inorganic systems. prereq: Chem 2222 or 2242 and 2542

**CHEM 4510. Polymer Chemistry.** (3 cr. ; A-F or Audit; Every Spring)

In this course students will study the synthesis, characterization, and chemical structure-related properties of polymers. Good knowledge of Organic Chemistry is required. Chemical



Kinetics and Thermodynamics will be applied. prereq: 2542 or instructor consent; no grad credit

**CHEM 4633. Physical Chemistry Laboratory.** (1 cr. ; A-F or Audit; Every Fall)

Laboratory program in physical chemistry, including thermodynamics, spectroscopy, kinetics and quantum mechanics. prereq: 2yrs of college-level chemistry, (2222 or 2212 or 2242), Math 1297, Phys 2012 or (2015 and 2016) or Phys 1001, BS-BMB major or BA-Chem major, 4634 may be taken concurrent

**CHEM 4634. Physical Chemistry.** (3 cr. ; A-F or Audit; Every Fall)

Properties of gases, liquids, and solutions; thermodynamics and equilibria; chemical kinetics, principles of quantum chemistry. prereq: (Phys 2012 or (Phys 2015 and 2016) or Phys 1002), 2 yrs of college-level chemistry, Math 1297, (Chem 2222 or 2212 or 2242), BS-Biochemistry major or BA-Chem major

**CHEM 4641. Physical Chemistry I.** (3 cr. ; A-F or Audit; Every Fall)

Quantitative treatment of physical principles and theories in chemistry, including topics in thermodynamics and kinetics. prereq: 2 yrs chem, (2222 or 2212 or 2242), Math 3280, Phys 2012 or 2015 and 2016

**CHEM 4642. Physical Chemistry II.** (3 cr. ; A-F or Audit; Every Spring)

Quantitative treatment of physical principles and theories in chemistry, including topics in quantum mechanics and spectroscopy. prereq: 4641

**CHEM 4643. Physical Chemistry Laboratory I.** (1 cr. ; A-F or Audit; Every Fall)

Laboratory program in physical chemistry, accompanying lecture Chem 4641. prereq: 2 yrs chem, (2222 or 2212 or 2242), Math 3280, Phys 2012 or 2015 and 2016, 4641 may be taken concurrent

**CHEM 4644. Physical Chemistry Laboratory II.** (1 cr. ; A-F or Audit; Every Spring)

Laboratory program in physical chemistry, accompanying lecture Chem 4642. prereq: 4643, 4642 may be taken concurrent

**CHEM 4659. Fluorescence Methods in Life Science.** (3 cr. ; A-F or Audit; Spring Even Year)

Theoretical fundamentals, experimental design considerations, and applications of a wide range of fluorescence methods in chemistry, biochemistry, biology, medicine, and related fields. Each fluorescence method is designed to optimally answer specific questions quantitatively at the molecular level. Requires basic knowledge in related fields such as chemistry, biochemistry, physics, mathematics, and/or biology. prereq: 3322 or 4351 and 4642 or 4634 or instructor consent

**CHEM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHEM 5150. Organic and Stable Isotope Biogeochemistry.** (3 cr. ; A-F or Audit; Periodic Spring)

Production and chemical composition of natural organic matter (OM), diagenesis and catagenesis of OM; stable isotopic fractionation processes of C, H, O, N, and S in natural systems, fractionation theory, isotopic indicators of climate, oceanographic/limnologic processes, trophic structure, microbial processes. prereq: BIOL 1012 and (CHEM 1152 or 1155 and 1156 or 1162 or 1175 and 1176) and (CHEM 2222 or 2212 or 2242) OR instructor consent

**CHEM 5212. Advanced Environmental Chemistry.** (3 cr. ; A-F or Audit; Spring Even Year)

Quantitative, advanced study of chemical processes in the natural environment. This course will cover the chemistry of the atmosphere, hydrosphere, and lithosphere, focusing on the sources, fluxes, cycling, reactions, and transformation of natural and anthropogenic chemicals. pre-req: graduate student, credit will not be granted if already received for CHEM 4212.

**CHEM 5350. Research Topics for High School Chemistry Teachers.** (2-4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Experimental work and philosophy associated with a selected research topic. prereq: Ed MA or MEd student, department consent required.

**CHEM 5373. Physical Biochemistry: Statistical Bio-Thermodynamics.** (3 cr. ; A-F or Audit; Every Fall)

This course is a quantitative treatment of physical principles and theories in physical biochemistry with a focus on applications of statistics bio-thermodynamics to primary literature-based approaches in the field. Developing expertise in the application of theory to real-world problem solving in the field is emphasized. In addition to the lecture and exams, students in this graduate course will prepare and present an original research proposal in the format of an NSF Graduate Research Fellowship (GRF) application. prereq: CHEM 4632 or 4634 or and CHEM 4351 or 3322 and instructor consent

**CHEM 5424. Advanced Inorganic Chemistry I.** (3 cr. ; A-F or Audit; Every Fall)

Advanced topics in inorganic chemistry including the following: Applications of Group Theory to inorganic chemistry such as molecular orbital theory and valence bond theory as well as vibrational analysis, organometallic chemistry including structure and bonding in organometallic compounds, reactions and reaction mechanisms of organometallic compounds, and the application of organometallic compounds as reagents and catalysts in organic synthesis, other advanced aspects of inorganic chemistry, e.g. Bioinorganic Chemistry and Aspects of Material Science. prereq: 4436 or equivalent or Grad student

**CHEM 5510. Polymer Chemistry.** (3 cr. ; A-F or Audit; Every Spring)

In this course students will study the synthesis, characterization, and chemical structure-related properties of polymers. Good knowledge

of Organic Chemistry is required. Chemical Kinetics and Thermodynamics will be applied. In addition to the lecture and exams, students in this graduate course will prepare an individual research report on a topic selected from recent developments in polymer chemistry. prereq: Chemistry graduate student or instructor consent

**CHEM 5524. Advanced Organic Chemistry I.** (3 cr. ; A-F or Audit; Every Fall)

Advanced topics of Organic Reaction Mechanisms and Aspects of Organic Synthesis prereq: 2542 or equivalent or Grad student

**CHEM 5624. Advanced Physical Chemistry I.** (3 cr. ; A-F or Audit; Every Spring)

Classical and statistical thermodynamics, chemical kinetics, other selected topics in physical chemistry. prereq: 4642 or equivalent or Grad student

**CHEM 5650. Computational Chemistry.** (3 cr. ; A-F or Audit; Periodic Spring)

Molecular Mechanics, Quantum Mechanics, semiempirical and ab initio molecular orbital calculations, density functional theory, and selected additional topics in computation chemistry such as biochemical applications, QSAR, and ligand modeling and docking. prereq: 4642 or equivalent or Grad student

**CHEM 5659. Fluorescence Methods in Life Science.** (3 cr. ; A-F or Audit; Spring Even Year)

Theoretical fundamentals, experimental design considerations, and applications of a wide range of fluorescence methods in chemistry, biochemistry, biology, medicine, and related fields. Each fluorescence method is designed to optimally answer specific questions quantitatively at the molecular level. Requires basic knowledge in related fields such as chemistry, biochemistry, physics, mathematics, and/or biology. prereq: grad student or instructor consent

**CHEM 5714. Applications of Spectroscopy.** (4 cr. ; A-F or Audit; Every Fall)

Application of spectroscopic techniques to structure elucidation, including NMR, FTIR, MS, UV-Vis, X-ray, EPR spectroscopy. Includes practical component. prereq: 4436 or equivalent or Grad student

**CHEM 5725. Advanced Analytical Chemistry I.** (3 cr. ; A-F only; Every Fall)

Intended for advanced undergraduate and beginning graduate students in chemistry and related fields. Augment basic coursework in wet and instrumental analytical chemistry. Topics include statistical and chemometric methods for experimental design and data analysis, electronics and computers in chemical instrumentation, and selected techniques of instrumental analysis such as mass spectrometry, inductively coupled optical emission spectroscopy and analytical gas chromatography. prereq: Grad student or 4242 or equivalent

**CHEM 5795. Special Topics in Chemistry: (Various Titles to be Assigned).** (1-4 cr. [max 12 cr.] ; A-F or Audit; Periodic Fall & Spring)



Topics not available in standard curriculum.  
prereq: graduate student or instructor approval

**CHEM 5994. Directed Research in Chemistry.** (1-3 cr. [max 9 cr.] ; Student Option; Every Fall, Spring & Summer)  
Directed laboratory or theoretical research in the chemical sciences. prereq: Min 90 cr or grad in the sciences or engineering or instructor consent

**CHEM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Child Psychology (CPSY)

**CPSY 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CPSY 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CPSY 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CPSY 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CPSY 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Child and Family Development (CFD)

**CFD 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CFD 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CFD 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CFD 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CFD 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Chinese (CHIN)

**CHIN 1101. Beginning Chinese I: Mandarin Chinese.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Spring)  
Introduction to Mandarin Chinese for students with little or no prior study. Emphasis will be on expressions for daily living with appropriate grammar and vocabulary. Writing in the phonetic pin yin system will be introduced as will high frequency characters. prereq: Little or no prior formal study of this language or instructor consent

**CHIN 1102. Beginning Chinese II: Mandarin Chinese.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Spring)  
Introduction to Mandarin Chinese for students with little prior study. Emphasis will be on expressions for daily living with appropriate grammar and vocabulary. Writing in the phonetic pin yin system will be introduced as will high frequency characters. prereq: 1101

**CHIN 1201. Intermediate Chinese I: Mandarin Chinese.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Fall)  
Consolidation and enrichment of previously acquired abilities speaking and understanding Mandarin Chinese. Emphasis on oral and aural skills, vocabulary building, some reading and writing in the phonetic pin yin system with high frequency characters. pre-req: CHIN 1102 or instructor consent

**CHIN 1202. Intermediate Chinese II: Mandarin Chinese.** (COMM & LAN; 4 cr. ; A-F only; Every Spring)  
Consolidation and enrichment of previously acquired abilities speaking and understanding Mandarin Chinese. Emphasis on oral and aural skills, vocabulary building, some reading and writing in the phonetic pin yin system with high frequency characters. pre-req: 1201 or instructor consent

**CHIN 1399. Language and Culture in China - Study Abroad.** (GLOBAL PER; 6 cr. ; A-F only; Periodic Summer)  
Study Chinese language and culture in a classroom setting and on field trips. Emphasis will be on language, culture and history. The program will be held in Beijing, Shanghai, and at the Ocean University of China in Qingdao, China. pre-req: instructor consent; admission to an approved study abroad program requires consent from the International Programs and Services Office

**CHIN 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHIN 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHIN 3030. Chinese Cinema.** ( ; 4 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Overview of cinema of China. Examines a variety of filmic genres. Chinese national identity will be the main axis of inquiry. Strong focus on academic writing and research. Taught in English. pre-req: minimum 30 credits

**CHIN 3042. Aspects of Chinese Cultures: Interface between Traditions and Contemporary Values.** (GLOBAL PER,HUMANITIES; 4 cr. ; A-F or Audit; Every Spring)  
Survey of aspects of Chinese civilization and cultures. Students will examine diverse cultural values in the international community and work toward a sense of culturally responsive citizenship in the current global society. Taught in English.

**CHIN 3097. Internship.** (1-3 cr. [max 6 cr.] ; S-N only; Every Fall, Spring & Summer)

Supervised international or domestic internship related to the program. pre-req: CHIN 1202 or equivalent with a C or better; instructor consent required

**CHIN 3591. Independent Study.** (1-4 cr. [max 8 cr.] ; A-F only; Every Fall & Spring)  
Students develop and carry out reading and research projects in consultation with the instructor. prereq: instructor consent

**CHIN 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHIN 4591. Independent Study.** ( ; 1-4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)  
Students develop and carry out reading and research projects in consultation with the instructor. pre-req: instructor consent

**CHIN 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CHIN 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Civil Engineering (CE)

**CE 1000. History of Structures.** (HUMANITIES,GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Fall)  
This course will study structures of historical significance. The social and economic importance of each structure as well as the merits of the engineering design of each structure will be considered. Students will learn to evaluate qualitatively how load is transferred in typical structures, for example, cable-stayed and suspension bridges. The styles of major contemporary structural designers will be examined; for example, the work of Eiffel, Roebling, Eads, Ammann and Maillart. Local structures, such as the Duluth lift bridge, will also be studied.

**CE 1025. Introduction to Civil Engineering.** ( ; 1 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to transportation, water resources, structures, and geotechnical design. Introduction to ethics, professionalism, globalization, and contemporary issues in civil engineering. Introduction to the design process. prereq: Civil Engineering students only

**CE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CE 2017. Engineering Mechanics: Statics and Mechanics of Materials.** ( ; 5 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Vector algebra. Applications of equations of equilibrium to analysis of simple engineering structures and machines. Nature and influence of friction. Elementary theory of statically determinate framed structures. Introductory treatment of stress and strain at a point. Stress-strain relation in two dimensions. Axial loading, torsion, shear and bending moment diagrams, bending stresses, deflection of determinate and indeterminate beams, instability. prereq:

MATH 1297, PHYS 2011 or 2013 or 2017 and 2014, and Civil Engineering or Mechanical Engineering or Industrial Engineering or Engineering Physics major; credit will not be granted if already received for ENGR 2015 and ENGR 2016 combined.

**CE 2020. Computational Tools for Civil Engineers.** (4 cr. ; A-F or Audit; Every Fall & Spring)

The course teaches the application of engineering computational software to address problems of interest in civil eng. Software to be used in the course: Mathcad, Excel, Matlab, VBA for Excel, Surfer, Grapher & Digger. Problems to be addressed are civil eng applications that involve vector operations, matrix operations, solution of linear and non-linear equations, differentiation, integration, systems of simultaneous linear and non-linear equations, curve fitting, linear and non-linear regression analysis, optimization analysis, basic statistics and probability, random numbers and Monte Carlo analysis and others. These applied mathematical problems will be solved mostly using built-in numerical functions in the software above. For some problems, programming concepts will be covered using Mathcad, Matlab and VBA in Excel. Others topics to be covered include graphing with Grapher and digitizing with Digger and spatial interpolation analysis using Surfer. pre-req: CE 1025 and PHYS 2013 or 2017 and MATH 1297 or 1597 (previous or concurrent MATH only) or instructor consent

**CE 2020. Computational Tools for Civil Engineers.** (4 cr. ; A-F or Audit; Every Fall & Spring)

The course teaches the application of engineering computational software to address problems of interest in civil eng. Software to be used in the course: Mathcad, Excel, Matlab, VBA for Excel, Surfer, Grapher & Digger. Problems to be addressed are civil eng applications that involve vector operations, matrix operations, solution of linear and non-linear equations, differentiation, integration, systems of simultaneous linear and non-linear equations, curve fitting, linear and non-linear regression analysis, optimization analysis, basic statistics and probability, random numbers and Monte Carlo analysis and others. These applied mathematical problems will be solved mostly using built-in numerical functions in the software above. For some problems, programming concepts will be covered using Mathcad, Matlab and VBA in Excel. Others topics to be covered include graphing with Grapher and digitizing with Digger and spatial interpolation analysis using Surfer. pre-req: CE 1025 and PHYS 2013 or 2017 and MATH 1297 or 1597 (previous or concurrent MATH only) or instructor consent

**CE 2425. Geologic Principles for Civil Engineers.** (4 cr. ; A-F or Audit; Every Fall & Spring)

The course presents an introduction of geology for civil engineers. The theory component of the course presents a comprehensive survey of Earth's composition, structure, and dynamics to develop an understanding of

internal processes, plate tectonics, and surface processes as a framework for geological history and development of life (this component follows the same structure of the course GEOL 1110 - Geology and Earth Systems). The lab component of the course focuses on the application of geological science principles to topics that are relevant to the civil engineering profession. These topics include identification of mineral and rock samples in a context of construction materials or materials existing as part of foundations or excavations of civil engineering structures; topographic and geologic maps; description of rock mass and rock structures and computational engineering geology problems. prereq: credit will not be granted if already received for CE 2435 or CE 3425 or GEOL 1110

**CE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CE 3015. CAD & Engineering Drawing.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to both hand and computer aided drafting. Hand drafting will include orthographic projections, multiple views, sectional views and isometric projections. Computer aided drafting will focus on the use of AutoCAD. This will include drawing procedures and tools, dimensioning, scaling, and plotting. prereq: 2017

**CE 3016. Surveying.** (2 cr. ; A-F or Audit; Every Fall & Summer)  
Fundamentals of observing distances, elevations, and angles. Traversing. Irregular areas. Circular and parabolic curves. Earthwork including mass diagrams. Construction staking. prereq: Math 1297

**CE 3025. Environmental Engineering.** (SUSTAIN; 4 cr. ; A-F only; Every Fall & Spring)  
Introduction to environmental engineering systems and infrastructure. Fundamentals including application of mass/energy balances and equilibrium to environmental systems. These concepts applied to environmental topics: risk assessment, water quality modeling, water/wastewater treatment, air quality modeling, municipal/hazard solid waste management. prereq: Chem 1151 or 1153 and 1154, CE 3221, BSCE candidate

**CE 3026. Project Management.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Study of basic concepts and models for successful management of projects in engineering. Topics discussed include: engineering economics, project delivery process, bid development, cost estimation, life cycle cost evaluation, contract structure, scheduling, resource allocation and LEED requirements.

**CE 3027. Infrastructure Materials.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to the behavior and structure of civil engineering materials, including laboratory investigation of physical and mechanical. Materials examined include concrete, steel, wood, asphalt and polymers. prereq: 2017, BSCE candidate

**CE 3115. Structural Analysis.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to the behavior of structures. Students will learn about the loads on structures, and how to determine the path of these loads through the structure. Topics include: truss analysis, shear and moment diagrams, deflections, analysis of indeterminate structures, influence lines, and shear and moment envelopes. prereq: 2017, Math 3280 (concurrent), BSCE candidate

**CE 3221. Fluid Mechanics.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Properties of fluids, fundamental of fluid flow including energy and momentum principles, applications to pipes and open channels, steady and unsteady flow, dimensional analysis, fluid measurement techniques, and pump performance. prereq: 2017, Math 3280 (concurrent)

**CE 3225. Hydraulics and Hydrology.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to hydrologic analysis including precipitation, infiltration, hydrology analysis, stream routing, groundwater, and well hydrology. Fundamentals of hydraulic analysis, types of flow hydraulic devices, pipe, and open channel flow, uniform and varied flow. prereq: 3221, Math 3280 (concurrent), BSCE candidate

**CE 3316. Transportation Engineering.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to transportation systems, driver behavior, vehicle characteristics, and principles of highway network planning. Introduction to roadway and intersection design methods, traffic signal operation and timing optimization methods. Fundamental of traffic flow theory. prereq: BSCE candidate

**CE 3426. Soil Mechanics.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Study of soil as an engineering material including description and classification of soils, total and effective stresses and pore water pressure in soils, and soil behavior as applied to conditions of engineering significance. This involves the characteristics of water flow through soils, soil bearing capacity, soil consolidation and settlement, soil shear strength, lateral earth pressure and slope stability analysis in soils. prereq: CE 2017 and BSCE candidate

**CE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CE 4096. Cooperative Education I.** (1 cr. [max 3 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Practical work experience with an employer closely associated with student's academic area. Arranged by mutual agreement among student, department and employer. Formal written report of work completed must be submitted to the department at the end of the experience. prereq: CE candidate, instructor consent; no grad credit

**CE 4100. Applications of Management in Resilient Precast Concrete.** (1 cr. ; A-F or Audit; Every Fall & Spring)

Taken concurrently with the online version of BUS 2400 (Fundamentals of Organizational Management), this course will provide insight into the project organization and management side of the precast concrete industry. The themes of resiliency and organizational management in precast concrete will be examined through a series of case studies with local precast concrete industry partners. This course cannot be taken as a standalone one-credit course; it must be taken concurrently with BUS 2400 or after successful completion of BUS 2400. pre-req: CE 4126, BUS 2400 concurrently or previously completed; no grad credit

**CE 4115. Design of Steel Structures.** (; 3 cr. ; A-F or Audit; Every Fall)  
The design of steel components and structures based on applicable design codes. This includes: tension members, compression members, beams, beam-columns, composite members, and connections. prereq: 3115, BSCE candidate, no grad credit

**CE 4126. Design of Concrete Structures.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
The design of concrete structures based on applicable codes. Topics covered include: design of beams and slabs to resist moment and shear, design of columns, reinforcement detailing, and deflection control. prereq: 3115, BSCE Candidate, no Grad cr

**CE 4128. Prestressed Concrete Structures.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Design and behavior of prestressed concrete structures: materials and systems (including specifics for precast and post-tensioned members), losses, flexure, shear, bond, deflections, partial prestressing, continuous beams. prereq: 4126

**CE 4131. Design of Wood and Masonry Structures.** (; 3 cr. ; A-F or Audit; Periodic Fall)  
This course addresses the design of wood and masonry structures and components based on applicable civil engineering design codes. For wood the course covers the design of flexural and compressive members, fasteners and connections, shear walls and diaphragms. For masonry, topics include the components and hardware of masonry buildings, behavior and design of masonry wall types, design of beams, columns, reinforcement details, shear walls, roof and floor diaphragms and anchor bolts. prereq: CE 4126

**CE 4134. Advanced Steel Design.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
This course focuses on advanced design of steel structures. Topics covered in this course include: steel members subjected to torsion, bolted and welded steel connections, braced frames with gusset plate connections, stability of steel frames, steel plate girders, and fatigue and fracture. pre-req: CE 4115, no grad credit

**CE 4135. Advanced Reinforced Concrete Design.** (; 3 cr. ; A-F or Audit; Every Spring)  
This course focuses on advanced design of concrete structures, with some applications for steel-concrete composite systems. Topics covered in this course include: slender

concrete columns, development length of reinforcement, two-way slabs, torsion in concrete, and steel-concrete composite systems. pre-req: 4126; no grad credit

**CE 4136. Structural Systems.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Building codes, design loads, computerized structural analysis and design, gravity and lateral system analysis and design, structural system descriptions and selection considerations, and structural contract documents. pre-req: CE 4115, 4126; no grad credit

**CE 4137. Advanced Structural Analysis.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course covers advanced methods of structural linear and nonlinear analysis. Topics include matrix methods for indeterminate structures, introduction to finite elements, plastic analysis using upper-bound and lower-bound theorems, and time-dependent analysis. prereq: 4126, 4115, BSCE candidate; no grad credit

**CE 4213. Open Channel Hydraulics.** (; 3 cr. ; A-F or Audit; Periodic Spring)  
The course will review energy and momentum principles and apply these to hydraulic engineering works such as man-made channels, dams, harbors, and bridges. Principles of sediment transport in alluvial channels will be considered in the context of designing engineered structures. pre-req: CE 3225 or instructor consent

**CE 4215. Hydraulic Design.** (; 3 cr. ; A-F only; Every Fall)  
Application of hydraulic and hydrologic engineering data and methods for design of hydraulic structures including storm sewers, conveyance channels, flow control structures, detention and wet ponds, culverts, bridges, and dams. This course will make use of computer simulation models used in engineering design and include applications to stormwater managements. prereq: 3225, no Grad credit

**CE 4228. Watershed Engineering.** (3 cr. ; A-F or Audit; Every Fall)  
Basic principles in hydrologic modeling and concepts of watershed delineation, land use change impact, case studies, and modeling tools are discussed and applied to natural and urban watersheds. The course will utilize hydraulic and hydrologic models and GIS tools for engineering design. pre-req: CE 3225 or instructor consent

**CE 4237. Water Quality Engineering.** (3 cr. ; A-F or Audit; Every Fall)  
Applied analysis of water quality in natural systems. Review of mass-transport processes and approaches for solving water quality problems in lakes, estuaries, rivers, groundwater, and soil-sediment with TMDL (Total Maximum Daily Load) and remediation design applications. Applications in water and wastewater treatment. prereq: 3025 or instructor consent; no grad credit

**CE 4246. Environmental Remediation Technologies.** (3 cr. ; A-F or Audit; Spring Odd Year)

The course examines the principal applications and limitations of technologies designed for source control and removal of contaminants from soil, groundwater, and surface water. Topics include: introduction to hazardous waste, contaminant characteristics, a review of mass transport, partitioning and fate of contaminants, site characterization/assessment, regulatory requirement, the design and operation of current remediation technologies, advances in technological design, and emerging remediation technologies including biotechnology and nanotechnology. pre-req: CE 3025 or instructor consent; no grad credit

**CE 4255. Senior Design.** (4 cr. ; A-F only; Every Fall & Spring)  
Formal written and oral reports describing design project. Complete professional documentation of results. prereq: instructor consent, no Grad cr

**CE 4256. Design of Water and Waste Water Treatment Plants.** (3 cr. ; A-F or Audit; Every Spring)  
Introduction to design of municipal water and wastewater treatment plants. Unit operations approach sets the foundation by presenting conventional classic treatment trains. Hybrid systems, small community, and onsite systems will also be presented. prereq: 3025 or instructor consent

**CE 4257. Municipal Solid Waste Management and Hazardous Waste Systems.** (3 cr. ; A-F or Audit; Every Fall)  
The class is an introduction to design solid waste management. Specific topics covered include: waste characterization, route planning, collection technologies, resource recovery systems (recycling), energy recovery (refuse derive fuel), landfill design (staging, leachate management, landfill gas management), and cover system design. An overview of soil and groundwater remediation technologies will also be provided. prereq: 3025 or instructor consent

**CE 4315. Design of Traffic Systems.** (; 3 cr. ; A-F or Audit; Every Spring)  
This course aims to provide an in-dept knowledge of design principles and methodologies for traffic control systems to optimize operational efficiency and safety of traffic flows. The theories of traffic flow modeling, simulation and control will be introduced as the basis for designing traffic systems. The process to analyze traffic systems performance will be studied with computer-based tools. The design methodologies for traffic control systems for arterials and freeways will be discussed and applied to real roadways in a simulated environment. A process to assess the effectiveness of design strategies on different types of highways will be studies and applied to sample corridors. prereq: 3316, no grad credit

**CE 4316. Pavement Analysis and Design.** (3 cr. ; A-F or Audit; Every Fall)  
Analysis, behavior, performance, and structural design of pavements for highways and airfields will be discussed. Prominent pavement distress mechanisms, their causes, and

remedial measures will be presented. Other topics include climate factors, rehabilitation, sustainability, and renewability in pavement engineering, life cycle design economics, and traffic loadings. prereq: 2017, 3027 and 3316; no grad credit

**CE 4318. Pavement Maintenance, Rehabilitation, and Management.** (3 cr. ; A-F or Audit; Periodic Fall)

Students will learn to evaluate the existing condition of the pavements, designing and selecting the appropriate rehabilitation strategy. Broadly, this course will include (i) assessment of the functional and structural conditions of pavements, (ii) pavement maintenance, repair and rehabilitation techniques, (iii) design of overlays, (iv) life cycle cost analysis of pavement overlays, and (v) introduction to pavement management. Different software such as BAKFAA, AASHTOW are Pavement ME Design, DRIP, BCOA-ME and MnPAVE will be utilized, wherever applicable. prereq: 3027, 3316 or instructor consent; no grad credit

**CE 4320. Advanced Pavement Materials, Design and Construction.** (3 cr. ; A-F or Audit; Periodic Fall)

This course contains both lecture and lab classes. In the lecture class, students will learn the following: (i) mixture design procedures for concrete and asphalt pavements with and without the application of recycled materials; (ii) mechanistic design of pavement using 'MnPAVE' and 'AASHTOW are Pavement ME Design' procedures, and (iii) pavement construction procedures. In the laboratory class, students will learn the following: (i) perform the mixture design for asphalt and concrete pavement materials for a real-world pavement project, (ii) conduct performance tests on the samples prepared with their own mixture designs, and (iii) participate field trips to monitor recent trends in the material mixture design and pavement construction procedures. Students will prepare a project report and present to the class towards the end of the semester. The lab report and project report will be a group work. Students will need to interact with the experts from the pavement industry for completing the project report. prereq: CE 3027; no grad credit

**CE 4326. Highway Planning and Design.** (; 3 cr. ; A-F or Audit; Every Fall)

This course aims to provide an in-depth knowledge on highway network planning and design methodologies. Current planning and design methods for roadways will be introduced and used for class projects. The potential interrelationship between design parameters and traffic operation/safety will also be introduced for each design element. prereq: 3316; no grad credit

**CE 4328. Transportation System Planning and Analysis.** (3 cr. ; A-F or Audit; Periodic Spring)

This course introduces theoretical foundations of transportation planning, design, and analysis methods. Main topics include theory and application of aggregate and disaggregate models for route/mode choice, land use, and trip generations. The methodologies

for planning, design, and evaluation of transportation system alternatives are also addressed in this course. prereq: CE 3316

**CE 4415. Geotechnical Design.** (3 cr. ; A-F or Audit; Every Fall)

Study of geotechnical engineering topics related to design and construction of structures in contact with soils such as shallow and deep foundations, pile foundations and earth retaining structures. Also covered are topics related to site characterization and subsoil exploration and methods for ground improvement and modification. prereq: 3426, no grad credit

**CE 4422. Numerical Modeling in Geotechnical Engineering.** (3 cr. ; A-F or Audit; Spring Even Year)

This course covers theoretical and practical aspects of numerical modeling of problems in geotechnical engineering, using the finite element and finite difference methods, as implemented in commercial packages such as Abaqus and FLAC. The emphasis is on the solution of typical soil mechanics and geotechnical design problems. These include determining stresses in soils; solving shallow and deep foundation problems; seepage and consolidation problems; lateral earth pressure, retaining wall and slope stability problems; and seismic wave propagation in soils. prereq: 3426; no grad credit

**CE 4426. Rock Mechanics.** (; 3 cr. ; A-F or Audit; Every Fall)

Study of rock as an engineering material, including physical and mechanical characterization of intact rock and rock masses as they relate to civil and mining engineering applications. This also includes the study of effect of jointing and water in a rock mass, foundations of civil and mining engineering structures in rock, stability of cuts in rock, and excavation and support of surface and underground and openings in rock. Laboratory testing is included in this course. prereq: 3426; no grad credit

**CE 4515. Sustainable Design.** (SUSTAIN; 3 cr. ; A-F or Audit; Every Spring)

Introduction to sustainable design and construction including LEED, materials, construction/transportation/production, life-cycle/service, rating systems, codes, regulations, economical issues and social issues. prereq: BSCE or BSCE or BSIE or BSME and instructor consent; no grad credit

**CE 4545. Design of Structures with Advanced Materials.** (3 cr. ; A-F or Audit; Every Fall)

This course focuses on the design of structures utilizing advanced materials such as composites and polymeric materials. Topics covered in this course include: Material properties of composites, polymers, and other advanced materials; Mechanical properties of composites, polymers, and other advanced materials; Accounting for creep and stress relaxation in design; Design of various structures with advanced materials including pipes, chambers, and other buried structures. prereq: CE 3027, no grad credit

**CE 4596. Cooperative Education II.** (2 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Continuation of practical work experience with an employer closely associated with student's academic area. Arranged by mutual agreement among student, department and employer. Formal written report of work completed must be submitted to the department at the end of the experience. prereq: CE candidate, instructor consent; no grad credit

**CE 4991. Independent Study in Civil Engineering.** (1-4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Directed study of special interest topics not available in the standard curriculum. Must be arranged with instructor before registration. May include readings, research and/or special projects. prereq: CE upper division status, instructor consent; no graduate credit

**CE 4995. Special Topics in Civil Engineering: (Various Titles to be Assigned).** (; 1-4 cr. [max 12 cr.] ; A-F or Audit; Periodic Fall & Spring)

Topics not available in the regular department curriculum. Topics may include specialties of the department or visiting faculty. prereq: no grad credit

**CE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**CE 5027. Advanced Infrastructure Materials.** (3 cr. ; A-F or Audit; Every Spring)

This course will cover advanced topics related to the behavior of Portland cement concrete and other special concretes. Topics to be covered include: Portland cement production and chemistry; supplementary cementitious materials, mixture design, concrete durability and repair techniques, and other special concretes. prereq: Graduate status or instructor consent

**CE 5115. Structural Dynamics.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Response of single degree-of-freedom and multiple degree of freedom systems to vibrations, earthquakes, blast and impact. prereq: 3115 or grad student

**CE 5116. Seismic Design and Analysis.** (3 cr. ; A-F or Audit; Every Fall)

This course focuses on characterizing seismic hazards, analyzing structural systems under seismic loading, and designing structural systems to resist earthquakes. Topics include characterization of seismic hazards, simplified modal and lateral force analysis procedures, and application of seismic building code provisions. prereq: CE 4115, 4126 and pre or co-enrolled in CE 5115

**CE 5127. Bridge Analysis and Design.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course will present AASHTO LRFD based highway bridge analysis, design and evaluation. prereq: CE 4115 and CE 4128 or Grad student

**CE 5128. Prestressed Concrete Structures.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Design and behavior of prestressed concrete structures: materials and systems (including

specifics for precast and post-tensioned members), losses, flexure, shear, bond, deflections, partial prestressing, continuous beams. prereq: CE 4126 or grad student

**CE 5129. Post-Tensioned Concrete Structures.** (3 cr. ; A-F or Audit; Spring Odd Year)

This course covers analysis and design of post-tensioned concrete members including mono-strand unbonded systems, grouted multi-strand systems, and post-tensioning as a rehabilitation technique. Design for safety, durability, and economy are included for each type of system following the ACI 318 Building Code as well as post-tensioning specific publications. Anchorage design and strut-and-tie models are covered, and post-tensioned bridges are also discussed. pre-req: CE 4128 or 5128 or equivalent with instructor consent

**CE 5134. Advanced Steel Design.** (3 cr. ; A-F or Audit; Every Fall & Spring)

This course focuses on advanced design of steel structures. Topics covered in this course include: steel members subjected to torsion, bolted and welded steel connections, braced frames with gusset plate connections, stability of steel frames, steel plate girders, and fatigue and fracture. pre-req: CE 4115

**CE 5135. Advanced Reinforced Concrete Design.** (3 cr. ; A-F or Audit; Every Spring)

This course focuses on advanced design of concrete structures, with some applications for steel-concrete composite systems. Topics covered in this course include: slender concrete columns, development length of reinforcement, two-way slabs, torsion in concrete, and steel-concrete composite systems. pre-req: CE 4126

**CE 5136. Structural Systems.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Building codes, design loads, computerized structural analysis and design, gravity and lateral system analysis and design, structural system descriptions and selection considerations, and structural contract documents. pre-req : CE 4115 and 4126 or CE grad student

**CE 5137. Advanced Structural Analysis and Design.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Advanced topics in both structural analysis and design. Topics include: matrix analysis, introduction to finite elements, design of prestressed concrete, design of two way concrete slabs, and design of steel plate girders. prereq: 4115, 4126; grad student

**CE 5201. Water Policy.** (3 cr. ; A-F or Audit; Every Fall)

Socio-cultural, legal, and economic factors that affect water resources management. historical trends in water policy, resulting water laws in the United States. Federal, state and local institutional structures for water management. prereq: graduate student or instructor consent

**CE 5203. Stream Crossing and Culvert Design.** (3 cr. ; A-F or Audit; Fall Odd Year)

Overview of road-stream crossing design with emphasis on stream simulation for

aquatic organism passage. Includes field data collection, analysis, and design of road-stream crossings, and traditional culvert hydraulic analysis and design. Meets concurrently with 2 cr. GEOL course (GEOL 5603) that excludes culvert hydraulic analysis and design. pre-req: CE 3225 or grad student; instructor consent

**CE 5216. Applications in Environmental Modeling.** (3 cr. ; A-F or Audit; Periodic Spring)

Theory and application of environmental chemodynamics. Transport processes and equilibrium across natural phases including water, air, and soil using analytical and numerical modeling approaches. Economic and reliability analysis for hydrosystems using linear and non-linear programming with applications to water supply and water excess engineering. prereq: graduate status or instructor consent

**CE 5226. Water Resources Engineering.** (3 cr. ; A-F or Audit; Every Spring)

Application of engineering economics, risk analysis, and operations research to the planning and management of water systems; major topics include flood control, hydroelectric power, water supply, multiobjective planning, sustainability and climate change. prereq: 3225, grad student

**CE 5237. Water Quality Engineering.** (3 cr. ; A-F or Audit; Every Fall)

Applied analysis of water quality in natural systems. Review of mass-transport processes and approaches for solving water quality problems in lakes, estuaries, rivers, groundwater, and soil-sediment with TMDL (Total Maximum Daily Load) and remediation design applications. Applications in water and wastewater treatment. prereq: 3025 or CHE 2001 or grad student or instructor consent

**CE 5241. Water Chemistry.** (3 cr. ; A-F or Audit; Every Fall)

Water is critical component of environmental systems, and the chemistry that occurs in water is a rich subject. This class focuses on water chemistry in both natural and engineered systems. Topics include a review of thermodynamics and equilibrium, acids and bases, titrations, the carbonate system, solubility of minerals, metal ion complexation, oxidation/reduction chemistry, and descriptions of adsorption. Principles are applied to chemistry in water treatment, nutrient cycling, organic matter, and organic pollutants. Both chemical equilibrium and chemical kinetics are explored. Students will be introduced to software that can be used to solve water chemistry problems. The class is targeted at seniors and graduate students. pre-req: CE 3025 or CHEM 1155, or graduate student or instructor consent

**CE 5246. Environmental Remediation Technologies.** (3 cr. ; A-F or Audit; Spring Odd Year)

The course examines the principal applications and limitations of technologies designed for source control and removal of contaminants from soil, groundwater, and surface water. Topics include: introduction to hazardous waste, contaminant characteristics, a review

of mass transport, partitioning and fate of contaminants, site characterization/assessment, regulatory requirement, the design and operation of current remediation technologies, advances in technological design, and emerging remediation technologies including biotechnology and nanotechnology. pre-req: CE, WRS, IBS graduate students or instructor consent

**CE 5251. Design of Chemical Physical Unit Operations in Water Treatment.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Detailed design of chemical/physical unit operations in municipal water treatment. Classic surface water treatment, ion exchange, activated carbon, membrane systems, and chlorination will be covered at a design level. Labs will provide pilot scale experience with selected unit operations. prereq: 4256 or instructor consent

**CE 5315. Design of Traffic Systems.** (; 3 cr. ; A-F or Audit; Every Spring)

This course provides an in-depth knowledge of design principles and methodologies for traffic control systems to optimize operational efficiency and safety of traffic flows. The theories of traffic flow modeling, simulation and control are introduced as the basis for designing traffic systems. The process to analyze traffic systems performance is applied with computer-based tools. The design methodologies for traffic control systems for arterials and freeways are discussed and applied to real roadways in a simulated environment. A process to assess the effectiveness of design strategies on different types of highways is evaluated and applied to sample corridors. prereq: 3316 or grad student

**CE 5316. Pavement Analysis and Design.** (3 cr. ; A-F or Audit; Every Fall)

Analysis, behavior, performance, and structural design of pavements for highways and airfields will be discussed. Prominent pavement distress mechanisms, their causes, and remedial measures will be presented. Other topics include climate factors, rehabilitation, sustainability, and renewability in pavement engineering, life cycle design economics, and traffic loadings. prereq: 3027, 3316; grad student

**CE 5317. Traffic Flow Theory and Modeling.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Vehicle detection and traffic data collection methods. Measure for traffic system effectiveness, drive behavior theory, and microscopic modeling. Macroscopic traffic flow theory and modeling methodologies, simulation models and optimal calibration methods. Application of simulation models. prereq: 4315 or grad student

**CE 5318. Pavement Maintenance, Rehabilitation, and Management.** (; 3 cr. ; A-F or Audit; Periodic Fall)

Students will learn to evaluate the existing condition of the pavements, designing and selecting the appropriate rehabilitation strategy. Broadly, this course will include (i) assessment of the functional and structural conditions of pavements, (ii) pavement maintenance,

repair and rehabilitation techniques, (iii) design of overlays, (iv) life cycle cost analysis of pavement overlays, and (v) introduction to pavement management. Different software such as BAKFAA, AASHTOW are Pavement ME Design, DRIP, BCOA-ME and MnPAVE will be utilized, wherever applicable. prereq: 3027, 3316 or CE graduate student

**CE 5320. Advanced Pavement Materials, Design and Construction.** (3 cr. ; A-F or Audit; Periodic Fall)

This course contains both lecture and lab classes. In the lecture class, students will learn the following: (i) mixture design procedures for concrete and asphalt pavements with and without the application of recycled materials; (ii) mechanistic design of pavement using 'MnPAVE' and 'AASHTOW are Pavement ME Design' procedures, and (iii) pavement construction procedures. In the laboratory class, students will learn the following: (i) perform the mixture design for asphalt and concrete pavement materials for a real-world pavement project, (ii) conduct performance tests on the samples prepared with their own mixture designs, and (iii) participate field trips to monitor recent trends in the material mixture design and pavement construction procedures. Students will prepare a project report and present to the class towards the end of the semester. The lab report and project report will be a group work. Students will need to interact with the experts from the pavement industry for completing the project report. This course will also be offered as 4320; the student taking this course as CE 5320 will need to do more homework assignments than those who are taking it as CE 4320. pre-req: CE 3027

**CE 5326. Highway Planning and Design.** (3 cr. ; A-F or Audit; Every Fall)

This course aims to provide an in-depth knowledge on highway network planning and design methodologies. Current planning and design methods for roadways will be introduced and used for class projects. The potential interrelationship between design parameters and traffic operation/safety will also be introduced for each design element. prereq: 3316 or graduate student

**CE 5420. Advanced Soil Mechanics.** (3 cr. ; A-F or Audit; Spring Odd Year)

This course will cover advanced topics related to the behavior of cohesive and cohesionless soils. Topics to be covered include: stress and strength concepts; measurement devices; shear strength of sands, gravels, and rockfills; shear strength of saturated clay; and shear strength of silts. Will require development of graduate project level project, in addition to the undergraduate level requirements of the course. prereq: 3426, 4415 (concurrent registration is acceptable) or CE graduate student

**CE 5421. Applied Geostatistics.** (3 cr. ; A-F or Audit; Spring Even Year)

The course teaches theoretical and practical aspects of geostatistics; with primary focus on analysis of information gathered in site investigations for civil engineering projects, although the concepts taught in the course also

have direct application in economic geology and ore-mining investigations. Theoretical aspects of the course center on description and modeling of spatial variability and interpolation attributes of interest at unsampled locations; they also focus on sampling design and incorporation of different types of information (continuous, categorical) in geostatistical prediction. Practical implementation of concepts taught involves use of geostatistical packages in the software R and Matlab (also commercial software packages commonly used in the civil and mining engineering industry such as ArcGIS, Vulcan, etc., will be addressed.) Will require development of a graduate level project, in addition to the undergraduate level requirements of the course. prereq: MATH 1297 or STAT 2411 or 3411 or CE graduate student

**CE 5422. Numerical Modeling in Geotechnical Engineering.** (3 cr. ; A-F or Audit; Spring Even Year)

This course covers theoretical and practical aspects of numerical modeling of problems in geotechnical engineering, using the finite element and finite difference methods, as implemented in commercial packages such as Abaqus and FLAC. The emphasis is on the solution of typical soil mechanics and geotechnical design problems. These include determining stresses in soils; solving shallow and deep foundation problems; seepage and consolidation problems; lateral earth pressure, retaining wall and slope stability problems; and seismic wave propagation in soils. Will require development of a graduate level project in addition to the undergraduate level requirements of the course. prereq: 3426 or CE Graduate Student or instructor consent

**CE 5426. Rock Mechanics.** (3 cr. ; A-F or Audit; Every Fall)

Study of rock as an engineering material, including physical and mechanical characterization of intact rock and rock masses as they relate to civil and mining engineering applications. This also includes the study of effect of jointing and water in a rock mass, foundations of civil and mining engineering structures in rock, stability of cuts in rock, and excavation and support of surface and underground and openings in rock. prereq: 3426, Grad Student

**CE 5515. Sustainable Design and Construction (SUSTAIN).** (3 cr. ; A-F or Audit; Every Spring)

Introduction to sustainable design and construction including LEED, materials, construction/transportation/production, life-cycle/service, rating systems, codes, regulations, economical issues and social issues. prereq: BSCE or BSCE or BSECE or BSIE or BSME or Grad student and instructor consent; meets DLE req of Sustainability

**CE 5525. Decision, Risk and Reliability.** (3 cr. ; A-F or Audit; Periodic Spring)

An introduction to modeling uncertainty in engineering applications. Tools for risk based design and decision making including uncertainty modeling and decision analysis applied to civil engineering systems pre-

req: STAT 3411 or grad student or instructor consent

**CE 5545. Design of Structures with Advanced Materials.** (3 cr. ; A-F or Audit; Every Fall)

This course focuses on the design of structures utilizing advanced materials such as composites and polymeric materials. Topics covered in this course include: Material properties of composites, polymers, and other advanced materials; Mechanical properties of composites, polymers, and other advanced materials; Accounting for creep and stress relaxation in design; Design of various structures with advanced materials including pipes, chambers, and other buried structures. pre-req: CE 3027

**CE 5555. Project Credits: Master of Engineering (Civil).** (3-6 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Master of Engineering project work as determined by faculty advisor and student with approval by the department director of graduate studies. prereq: Civil Engineering MEng Student

**CE 5991. Graduate Independent Study in Civil Engineering.** (1-12 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Directed study of special interest topics not available in the standard curriculum. Must be arranged with instructor before registration. May include readings, research and/or special project. prereq: CE MEng candidate, instructor consent

**CE 5995. Special Topics in Civil Engineering:(Various Titles to be Assigned).** (1-4 cr. [max 12 cr.] ; A-F or Audit; Periodic Fall & Spring)

Topics not available in the regular department curriculum. Topics may include specialties of the department or visiting faculty. prereq: grad student

**CE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Classics (CLAS)

**CLAS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CLAS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CLAS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CLAS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CLAS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Clinical Sciences (CLSC)

**CLSC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CLSC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CLSC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CLSC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CLSC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Coaching (CC)

**CC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CC 317. Functional Anatomy and Sport Injury Management.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Functional anatomy, care and prevention of sport injuries, emergency care and external support application. Principles and techniques appropriate for coaches, recreational personnel, pre-professional physical therapists and nurses. prereq: Coaching minor or instructor consent

**CC 3150. Coaching Methods.** (3 cr. ; A-F or Audit; Every Fall & Summer)  
Study and application of educational methods in an athletic setting. Skill development, learning styles, communication skills, technology skills and practice development as it pertains to sport. prereq: Coaching minor or instructor consent

**CC 3160. Psychological Aspects of Coaching and Athletic Performance.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Psychological techniques and interventions to enhance athletic performance. Emphasizes the implementation of mental skills that enhance athletic performance into sport practice by the coach and/or athlete. prereq: Coaching minor or instructor consent

**CC 3161. Administrative Aspects of Coaching.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Examines state governing organizations, budgeting, scheduling, insurance, contest administration, and public relations procedures in athletic programs. prereq: Coaching minor or instructor consent

**CC 3170. Coaching and Officiating Football.** (2 cr. ; A-F or Audit; Periodic Spring)  
Systems of offense and defense, strategy, and methods of organizing practices and working with team members. prereq: Coaching minor or instructor consent

**CC 3171. Coaching and Officiating Basketball.** (2 cr. ; A-F or Audit; Periodic Fall)  
Fundamentals, styles of offense and defense, training suggestions. prereq: Coaching minor or instructor consent

**CC 3172. Coaching and Officiating Volleyball.** (2 cr. ; A-F or Audit; Periodic Spring)  
Coaching and officiating offenses and defenses; conditioning programs; coaching and officiating philosophies. prereq: Coaching minor or instructor consent

**CC 3178. Coaching and Officiating Track and Field.** (2 cr. ; A-F or Audit; Periodic Spring)  
Fundamentals, mechanical analysis of events, training techniques and strategies. prereq: Coaching minor or instructor consent

**CC 3179. Coaching and Officiating Softball.** (2 cr. ; A-F or Audit; Periodic Spring)  
Fundamentals, practice sessions, training techniques, and offensive and defensive strategies. prereq: Coaching minor or instructor consent

**CC 3991. Independent Study.** (1-4 cr. ; A-F or Audit; Every Fall & Spring)  
A coaching methods experience. Directed individual study must be arranged with the instructor before registration. prereq: Coaching minor and instructor consent

**CC 3997. Coaching Practicum.** (2 cr. ; S-N only; Every Fall, Spring & Summer)  
Supervised coaching in a school or agency setting. Coaching practicum must be arranged with the instructor before registration. prereq: completed all required Coaching minor courses or in progress and instructor consent

**CC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Cognitive Science (COG)

**COG 3195. Special Topics in Cognitive Science:(Various Titles to be Assigned).** (; 3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall & Spring)  
Selected topics that fall outside currently offered courses. Topic announced before course offered. pre-req: PHIL 1025

**COG 4900. Cognitive Science Seminar.** (4 cr. ; A-F or Audit; Every Spring)  
A detailed examination of a topic from Cognitive Science that will be explored using the theories, resources, and methods of multiple disciplines from within Cognitive Science. Examples of possible topics include: language, perception, consciousness, artificial intelligence, and reasoning. pre-req: PHIL 1025

## College Level Transfer (TRAN)

**TRAN 1999X. College Lvl Transfer UMD.** (0-999 cr. ; Transfer Grading Basis; )  
College Lvl Transfer UMD

**TRAN 2999X. College Lvl Transfer UMD.** (0-999 cr. ; Transfer Grading Basis; )  
College Lvl Transfer UMD

**TRAN 3999X. College Lvl Transfer UMD.** (0-999 cr. ; Transfer Grading Basis; )  
College Lvl Transfer UMD

**TRAN 4999X. College Lvl Transfer UMD.** (0-999 cr. ; Transfer Grading Basis; )  
College Lvl Transfer UMD

**TRAN 5999X. College Lvl Transfer UMD.** (0-999 cr. ; Transfer Grading Basis; )  
College Lvl Transfer UMD

## College of Liberal Arts (CLA)

**CLA 1199. Applied Leader(ship) Practicum.** (1-3 cr. ; S-N only; Every Summer)  
Course for student leaders working with the UMD welcome week program. For more information, please contact Emily Borra at ekborra@d.umn.edu.' prereq: instructor consent

**CLA 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CLA 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CLA 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CLA 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CLA 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Communication (COMM)

**COMM 1000. Human Communication Theory.** (SOC SCI; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to fundamental concepts, models, and theories of human communication. Issues concerning verbal and nonverbal symbolic processes, language and meaning, and the relationship between communication and understanding. Communication processes and problems in various contexts.

**COMM 1010. Persuasion.** (SOC SCI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Introduction to the analysis of social scientific persuasion techniques used to influence attitudes, perceptions, knowledge, and behavior of others in society.

**COMM 1112. Public Speaking.** (COMM & LAN; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Application of the theoretical bases of rhetoric to the public speaking situation.

**COMM 1222. Interpersonal Communication.** (COMM & LAN; 3 cr. ; A-F or Audit; Every Fall & Spring)



Analysis of the role communication plays in interpersonal relationships.

**COMM 1500. Media and Society.**

(HUMANITIES; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Historical survey of media genres, and examination of influence of contemporary media on society.

**COMM 1511. Honors: Public Speaking.**

(COMM & LAN; 3 cr. ; A-F only; Periodic Fall & Spring)  
Application of the theoretical bases of rhetoric to the public speaking situation. prereq: Honors student

**COMM 1600. Argumentation and Debate: A Practical Approach.** (LOGIC & QR; 3 cr. ; A-F or Audit; Every Fall & Spring)

Utilizes a symbolic action approach to introduce the theory and practice of argumentation, particularly within practical contexts; aiming at the related goals of making students more effective arguers, more critical consumers of arguments, and more critical thinkers generally.

**COMM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COMM 2025. Communication Inquiry: Rhetorical and Historical Methods.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Exploration/survey of rhetorical and historical approaches to understanding the role that communication plays in social influence. prereq: Communication major, minimum 30 credits

**COMM 2030. Communication Inquiry: Social Scientific Methods.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to social scientific inquiry related to the study of communication, and will provide an overview of research methods and an introduction to statistics. prereq: Comm major, minimum 30 credits

**COMM 2101. Foundations of Mass Communication.** (SOC SCI; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Theories, research, regulation, and ethical concerns surrounding contemporary mass media. Identifies U.S. media's role within the international marketplace. Survey of contemporary media content, industry structures, technology, and delivery systems.

**COMM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COMM 3115. Persuasion and Argumentation in Public Speaking.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Advanced theories. Developing persuasive strategies, carefully managing logical and argumentational structures within the speech, and fostering critical thinking tools in creation, analysis, and evaluation of persuasive speech. prereq: 1112 or 1511

**COMM 3116. Professional Communication.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Theory and practice of communication skills related to the workplace. Skill development in presentational speaking and vocational interviewing.

**COMM 3200. Interpersonal Communication Theory.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Role of communication in developing, maintaining, and changing personal relationships. prereq: 1000 or 1222

**COMM 3205. Relationship Communication.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study of advanced interpersonal communication skills in context of family and gender issues. prereq: 1222

**COMM 3210. Group Communication.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Small group approaches to problem management. Useful for anyone intending to participate in decision-making groups. prereq: Minimum 30 credit, communication major or minor or instructor consent

**COMM 3211. Communication and Technology in the Information Age.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Explores communication technologies in the information society; introduces students to new technologies used in contemporary organizations; explores implications of those technologies for human communication; and provides hands-on experience within a theoretical framework.

**COMM 3215. Conflict Management.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Application of interpersonal conflict management theory and skills to small group, organizational, and community conflicts.

**COMM 3223. Communication and Creativity.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Examines the relationship between communication and creative processes in an array of contexts, including artistic, professional, social, interpersonal and civic arenas. Content includes techniques of deliberate creativity; analysis of cognitive theory as it relates to creativity, addressing both "rational" (critical) and "non-rational" (intuitive) approaches to risk-taking and exploration. prereq: Minimum 30 credits or instructor consent

**COMM 3225. Listening Across Difference.** (; 3 cr. ; A-F or Audit; Periodic Spring)

Examines the art and science of listening strategies across different contexts, including relational, rhetorical, and digital situations. Review, analysis, evaluation, and development of listening approaches and skills to constitutively create better social worlds.

**COMM 3230. Mindful Communication.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Mindfulness consists of the capacity to maintain present-centered, nonjudgmental, awareness in everyday life. This discussion and application-based course covers theoretical and practical implications

associated with the use of mindfulness techniques for intrapersonal and interpersonal communication. Students have the opportunity to implement mindfulness practices throughout the semester as an experiential way of observing how mindfulness enhances self- and relational well-being via an enhanced ability to communicate effectively across a variety of contexts.

**COMM 3270. Emotion and Relationships.**

(; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
This course examines the impact that emotion has on relationship processes and outcomes. Students will be introduced to the history of emotion, how emotion is measured, and the ways in which emotion facilitates/hinders relational development, decision-making, maintenance, and dissolution.

**COMM 3295. Special Topics: Interpersonal Communication.** (; 3 cr. [max 12 cr.]; A-F only; Periodic Fall & Spring)

Interpersonal communication topics not included in regular curriculum.

**COMM 3300. Teaching Assistantship in Communication.** (1-3 cr. [max 6 cr.]; S-N only; Every Fall, Spring & Summer)

Practical experience in teaching beginning courses in the department. Students serve as intern teachers assisting the instructor in administration of the course. prereq: instructor consent

**COMM 3310. Research Assistant in Communication.** (; 1-6 cr. ; S-N only; Every Fall, Spring & Summer)

Practical experience in assisting communication faculty in ongoing research projects. prereq: instructor consent

**COMM 3330. Communicating Difference.** (; 3 cr. ; A-F or Audit; Periodic Fall & Summer)

This course provides an overview of how identity and social difference in the United States are constructed with respect to: gender, race, social class, sexuality, nationality, ability, and age. Dominant ways of thinking, also known as ideologies, shape our everyday thoughts, behaviors, environments, and lived realities. These ideologies shape who we are, how we think about others, how others think about us, as well as our social and physical environments. By the completion of the course students will demonstrate a knowledge and understanding of key concepts relevant to social identity in the United States, be able to engage in personal reflection and political analysis of privilege, power, and marginality, as well as use appropriate language to articulate complex issues surrounding social differences.

**COMM 3395. Special Topics: (Various Titles to be Assigned).** (; 3 cr. [max 15 cr.]; A-F or Audit; Periodic Spring)

Topics not included in regular curriculum.

**COMM 3400. Health Communication.** (; 3 cr. ; A-F only; Every Fall & Spring)

Survey course examines the critical role communication plays in health promotion, specifically in the area of doctor-patient interaction and health campaigns. Important



communicative issues such as the social construction of health, the role of culture in health and healing, health disparities, media literacy, and social support are addressed.

**COMM 3405. Health Campaigns.** (; 3 cr. ; A-F or Audit; Every Spring)

Survey course examines how individual and community models of health behavior change are used to design, implement, and evaluate campaigns that promote healthy behaviors and reduce high-risk health behaviors.

**COMM 3505. Media Communications.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Survey of journalistic, critical, public relations and advertising writing techniques. Students write radio essays, newsletter articles, news stories, press releases. They also prepare communication strategies for a mini advertising campaign, write a movie review and develop a feature article for a newspaper. prereq: WRIT 1120

**COMM 3510. Ethics in Human**

**Communication.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Examination of the recurring ethical questions faced by people as we communicate both in interpersonal/non-professional contexts and as practitioners in communication professions. prereq: 1112 or 1511

**COMM 3515. Communication and Popular Culture.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Critical examination of the relationships between communication and popular culture focusing on the products of various mass media (films, music recording, television shows, comic books, etc.).

**COMM 3520. Media Effects.** (SOC SCI; 3 cr. ; A-F only; Every Fall & Spring)

Theory and research on the effects of media. Topics include media violence effects, sexual media content, fight reactions to media, news and political content effects, the impact of stereotyping, advertising effects, and the impact of new media technologies. prereq: credit will not be granted if already received for COMM 2102

**COMM 3525. Deciding What's News.** (; 3 cr. ;

A-F or Audit; Every Fall, Spring & Summer) Review history of news in the United States, examine definitions of news, engage in critical evaluations of news in its various genres (news magazines, infotainment, investigative journalism, checkbook journalism, tabloid journalism, etc.).

**COMM 3530. Dark Side of Media and**

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

While various media and technologies have made some significant positive contributions to modern society, some have chosen to use them as tools for dark purposes. This course was designed to investigate how certain uses of media and technology lead to unfortunate outcomes. These outcomes are grouped around 1) Commodification, 2) Exploitation, 3) Threats to individual health and privacy, and 4) Threats to Democracy

**COMM 3535. Intercultural Communication.**

(CDIVERSITY; 4 cr. ; Student Option; Every Fall, Spring & Summer)

This is a skills course in which students learn how to engage in effective intercultural communication and relationships. Students apply what they are learning by participating in intercultural communication with classmates from a wide variety of cultures. Students learn about variations in cultural practices and values and how social, political and economic forces have both been influenced by and influence those cultures. prereq: credit will not be granted if already received for 2929

**COMM 3540. Media in Africa.** (; 3 cr. ; A-F or Audit; Periodic Fall)

This course examines a range of related topics and themes about media in Africa. The course provides a wide-ranging inquiry into the role played by the media in Africa's social, economic, and political development. The aim of this course is to develop conceptual and theoretical tools that ground informed discussions of the media in Africa.

**COMM 3550. Children and Media.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Theory and research on the impact of media on children.

**COMM 3555. Mass Media Addiction.** (; 3 cr. ; A-F or Audit; Periodic Summer)

Examines the research and theory related to the social, psychological, and communicative rationales for becoming addicted to the mass media, centering on tele-visual media, including the internet.

**COMM 3560. Video Game Entertainment.** (; 3 cr. ; A-F or Audit; Every Fall & Summer)

Research and theory on video games, including work on content, uses, and effects. Overviews of game history, industry economics, design, and policy. Hands-on exposure to game technologies. Information about careers in video games.

**COMM 3570. Telling Stories about the Holocaust using Memoir and Testimony.** (;

3 cr. ; A-F or Audit; Every Fall & Spring) This course uses Holocaust testimonies and memoirs as the means by which to learn about the Holocaust. We will look at noteworthy documentaries as an additional frame of reference. We will relay on these records by and about targets/victims/survivors and participant/perpetrators in an effort to understand how the Holocaust came about and how it influenced the rest of the twentieth century as well as the twenty-first century.

**COMM 3575. Jews & Poles: Entangled Lives, Cultures and Memories in the 20th Century Poland - Study Abroad.** (GLOBAL

PER; 4 cr. ; A-F only; Periodic Summer) Study aboard in Poland. This course focuses on the history, experience and memory of Jewish life in Poland. One of the focuses of the course will be the experience of discrimination and the history of the Holocaust in Poland. However, the course will also examine the ways in which both Poles and Jews contributed to and engaged in a rich cultural, social and

economic life in communities across the region and, in some cases, continued to do so today. The course will consider the history and legacies of the co-existence, interdependence, entangle between Poles, Jews, and other minority populations in this diverse geographic space. We will also explore the contentious contemporary debates over the politics of commemoration of Holocaust sites and Jewish life in Poland today. Pre-req: minimum 30 credits, instructor consent; admission to an approved study abroad program requires consent from the International Programs and Services Office

**COMM 3580. Eastern Europe during the Holocaust: A Virtual Experience.** (; 4 cr. ; A-F or Audit; Summer Odd Year)

This course will introduce students to the history and memory of the Holocaust in Eastern Europe. Students will explore Jewish life in Hungary, Romania and Poland (including what is now Ukraine, Lithuania and Belarus) during the interwar period and the changes wrought by Nazi occupation. It will also consider the ways in which narratives about the Holocaust have been crafted across Eastern Europe in the decades since. This course emphasizes international engagement through virtual tours, story mapping, and guest lectures. pre-req: minimum 30 credits

**COMM 3595. Special Topics: Media Communication.** (; 3 cr. [max 12 cr.]; A-F only; Periodic Fall & Spring)

Media communication topics not included in regular curriculum

**COMM 3610. Philosophy and Rhetoric.**

(HUMANITIES; 3 cr. ; A-F or Audit; Every Fall) Introduction to the philosophy and history of rhetoric from ancient to modern times, including rhetoric's role in reasoning about values, defining the duties and methods of citizenship, and shaping self-awareness. Aims at a philosophical appreciation of the problem of communication from Babel to the Electronic Age. prereq: credit will not be granted if already received for COMM 1625

**COMM 3612. Rhetorical Criticism.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Survey of approaches to rhetorical analysis of communicative acts, events, and artifacts. prereq: 1112 or 1511, minimum 60 credits

**COMM 3615. Analysis of Public Discourse.**

(; 3 cr. ; A-F or Audit; Every Fall & Spring) Guided historical, critical, and theoretical investigation of public discourse, examining the rhetorical practice manifest in traditional models of public oratory, mass media texts, and messages that address us via new media. Topics and periods vary. prereq: credit will not be granted if already received for COMM 2505

**COMM 3620. Controversy in the Boundary Waters.** (SUSTAIN; 3 cr. ; A-F or Audit; Every Summer)

Considers the rhetorical and political processes conditioning the debate over the Boundary Waters Canoe Area's wilderness designation. Culminates in a class field trip to the BWCA, and a group project pertaining to contemporary environmental rhetoric.

**COMM 3625. Rhetoric of Globalization.**

(GLOBAL PER; 3 cr. ; A-F only; Periodic Fall, Spring &amp; Summer)

Study and reflection of global civil society, with special focus on the ways that new and changing forms of communication have altered the meaning of a democratic press, civic participation, human rights and shared experience. prereq: 1112

**COMM 3695. Special Topics: Rhetoric Communication.**

( ; 3 cr. [max 12 cr.] ; A-F only; Periodic Fall &amp; Spring)

Rhetoric topics not included in regular curriculum.

**COMM 3700. Interpersonal Influence.**

( ; 3 cr. ; A-F or Audit; Every Fall &amp; Spring)

Review of social scientific theories and research on person-to-person persuasion techniques used to influence attitudes, perceptions, knowledge, and behavior of others. Focus is on theoretical processes and effects on individuals and society in a variety of contexts.

**COMM 3800. Community Empowerment in South India - Study Abroad.**

(GLOBAL PER; 4 cr. ; A-F only; Periodic Summer)

This course will take students to Bangalore, India where they will learn about the history and culture of India and examine processes of social change. Bangalore has grown tremendously in recent years as the city has become the center of India's high-tech economy. However, the benefits of this growth have not been equally distributed: slums that house millions of the city's poorest residents are located alongside gleaming new office towers and shopping malls. In this course, students will examine the causes of these disparities and learn how disenfranchised groups such as women, lower caste members, tribal communities, and religious minorities are advocating for their social and economic rights. Students will be challenged to think about how realities in India mirror realities in the United States today, and how they too can become agents of change in their communities. prereq: minimum 3.0 GPA, 30 credits, & instructor consent; admission to an approved study abroad program requires consent from the International Programs and Services Office

**COMM 3999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**COMM 4100. Ecological Communication.**

( ; 3 cr. ; A-F only; Periodic Fall)

An advanced seminar on the dynamic relationship between ecology and communication. This course considers the impact that human communication has on ecological systems as well as the implications of ecological thinking for the study of human communication; explore human and other-than-human modes of communication; and provides opportunities to interrogate ecological communication practices in northeastern Minnesota.

**COMM 4210. Theories of Intercultural****Communication.** ( ; 3 cr. ; A-F or Audit; Every Fall & Spring)

Study major theories and concepts of intercultural communication, including national, racial, and ethnic similarities and differences in communication practices; cultural beliefs and values; issues of identity, power, conflict, and control.

**COMM 4220. Interpersonal Communication & Health Outcomes.**

( ; 3 cr. ; A-F or Audit; Every Fall &amp; Spring)

This course explores how interpersonal communication choices can impact physical and health outcomes, how physical and psychological states can influence our communication tendencies, and what therapeutic practices currently exist to enhance interpersonal relationships.

**COMM 4394. Directed Research in****Communication.** (1-6 cr. [max 36 cr.] ; A-F only; Every Fall, Spring & Summer)

Individual research project, written under the supervision of a regular faculty member, to result in a research paper. prereq: instructor consent

**COMM 4397. Internship in Communication.**

(1-8 cr. ; S-N only; Every Fall, Spring &amp; Summer)

Students work in pre-approved program with a public agency, private organization, or other service agency; work must be in specific area of communication. prereq: instructor consent; no grad credit

**COMM 4399. Directed Projects in****Communication.** (1-6 cr. ; S-N only; Every Fall, Spring & Summer)

Individual projects in the communication discipline, undertaken under the supervision of a regular faculty member. prereq: instructor consent; no grad credit

**COMM 4500. History of Rhetoric.**

( ; 3 cr. ; A-F or Audit; Periodic Fall &amp; Spring)

Rhetoric has a long and storied history. This course surveys that rich history from ancient to contemporary times. The course aims at developing understanding of key figures, events, and concepts in rhetoric's history to reflect on the role that all kinds of symbolic action play in the lives of societies, polities, and individuals. Together we will examine enduring philosophical issues in the study of public argument. Students will gain practical tools for understanding public communication and the analysis of rhetorical texts.

**COMM 4505. Media Theory and Research.**

( ; 3 cr. ; A-F or Audit; Every Fall &amp; Spring)

Theoretical concepts and research perspectives currently used to understand intricacies of a mediated society. Introduction and application of basic research methods to study questions concerning impact of media on society and individuals.

**COMM 4999. Seminar.**

( ; 3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring &amp; Summer)

Advanced study for communication students and individuals on a selected topic or theme in communication. Students must have completed the following courses with a C or better: COMM 1000, 1112 or 1115, 2025, 2030. Also, students must have completed 90 credits and have a declared Communication major. These

requirements will be verified by the department prior to every term. pre-req: instructor consent

**COMM 4999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**COMM 5391. Independent Study in****Communication.** (1-6 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Individual research project written under supervision of communication graduate examining faculty member, to result in a research project. pre-req: instructor consent

**COMM 5999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**Communication Disorders (CD)****CD 1999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**CD 2999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**CD 3999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**CD 4999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**CD 5999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**Communication Sci/Disorders (CSD)****CSD 1100. Phonetics.**

( ; 2 cr. ; A-F only; Every Spring &amp; Summer)

Study and practice of International Phonetic Alphabet. English and non-English speech sounds as they occur separately and in connected speech. Variations in speech production as related to regional and/or class distinctions.

**CSD 1999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**CSD 2230. Introduction to Human****Communication Disorders.** (SOC SCI,CDIVERSITY; 3 cr. ; Student Option; Every Fall, Spring & Summer)

Receptive and expressive human communication disorders. Importance of communication to human behavior; influence that communication disorders exert on broad spectrum of human activities. Professional roles and responsibilities of speech-language pathologists and audiologists.

**CSD 2400. Clinical Observation of****Communication Disorders.** ( ; 1 cr. ; A-F or Audit; Every Fall & Summer)

All undergraduate students majoring in Communication Sciences and Disorders are expected to complete 25 hours of clinical observation prior to enrollment in clinical practicum. These observations may be live or

video recorded sessions that occur in a variety of clinical settings. This course will provide students with an opportunity to observe the assessment and treatment of individuals with communication disorders that encompass all ages and across the big nine categories of communication disorders. prereq: 2230 or instructor consent

**CSD 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CSD 3010. Introductory Statistics for the Behavioral Sciences.** (; 3 cr. ; A-F or Audit; Every Fall)

Descriptive statistics; sampling techniques and statistical inference; applications of simple and factorial design; analysis of variance; nonparametric statistics; and introductory correlational analysis used in the behavioral sciences. prereq: CSD candidate or non-CSD candidate with a minimum of 60 credits and instructor consent or instructor consent; credit will not be granted if already received for CSD 4000

**CSD 3103. Anatomy of Speech and Hearing Mechanisms.** (; 3 cr. ; A-F only; Every Fall)  
Anatomy and physiology as they relate to hearing and speech processes including respiration, phonation, and articulation. prereq: CSD candidate or instructor consent

**CSD 3130. Language Development and Disorders.** (; 4 cr. ; A-F only; Every Summer)  
Normal processes of language development in children. Incidence, etiology, diagnosis, and intervention strategies for children with language disorders. prereq: Admitted to UECH program, or instructor consent

**CSD 3131. Language Development.** (; 4 cr. ; A-F or Audit; Every Fall)  
Emphasis on the acquisition and development of language, verbal and nonverbal, as children learn to communicate effectively by selecting the most appropriate communication strategies. prereq: CSD candidate or instructor consent

**CSD 3150. Fundamentals and Clinical Applications of Speech Science.** (; 3 cr. ; A-F or Audit; Every Fall)  
Basic principles of speech science including, acoustic characteristics of speech; physiology of respiration, phonation, and resonance; and theories of speech perception and production. Clinical and research applications of speech science will also be discussed. prereq: CSD candidate or instructor consent

**CSD 3160. Fundamentals of Hearing Science.** (; 3 cr. ; A-F only; Every Spring)  
Introductory study of acoustics and psychoacoustics. prereq: 3103, CSD candidate or instructor consent

**CSD 3200. Articulation and Phonological Disorders.** (; 3 cr. ; A-F only; Every Spring)  
Differential diagnosis, assessment, and treatment considerations for articulation and phonological disorders. Outside observation required. prereq: 1100, CSD candidate or instructor consent

**CSD 3232. Language Disorders.** (; 3 cr. ; A-F or Audit; Every Spring)

Focuses on the functional applications in the assessment and intervention of language disorders including a review of the various formal and informal assessment tools, and the approaches to language intervention. prereq: 3131, CSD candidate or instructor consent

**CSD 3241. Foundations of Treatment in Communication Disorders I.** (; 3 cr. ; A-F or Audit; Every Fall)

Focuses on foundational principals of treatment, applicable to a variety of communication disorders. prereq: 3103, 3131, 3150, 3200, CSD candidate or instructor consent

**CSD 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CSD 4097. Introduction to Clinical Practicum in Communication Disorders.** (1 cr. ; A-F only; Every Spring)

Clinical practicum with speech, language, and/or hearing impaired persons in an on-campus clinic under supervision of an ASHA-certified speech-language pathologist. (1 hr seminar per wk) prereq: CSD candidate, 4232 and department consent

**CSD 4110. Introduction to Applied Clinical Methods in CSD.** (1 cr. [max 2 cr.] ; A-F or Audit; Every Fall & Spring)

Class includes discussions, demonstrations, and case studies in applying clinical methods. Subject matter complements CSD 4197: Undergraduate Practicum in CSD. prereq: 3241, instructor consent; no grad credit

**CSD 4150. Neuroanatomy and Neurophysiology in Communication Sciences and Disorders.** (3 cr. ; A-F or Audit; Every Spring)

This course covers the neuroanatomy and neurophysiology of the human brain as a foundation for understanding communication and swallowing disorders as well as their diagnosis and treatment. Students will learn about the anatomy of the brain, the basic physiology of nerve cells, the central nervous system, peripheral nervous system and their specific contributions to human cognition, communication, and swallowing functions. prereq: 3103, 3150, 3160 or instructor consent; no grad credit

**CSD 4197. Clinical Practicum in Communication Disorders.** (1 cr. [max 2 cr.] ; A-F only; Every Fall, Spring & Summer)  
Supervised undergraduate clinical practicum in on-campus clinic under supervision of an ASHA-certified speech-language pathologist. prereq: 3241 with C grade or better, CSD candidate or instructor consent, no grad credit

**CSD 4200. Introduction to Fluency Disorders.** (3 cr. ; A-F or Audit; Every Spring)  
Etiologies, characteristics, and development of stuttering and other fluency disorders. prereq: 2230, CSD candidate or instructor consent, no grad credit

**CSD 4241. Foundations of Treatment in Communication Disorders II.** (; 3 cr. ; A-F or Audit; Every Spring)

In this course, students follow a case from assessment through treatment. Focus is on applying research and internal case information for evidence-based practice, clinical decision-making and culturally competent clinical practice. Class includes discussion, demonstrations, and case studies in applying clinical methods. pre-req: CSD 3241; no grad credit

**CSD 4400. Hearing Disorders and Evaluation.** (; 3 cr. ; A-F only; Every Fall)  
Characteristics, development, and etiologies of typical auditory pathologies. Overview of basic hearing assessment and diagnostic techniques. Clinical observation required. prereq: 3103, 3160, CSD candidate or instructor consent

**CSD 4600. Rehabilitative Procedures for the Hard of Hearing.** (; 3 cr. ; A-F or Audit; Every Spring)

Theories, principles and methods regarding historical and current approaches to aural rehabilitation of hard of hearing children and adults. pre-req: CSD 4400 or equivalent, CSD Major or department consent, no grad credit

**CSD 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CSD 5091. Independent Study.** (; 1-3 cr. [max 18 cr.] ; Student Option; Every Fall & Spring)  
Directed study, readings, and/or projects of student interest in communication disorders. prereq: CSD candidate with 90 cr or CSD Grad student

**CSD 5095. Special Topics: (Various Titles to be Assigned).** (; 0.5-3 cr. [max 18 cr.] ; Student Option; Periodic Fall, Spring & Summer)  
Special topics of interest to speech-language pathologists, audiologists, special educators, and related professionals. Workshop and seminar format.

**CSD 5097. Off campus Professional Practicum in Communication Sciences and Disorders.** (2-6 cr. [max 12 cr.] ; A-F or Audit; Every Summer)  
Speech-language pathology practicum in an off-campus setting under an ASHA-certified language pathologist. This experience focuses on special interests of the individual student, and allows for comparison of practice settings to prior clinical experiences. prereq: instructor consent

**CSD 5100. Research Methods in Communication Disorders.** (; 1-3 cr. ; A-F only; Every Fall & Spring)  
Especially designed for new CSD graduate students to introduce them to the research process. Topics will include generating a research question, experimental designs, data collection, analysis, and interpretation, and writing the research paper. Students will conduct a guided class research project and begin their Plan B project. prereq: CSD Grad

**CSD 5142. Introduction to Diagnosis of Communication Disorders.** (; 3 cr. ; A-F or Audit; Every Fall)

General issues of evaluation and diagnosis of communication disorders pertinent to all age groups and disorders. prereq: CSD Graduate or instructor consent; credit will not be granted if already received for 4142

**CSD 5200. Dysphagia.** (; 3 cr. ; A-F only; Every Spring)  
Anatomy and physiology of normal and disordered deglutition. Etiology, diagnosis, and management of swallowing disorders, including head and neck cancer. prereq: CSD grad or instructor consent

**CSD 5205. Pediatric Dysphagia.** (1 cr. ; A-F or Audit; Every Summer)  
Students will learn the anatomy and physiology of normal pediatric swallowing; study etiology, assessment, diagnosis, and management of pediatric swallowing and feeding disorders. prereq: CSD Graduate Student or instructor consent

**CSD 5230. Advanced Applications in Communication Modalities.** (4 cr. ; A-F or Audit; Every Summer)  
Advanced seminar and clinical practicum of augmentative and alternative communication (AAC) systems, assistive technologies and visual communication modalities. The decision-making process for identifying AAC candidates, selecting appropriate communication modality systems and developing effective communication programs and strategies involving visual communication modalities. prereq: CSD grad or instructor consent

**CSD 5250. Seminar in Augmentative and Alternative Communication.** (1 cr. ; A-F only; Every Fall)  
Examines the assessment and treatment issues for speech language pathologists working with individuals requiring augmentative and alternative communication systems. prereq: CSD grad student or instructor consent

**CSD 5260. Seminars in Orofacial Disorders.** (2 cr. ; A-F only; Every Summer)  
This course will focus on the origin and potential effects of craniofacial disorders on an individual's feeding, communication, and psychosocial development. Surgical procedures aimed at repairing craniofacial disorders and at improving velopharyngeal function will be discussed. The role of the speech language pathologist on the interdisciplinary team that cares for the individual with craniofacial disorders will be reviewed. This will include describing the primary responsibilities of the SLP as well as important interactions with other team members. The role of the other team members in the management of care for the individual with craniofacial disorders will also be described. prereq: 3103

**CSD 5301. Language Disorders in Infants, Toddlers, and Preschoolers.** (; 2 cr. ; A-F or Audit; Every Fall)  
Advanced study of language disorders in individuals birth to 6 years old. The course includes an examination of etiology, diagnosis, clinical techniques, and study of relevant research. prereq: CSD grad student or instructor consent

**CSD 5302. Language Disorders in School-Age Children.** (; 2 cr. ; A-F or Audit; Periodic Spring & Summer)  
Advanced study of language disorders in individuals 6 to 21 years old. The course includes an examination of etiology, diagnosis, clinical techniques, and study of relevant research. prereq: CSD grad student or instructor consent

**CSD 5400. Rehabilitative Procedures for the Hard of Hearing.** (; 3 cr. ; A-F only; Every Spring)  
Theories, principles, and methods regarding current approaches to aural rehabilitation of hard-of-hearing children and adults. prereq: 4400, CSD candidate or CSD grad or instructor consent

**CSD 5500. Voice Disorders.** (3 cr. ; A-F or Audit; Every Summer)  
Theoretical and practical study of voice and voice disturbances in children and adults. The purpose of this course is to provide students with an introduction to the anatomical, physiological, acoustic, and theoretical aspects of voice disorders. Current diagnostic and therapeutic techniques will also be introduced. prereq: 3103, 3150 or instructor consent

**CSD 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Composition (COMP)

**COMP 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COMP 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COMP 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COMP 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**COMP 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Computer Science (CS)

**CS 1121. Introduction to Programming in Visual BASIC.NET.** (LOGIC & QR; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to programming in the modern Visual BASIC language. Projects are developed in a .NET environment using the Visual Studio. Includes GUI interface development and expert-driven Windows programming. Major topics include variables, datatype, arithmetic expressions, control structures, arrays and database file processing. For students with no prior programming experience. prereq: 1 yr high school algebra or instructor consent experience. prereq: 1 yr high school algebra or instructor consent

**CS 1151. Introduction to Programming in Python.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
An introduction to programming in the Python language. Course will cover input/output, structured programming using statements, loops and functions, using data files and writing and calling built-in Python functions. pre-req: one year of high school math or instructor consent

**CS 1411. Introduction to Programming in Matlab.** (; 4 cr. ; A-F or Audit; Every Fall & Spring)  
An introduction to programming in the Matlab language. Topics covered will include the creation of algorithms, function definition, basic programming statements, input and output, mathematical operations, matrix manipulation, and representing data. As time allows, additional coverage of plotting methods, data structures using cellular arrays and other advanced topics. prereq: one to two years of high school math or instructor consent

**CS 1511. Computer Science I.** (LOGIC & QR; 5 cr. ; A-F or Audit; Every Fall & Spring)  
A comprehensive introduction to computer programming using the C++ language. The course covers program design, C++ programming basics, control structures, functions and parameter passing. Students write and implement programs with data structures (arrays), pointers and files. Object-oriented programming is also introduced, along with concepts of abstraction, ADTs, encapsulation and data hiding. prereq: 3 1/2 yrs high school math or instructor consent

**CS 1521. Computer Science II.** (; 5 cr. ; A-F or Audit; Every Fall & Spring)  
Continuation of introduction to computer science. Methods for procedural and data abstraction. Focus on classical data structures, procedural and data abstraction, and the abstract data type. Introduction to software engineering technique. Algorithm analysis, principles of object-oriented programming issues in ethical use of computers. Requires implementation of significant programming projects. prereq: 1511 or 1581, a grade of C- or better is required in all prerequisite courses

**CS 1581. Honors: Computer Science I.** (LOGIC & QR; 5 cr. ; A-F or Audit; Every Fall)  
Similar to 1511, but in greater depth and with more challenging assignments. For high-ability students. prereq: Honors student, 3 1/2 yrs high school math

**CS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CS 2511. Software Analysis and Design.** (4 cr. ; Student Option; Every Fall & Spring)  
Techniques for analyzing, designing, and creating medium-scale software through object-oriented design and implementation. Analysis and use of data structures. Introduction to design patterns. Emphasis on polymorphism and abstraction to increase software modularity, reusability, and flexibility. prereq: 1521 or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 2521. Computer Organization and Architecture.**

(4 cr. ; Student Option; Every Fall & Spring)  
Internal representation of programs and data. Computer organization and introduction to computer architecture. Machine and assembly language programming. Data and procedural structures. Addressing methods. Systems software including linking and loading. Introduction to hardware performance analysis and measurements. prereq: 1521 or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 2531. Discrete Structures for Computer Science.**

(4 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to mathematical foundations for computer science; sets, relations, functions, propositional logic, quantified statements, proof methods, including mathematical induction, countability. pre-req: Math 1296 or instructor consent; a grade of C- or better is required in all prerequisite courses

**CS 2999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CS 3111. Computer Ethics.**

(HUMANITIES; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Ethical issues posed by computer use, including those related to networking, intellectual property, privacy, crime and security, risk and reliability, and effects on work and wealth. Includes significant writing and a class presentation prereq: WRIT 3100 or 3110 or 3121 or 3130 or 3140 or 3150 or 3160 or Engr 4001, minimum 60 credits or instructor consent; a grade of C- or better is required in all prerequisite courses

**CS 3531. Automata and Formal Languages.**

(4 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to the theory of computation. Deterministic and nondeterministic finite automata, regular languages and regular expressions. Kleene's Theorem. Context-free languages, context-free grammars and pushdown automata. Turing Machines and computability. pre-req: CS 2531 or MATH 3355; or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 3541. Software Engineering.**

(4 cr. ; A-F or Audit; Every Fall & Spring)  
Recognition of conditions for production of high quality software. Use of current software development technology. Organization and management of software development projects. Includes a significant team project. prereq: 2511, (2531 or 3512 or MATH 3355) or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 3996. Internship in Computer Science.**

(1-3 cr. ; S-N or Audit; Every Fall, Spring & Summer)  
Practical, independent computer science experience in commercial, industrial, or educational setting. Department approval required before beginning internship. prereq: Computer science junior, instructor consent

**CS 3999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**CS 4112. Advanced Theory of Computation.**

(4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Mathematical theory of computation and complexity. Deterministic and nondeterministic Turing machines, Church-Turing Thesis, recursive and recursively enumerable languages. Lambda calculus. Undecidable problems, Rice's Theorem, undecidability of first-order logic and Godel's incompleteness theorem. Time and space complexity, reducibility, completeness for complexity classes, Cook's Theorem, P versus NP, Savitch's Theorem, complexity hierarchy. prereq: no grad cr, 3512 or 3531 or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 4122. Advanced Algorithms and Data Structures.**

(4 cr. ; A-F or Audit; Every Fall & Spring)  
Survey of advanced data structures and algorithms such as heaps and heapsort, quicksort, red-black trees, B-trees, hash tables, graph algorithms, divide and conquer algorithms, dynamic programming, and greedy algorithms. Methods for proving correctness and asymptotic analysis. pre-req: no grad credit; CS 2511, 2531 or 3512 or MATH 3355 or instructor consent; a grade of C- or better in all prerequisite courses

**CS 4212. Computer Graphics.**

(4 cr. ; A-F or Audit; Every Fall & Spring)  
Introduces the fundamentals of computer graphics to create 2D images from 3D data representations, the graphics pipeline, 3D representations of objects such as triangles and triangle meshes, surface material representations, color representation, vector and matrix mathematics, 3D coordinates and transformations, transport of light energy, global illumination, graphics rendering systems, ray tracing, rasterization, real-time rendering, OpenGL and computer graphics hardware. prereq: no grad credit, CS 2511, (2531 or 3512 or MATH 3355), (MATH 3280 or 3326) or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 4222. Artificial Intelligence.**

(4 cr. ; A-F or Audit; Every Fall & Spring)  
Principles and programming methods of artificial intelligence. Knowledge representation methods, state space search strategies, and use of logic for problem solving. Applications chosen from among expert systems, planning, natural language understanding, uncertainty reasoning, machine learning, and robotics. Lectures and labs will utilize suitable high-level languages (e.g., Python or Lisp). prereq: no grad credit, 2511, (2531 or 3512 or MATH 3355) or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 4232. Machine Learning & Data Mining.**

(4 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to primary approaches to machine learning and data mining. Methods selected from decision trees, neural networks, statistical learning, genetic algorithms, support vector machines, ensemble methods, and reinforcement learning. Theoretical concepts

associated with learning, such as inductive bias and Occam's razor. This is a potential Master's project course. prereq: no grad credit, 2511, 2531 or 3512 or MATH 3355, Stat 3611 or 3411, Math 3280 or 3326 or instructor consent; a grade of C- or better is required in all prerequisite courses

**CS 4242. Natural Language Processing.**

(4 cr. ; A-F or Audit; Periodic Fall)  
Techniques for creating computer programs that analyze, generate, and understand written human language. Emphasizes broad coverage of both rule-based and empirical data-driven methods. Topics include word-level approaches, syntactic analysis, and semantic interpretation. Applications selected from conversational agents, sentiment analysis, information extraction, and question answering. prereq: CS 2511, (2531 or 3512 or MATH 3355) or instructor consent; a grade of C- or better is required in the prerequisite course; credit will not be granted if already received for CS 4=5242 or 5761

**CS 4312. Operating Systems.**

(4 cr. ; A-F or Audit; Every Fall & Spring)  
Operating system as resource manager. Modern solutions to issues such as processor management and scheduling, concurrency and related problems including deadlocks, memory management and protection, file system design, virtualization, distributed and cloud computing. Concepts including concurrency are illustrated via laboratory assignments. prereq: no grad credit, 2511, 2521, (2531 or 3512 or MATH 3355) or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 4322. Database Management Systems.**

(4 cr. ; A-F or Audit; Every Fall & Spring)  
Study of database management fundamentals focusing on the relational data model. Topics include database organization, file organization, query processing, concurrency control, recovery, data integrity, optimization and view implementation. prereq: 2511, 2521, (2531 or 3512 or MATH 3355) instructor consent; a grade of C- or better is required in all prerequisite courses

**CS 4332. Computer Security.**

(4 cr. ; A-F or Audit; Every Fall & Spring)  
Entropy and the underlying characteristics of text. Encryption-basic techniques based on confusion and diffusion and modern day encryption. Access, information flow and inference control. Program threats and intrusion detection/prevention. Network and Internet security. Firewalls, trusted systems, network authentication. Privacy and related social issues. Planning, Incidents, and Recovery. prereq: no grad credit, 2511, 2521, (2531 or 3512 or MATH 3355) or instructor consent; a grade of C- or better is required in all prerequisite courses

**CS 4342. Compiler Design.**

(4 cr. ; A-F or Audit; Periodic Fall & Spring)  
A selection from the following topics: finite-state grammars, lexical analysis, and implementation of symbol tables. Context-free languages and parsing techniques. Syntax-directed translation.

Run-time storage allocation. Intermediate languages. Code generation methods. Local and global optimization techniques. prereq: no grad credit, 2511, 2521, (2531 or 3512 or MATH 3355) or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 4412. Computer Architecture.** (4 cr. ; A-F or Audit; Periodic Spring)

Broad coverage of computer architecture, with a focus on the development of the stored program computer and the historical evolution of architectures. Includes coverage of significant architectures based on vacuum tubes, transistors, and integrated circuits. Impact of Moore's Law and possible paradigms for the future including quantum and molecular computing. prereq: no grad cr, 2521, (2531 or 3512 or MATH 3355) or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 4422. Computer Networks.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to computer networking, network programming, networking hardware and associated network protocols. Layered network architecture, network services, and implementation of computer networking software. pre-req: no grad credit; CS 2511, 2521, (2531 or 3512 or MATH 3355) or instructor consent, a grade of c- or better is required in all prerequisite courses

**CS 4432. Sensors and Internet of Things.** (4 cr. ; A-F or Audit; Every Fall)

This course will introduce a broad range of sensors such as wearable biosensors that measure physiological changes, psychological changes, brain electrical activity, muscle impedance, and other sensors such as kinematic sensors, virtual reality, motion capture, luminosity and a range of robots, varying in size, features and autonomous capabilities, while emphasizing the basic principles of sensing for temperature, motion, sound, light, position, displacement, etc. IoT are ubiquitous systems that are built using embedded processors, sensors, other electronics and communication mechanisms. You will be introduced to IoTs through lectures, hands-on labs, and research papers. You will interface (embedded programming) various sensors with an AI based System-on-a-Chip (SoC) to learn to design a complete IoT system. In addition, you will learn to identify and mitigate any ethical issues related to this topic. Students will also learn the latest advances in the field of sensors and IoTs. pre-req: CS 2511, CS 2521, (CS 2531 or MATH 3355) or instructor consent, a grade of C- or better is required in all prerequisite courses, no credit if CS 5432 taken, no grad credit.

**CS 4991. Independent Study.** (1-4 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)

Directed study of special interest topics not available in standard curriculum. Must be arranged with instructor before registration. May include readings, research, or special projects. prereq: instructor consent

**CS 4994. Honors Project.** (; 2-3 cr. ; A-F or Audit; Every Fall & Spring)

Required for students who wish to participate in the computer science honors program. Students must complete a research project under supervision of a faculty adviser. prereq: Consent of computer science honors program committee

**CS 4995. Special Topics: (Various Titles to be Assigned).** (; 1-4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall & Spring)

Study of selected topic announced in [Class Schedule].

**CS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CS 5112. Advanced Theory of Computation.**

(4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Mathematical theory of computation and complexity. Deterministic and nondeterministic Turing machines, Church-Turing Thesis, recursive and recursively enumerable languages. Lambda calculus. Undecidable problems, Rice's Theorem, undecidability of first-order logic and Godel's incompleteness theorem. Time and space complexity, reducibility, completeness for complexity classes, Cook's Theorem, P versus NP, Savitch's Theorem, complexity hierarchy. pre-req: Grad student, CS 3512 or 3531 or instructor consent

**CS 5122. Advanced Algorithms and Data Structures.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Survey of advanced data structures and algorithms such as heaps and heapsort, quicksort, red-black trees, B-trees, hash tables, graph algorithms, divide and conquer algorithms, dynamic programming, and greedy algorithms. Methods for proving correctness and asymptotic analysis. pre-req: grad student; CS 2511, 2531 or 3512 or MATH 3355 or instructor consent; a grade of C- or better in all prerequisite courses

**CS 5212. Computer Graphics.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Introduces the fundamentals of computer graphics to create 2D images from 3D data representations, the graphics pipeline, 3D representations of objects such as triangles and triangle meshes, surface material representations, color representation, vector and matrix mathematics, 3D coordinates and transformations, transport of light energy, global illumination, graphics rendering systems, ray tracing, rasterization, real-time rendering, OpenGL and computer graphics hardware. prereq: graduate student, CS 2511, (2531 or 3512 or MATH 3355), (MATH 3280 or 3326) or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 5222. Artificial Intelligence.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Principles and programming methods of artificial intelligence. Knowledge representation methods, state space search strategies, and use of logic for problem solving. Applications chosen from among expert systems, planning, natural language understanding, uncertainty reasoning, machine learning, and robotics. Lectures and labs will utilize suitable high-level

languages (e.g., Python or Lisp). prereq: grad student, 2511, (2531 or 3512 or MATH 3355) or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 5232. Introduction to Machine Learning and Data Mining.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to primary approaches to machine learning and data mining. Methods selected from decision trees, neural networks, statistical learning, genetic algorithms, support vector machines, ensemble methods, and reinforcement learning. Theoretical concepts associated with learning, such as inductive bias and Occam's razor. This is a potential Master's project course. prereq: grad student, 2511, 2531 or 3512 or MATH 3355, Stat 3611 or 3411, Math 3280 or 3326 or instructor consent; a grade of C- or better is required in all prerequisite courses

**CS 5242. Natural Language Processing.** (4 cr. ; A-F or Audit; Periodic Fall)

Techniques for creating computer programs that analyze, generate, and understand written human language. Emphasizes broad coverage of both rule-based and empirical data-driven methods. Topics include word-level approaches, syntactic analysis, and semantic interpretation. Applications selected from conversational agents, sentiment analysis, information extraction, and question answering. Significant research project that includes experimental results, written report, and clear grasp of ethical considerations involved. prereq: CS 2511, (2531 or 3512 or MATH 3355). grad student or instructor consent; a grade of C- or better is required in the prerequisite course; credit will not be granted if already received for CS 4242 or 5761

**CS 5312. Operating Systems.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Operating system as resource manager. Modern solutions to issues such as processor management and scheduling, concurrency and related problems including deadlocks, memory management and protection, file system design, virtualization, distributed and cloud computing. Concepts including concurrency are illustrated via laboratory assignments. This is a potential Master's project course. prereq: grad student, 2511, 2521, (2531 or 3512 or MATH 3355) or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 5322. Database Management Systems.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Entropy and the underlying characteristics of text. Encryption-basic techniques based on confusion and diffusion and modern day encryption. Access, information flow and inference control. Program threats and intrusion detection/prevention. Network and Internet security. Firewalls, trusted systems, network authentication. Privacy and related social issues. Planning, Incidents, and Recovery. prereq: grad student, 2511, 2521, (2531 or 3512 or MATH 3355) or instructor consent; a grade of C- or better is required in all prerequisite courses

**CS 5332. Computer Security.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Entropy and the underlying characteristics of text. Encryption-basic techniques based on confusion and diffusion and modern day encryption. Access, information flow and inference control. Program threats and intrusion detection/prevention. Network and Internet security. Firewalls, trusted systems, network authentication. Privacy and related social issues. Planning, Incidents, and Recovery. prereq: grad student, 2511, 2521, (2531 or 3512 or MATH 3355) or instructor consent; a grade of C- or better is required in all prerequisite courses

**CS 5342. Compiler Design.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)  
A selection from the following topics: finite-state grammars, lexical analysis, and implementation of symbol tables. Context-free languages and parsing techniques. Syntax-directed translation. Run-time storage allocation. Intermediate languages. Code generation methods. Local and global optimization techniques. prereq: grad student, 2511, 2521, 2531 or 3512 or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 5412. Computer Architecture.** (4 cr. ; A-F or Audit; Periodic Spring)  
Broad coverage of computer architecture, with a focus on the development of the stored program computer and the historical evolution of architectures. Includes coverage of significant architectures based on vacuum tubes, transistors, and integrated circuits. Impact of Moores Law and possible paradigms for the future including quantum and molecular computing. prereq: 2521, (2531 or 3512 or MATH 3355), grad student or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 5422. Computer Networks.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to computer networking, network programming, networking hardware and associated network protocols. Layered network architecture, network services, and implementation of computer networking software. prereq: grad student, 2511, 2521, (2531 or 3512 or MATH 3355) or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 5432. Sensors and Internet of Things.** (4 cr. ; A-F or Audit; Every Fall)  
This course will introduce a broad range of sensors such as wearable biosensors that measure physiological changes, psychological changes, brain electrical activity, muscle impedance, and other sensors such as kinematic sensors, virtual reality, motion capture, luminosity and a range of robots, varying in size, features and autonomous capabilities, while emphasizing the basic principles of sensing for temperature, motion, sound, light, position, displacement, etc. IoT are ubiquitous systems that are built using embedded processors, sensors, other electronics and communication mechanisms. You will be introduced to IoTs through lectures, hands-on labs, and research papers. You will interface (embedded programming) various sensors with an AI based System-on-a-

Chip (SoC) to learn to design a complete IoT system. In addition, you will learn to identify and mitigate any ethical issues related to this topic. Students will also learn the latest advances in the field of sensors and IoTs. prereq: grad student, CS 2511, CS 2521, (CS 2531 or MATH 3355) or instructor consent, a grade of C- or better is required in all prerequisite courses, no credit if CS 4432 taken

**CS 5551. User Interface Design.** (4 cr. ; A-F or Audit; Periodic Fall)  
Design and layout of interactive programs using components, containers, events, menus, and dialogs. The use of graphics primitives, color and images; giving user feedback and help. Rapid prototyping and interface management systems. Design for accessibility and usability. prereq: 2511, (2531 or 3512 or Math 3355) (MATH 3326 or 4326) or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 5612. Advanced Computer Graphics.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Contemporary computer graphics techniques. Focus on advanced graphics algorithms and programming, curve and surface representations, physically based rendering, visible surface determination, illumination, texturing, and real time rendering. prereq: graduate student, CS 5212 or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 5642. Advanced Natural Language Processing.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Advanced techniques for creating computer programs that analyze, generate, and understand written human language. Emphasizes current empirical data-driven methods. Topics include sentence level representations, vector semantics, and models of document understanding. Applications selected from word sense discovery, machine translation, sentiment and opinion mining, and social computing. Significant research project that includes experimental results, written report, and clear grasp of ethical considerations involved. pre-req: CS 4242 or 5242, grad student or instructor consent; a grade of C- or better is required in the prerequisite course.

**CS 5652. Human Computer Interaction.** (4 cr. ; A-F only; Every Fall)  
Introduction and exploration of software algorithms, hardware components, and concepts for building and evaluating augmented and virtual reality environments. Focus will be on effective human-computer interaction (visual, auditory, haptic, and mechanical aspects). Includes the perceptual components for constructing effective human-computer interaction with a virtual environment. prereq: graduate student, CS 5212 or instructor consent, a grade of C- or better is required in all prerequisite courses

**CS 5722. Advanced Database Management Systems.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Advanced course on database management systems that will introduce students to

advanced topics on both centralized and distributed database management. More specifically, this course will teach students the theoretical and practical issues of distributed database design, distributed concurrency control, and distributed query optimization and processing. Other key topics that will be covered in this course are non-relational databases, data warehousing, cloud and big data management, and data stream management. prereq: Graduate student or instructor consent; CS 4322 or CS 5322 or instructor consent; a grade of C- or better is required in all prerequisite courses

**CS 5732. Advanced Computer Security.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Broad, active, hands-on and implementation-based approach to computer security. Fundamental cryptographic theory, advanced techniques and application. Complexity, cryptanalysis, and impact of technological change. Core security theory; confidentiality, integrity, availability. Security models. Risk assessment and decision-making. Issues for general-purpose, trusted and ?cloud? operating system security including hardware requirements, authentication, access control, information flow and assurance. Program and network security fundamentals and best practices including coding principles, firewalls and network design. Exploits, defenses and remediation for multiple issues pertaining to software, hardware, databases and networks. Political, social and engineering issues relating to security and privacy. prereq: CS 4821, grad student and instructor consent

**CS 5991. Independent Study.** (1-4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)  
Directed study of special interest topics not available in the standard curriculum. Must be arranged with the instructor in advance of registration. May include readings, research, or special projects. prereq: instructor consent

**CS 5994. Advanced Topics in Computer Science.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Research-oriented study of topics of current academic or industrial interest, such as parallel algorithms, VLSI design, computational geometry, logic programming languages, program correctness, information retrieval systems, and decision support systems. prereq: Grad student or instructor consent

**CS 5995. Special Topics: (Various Titles to be Assigned).** (1-4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Study of selected topic announced in Class Schedule.

**CS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Consumer Insights & Analytics (CIA)

**CIA 3760. Introduction to Consumer Insights & Analytics.** (3 cr. ; A-F or Audit; Every Fall)



Course provides students the theoretical framework of analytical process and thinking. This course also equips students with the key concepts and methods of marketing research and allow student to understand how to apply those tools to solve real-life business and consumer-centric problems. The course introduces students to data gathering approaches, performing data cleaning and quality checks, creating analytical metrics from the data, identifying anomalies and outliers in the data, mine insights from metrics and finally synthesize insights into a coherent story for business ation. Students will apply the course learning using Excel, Tableau and SAS. pre-req: CIA major or minor

**CIA 4761. Fundamental Consumer Analytic Techniques.** (3 cr. ; A-F or Audit; Every Spring)

Course develops core quantitative skills necessary to convert large amounts of consumer data into actionable information for businesses. The course builds knowledge and understanding of the essential business and consumer metrics as well as the statistical techniques necessary for students to be able to competently summarize data, appropriately classify data and use data to make predictions. Marketing research is a constantly evolving field. In this course, we explore some of the current development and new application areas of marketing research. Emphasis is placed on the application of skills and techniques to data sets and using the analysis to answer business questions and formulate consumer focused recommendations. pre-req: CIA major or minor, CIA 3760, no grad credit

**CIA 4762. Advanced Consumer Analytics.** (3 cr. ; A-F or Audit; Every Fall)

Course introduces customer relationship management and advanced analytical techniques. Emphasis is placed on understanding and calculating the metrics behind profit enhancing customer level management, including RFM Analysis, attrition and churn prediction, customer value and profitability, and customer lifetime value. Students will be asked to calculate these metrics during classroom scenarios and assigned case studies to gain an understanding of how these metrics can be used to select, retain and grow profitable customer segments. Having mastered the basic concepts and tools of marketing research, we move on to study three more advanced and specialized tools most commonly used by qualitative marketing researchers. We study the application of these techniques to optimize the marketing mix (pricing, promotion, product design, positioning). to study three more advanced and specialized tools most commonly used by qualitative marketing researchers. We study the application of these techniques to optimize the marketing mix (pricing, promotion, product design, positioning). pre-req: CIA 4761 or 5761; no grad credit

**CIA 4797. Consumer Analytics Internship.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

The internship provides students with an opportunity to work as a member of an analytics team for a minimum of 200 hours. During the internship, students have the opportunity to apply their analytic knowledge and skills in a chosen business or industry sector. At the end of the course, students are expected to meet face-to-face with instructor to discuss and submit a presentation on the internship experience. pre-req: CIA major or minor, CIA 3760, at least one of the following courses: CIA 4761, MIS 3220, MKTG 4731 or 5731

**CIA 5761. Fundamental Consumer Analytic Techniques.** (3 cr. ; A-F or Audit; Every Spring)

Course develops core quantitative skills necessary to convert large amounts of consumer data into actionable information for businesses. The course builds knowledge and understanding of the essential business and consumer metrics as well as the statistical techniques necessary for students to be able to competently summarize data, appropriately classify data and use data to make predictions. Marketing research is a constantly evolving field. In this course, we explore some of the current development and new application areas of marketing research. Emphasis is placed on the application of skills and techniques to data sets and using the analysis to answer business questions and formulate consumer focused recommendations. Students enrolled in the 5761 version of the course will have to fulfill an extra assignment/project to earn graduate credit. pre-req: CIA 3760, MBA student or department consent

**CIA 5762. Advanced Consumer Analytics.** (3 cr. ; A-F or Audit; Every Fall)

Course introduces customer relationship management and advanced analytical techniques. Emphasis is placed on understanding and calculating the metrics behind profit enhancing customer level management, including RFM Analysis, attrition and churn prediction, customer value and profitability, and customer lifetime value. Students will be asked to calculate these metrics during classroom scenarios and assigned case studies to gain an understanding of how these metrics can be used to select, retain and grow profitable customer segments. Having mastered the basic concepts and tools of marketing research, we move on to study three more advanced and specialized tools most commonly used by qualitative marketing researchers. We study the application of these techniques to optimize the marketing mix (pricing, promotion, product design, positioning). Students enrolled in the 5762 version of the course will have to fulfill an extra assignment/project to earn graduate credit. pre-req: CIA 4761 or 5761; credit will not be granted if already received for MKTG 4762

## Criminology (CRIM)

**CRIM 1301. Introduction to Criminology.** (SOC SCI; 4 cr. ; A-F or Audit; Every Fall & Spring)

Analysis of social justice with emphasis on the criminal justice system in United States. Nature and extent of crime; social factors related to criminal behavior.

**CRIM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**CRIM 2311. Criminological Theory.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Examination of the major theories of crime causation. Specific theories include macro and micro sociological explanations, as well as biological and psychological perspectives. Discussion includes the history, social context, and policy implications of each theory. prereq: 1301

**CRIM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**CRIM 3322. Law and Society.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Complexities, organization, and elements of legal systems, particularly in the United States. Legal theory used to explain the "working" of the law, historical development of law, current issues in law, and overall interrelationship between law and society. prereq: 30 credits or instructor consent

**CRIM 3324. Sociology of Criminal Law.** (3 cr. ; A-F or Audit; Every Fall)  
Nature, goals, and problems in administration of the American criminal judicial process. prereq: 30 credits or instructor consent

**CRIM 3328. Delinquency and Juvenile Justice.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Delinquency in contemporary American society. Major issues concerning causes, prevention, and treatment of juvenile offenders. Focus on U.S. juvenile justice system. prereq: 30 credits or instructor consent

**CRIM 3330. Cyber Deviance.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
As advancement in technology changes, so do the ways individuals commit deviance and crime. This course explores ways individuals use and misuse technology, emphasizing cyber deviance. Implications for preventing and responding to cyber deviance will be examined. Some course materials may require online streaming service access. pre-req: minimum 30 hours complete or in progress

**CRIM 3336. Crime and the Media.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Examines the relationship between crime, criminal justice and the media. It explores how news and entertainment media portray criminals, crime and the criminal justice system, and the effects of these portrayals on the justice system and society. prereq: 30 credits or instructor consent

**CRIM 3338. Sociology of Gangs.** (; 3 cr. ; A-F or Audit; Periodic Summer)  
Street and prison gangs in America at the national, state, and local level. Sociological research and theories relative to gang formation and the economics related to

street and prison gangs. prereq: 30 credits or instructor consent

**CRIM 3340. Crime Prevention.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course explores evidence-based crime prevention. Specifically, this course introduces students to what is known about crime prevention and how this information is used to inform practices that can reduce or prevent crime. Crime prevention approaches, practices, and evaluations will be examined. pre-req: minimum 30 credits

**CRIM 3344. Law Enforcement and Society.**

(; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Role of police and relationship of law enforcement to the community; focuses on crime prevention. prereq: 30 credits or instructor consent

**CRIM 3350. Psychopathology and Crime.** (;

3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course introduces students to the various types of psychopathology and their relationships to crime. Students consider the concept of "abnormality," as viewed by the public, the mental health field, and the criminal justice system. Students learn about a wide range of psychopathologies and apply this knowledge to exploring how various types of criminal activity are related to symptoms of mental disorders. prereq: Criminology or Sociology major with minimum 30 credits

**CRIM 3355. Criminal Forensic Psychology.**

(; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
This course introduces students to the interface of psychology and law, with a specific focus on criminal forensic psychology. The primary goal of this course is to introduce students to the roles and responsibilities of forensic psychologists in the realms of criminal and victim psychology, police and investigative psychology, legal psychology, and correctional psychology. prereq: minimum 30 credits, Crim major or instructor consent

**CRIM 3361. Correctional Continuum.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Analysis of the range of sanctions and programs in corrections. Topics include both community-based and institutional corrections, as well as juvenile and adult corrections. prereq: 30 credits or higher or instructor consent

**CRIM 3369. Correctional Assessment and Intervention.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Issues germane to intervention with criminal offenders. Philosophical (should we intervene?) and pragmatic (what, if anything "works") debates are reviewed, and both punishment oriented and rehabilitative intervention programs are discussed. prereq: 30 credits or instructor consent

**CRIM 3375. Restorative Justice.** (3 cr. ; A-F only; Periodic Fall & Spring)

Examines the principles and practices of restorative justice, a community-based approach to conflict, crime, and justice. The course involves direct practice of victim-

offender mediation, family group conferencing, peacemaking and sentencing circles, and other restorative approaches. Analyzes research on its effectiveness in school settings, prison, for various crimes, and for reconciliation efforts after war, genocide, and racial segregation. Includes both domestic and international examples. prereq: 60 credits or instructor consent

**CRIM 3380. Death Penalty.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course provides students with a broad survey of the death penalty as a penal sanction and the controversies and issues which surround it. Key topical areas covered are history and foundations, legal landscape, execution and death penalty processes, contemporary issues including innocence, cost, discrimination and deterrence, and perspectives and voices surrounding the death penalty. prereq: 30 credits

**CRIM 3395. Special Topics: (Various Titles to be Assigned).** (; 3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Contemporary topics in criminology. prereq: 30 credits or instructor consent

**CRIM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CRIM 4305. Mentally Ill Offenders in the Criminal Justice System.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course provides a broad survey of mentally ill offenders. Students explore the stigma and needs of this population. The course focuses on the treatment and management of mentally ill offenders, including recent innovations, at each stage of the criminal justice system. prereq: Criminology or Sociology majors with minimum 60 credits; no grad credit

**CRIM 4323. Women and Justice.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Women's involvement in the civil and criminal justice systems, both historic and contemporary, primarily in the United States. Attention given to women as criminal and civil defendants, issues of women's civil rights, and to women practitioners within each system. Intersection of social class, gender and race/ethnicities. prereq: ANTH 1604 or CRIM 1301 or SOC 1101 or WS 1000 and 60 credits, or instructor consent; no grad credit

**CRIM 4340. Race, Crime and Justice.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Examines the intersection of race/ethnicity, gender, and class within the U.S. criminal justice system, with some attention given to global trends and international comparisons. Considers the racialized effects of crime control and criminal justice practices, including law enforcement, prosecution, sentencing, police-minority community relations, and the disproportionate representation of racial/ethnic groups in the prison system. Explores attitudes and perceptions of crime from the perspective of racial/ethnic minorities, and differential crime

rates among majority/minority groups. prereq: 1301 or SOC 1101 or Anth 1604 or CSt 1101, 60 credits or grad student or instructor consent

**CRIM 4350. Corporate and Government Crime.** (3 cr. ; A-F only; Periodic Fall & Spring)

Examination of theories and research relating to deviant and criminal behavior within large scale formal organizations, particularly governmental and business organizations. Causes and consequences, efforts at social control, barriers to social control, prospects for change. Genocide and the emergence of international law. prereq: 60 credits or instructor consent

**CRIM 4382. Victimology.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Extent, nature, and forms of criminal victimizations; profiles of crime victims; coping strategies; victims' rights; impact of victimizations on victims and nonvictims; victim attitudes about crime and interactions with justice system; evaluation of victim service programs. prereq: CRIM 1301 or SOC 1101, 60 credits; no grad credit

**CRIM 4384. Child Abuse and Child Protection in Minnesota.** (3 cr. ; A-F or Audit; Every Spring)

Examine how our legal system and community discovers and protects neglected or abused children. Provide understanding of juvenile court, the role of forensic science, social workers, police, teachers, nurses, physicians, and other professionals mandated to report suspected abuse. prereq: 90 credits or Grad Student or instructor consent

**CRIM 4391. Independent Study in Criminology.** (1-3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)

Directed reading, research, or involvement in social action leading to preparation of a paper or other product. prereq: instructor consent; no grad credit

**CRIM 4399. Honors Project Criminology.** (1-3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)

Advanced individual project in any area of criminology, demonstrating sound theoretical and research foundations and resulting in a written report. prereq: 90 credits earned and instructor consent; no grad credit

**CRIM 4910. Teaching Assistantship in Criminology.** (1-3 cr. ; A-F only; Every Fall & Spring)

Practical experience in teaching-related activities in criminology courses. prereq: 60 credits and instructor consent; no grad credit

**CRIM 4930. Understanding Violence.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course examines violence in its many forms and provides a theoretical and conceptual foundation for understanding what it is, why it happens, and how it might be prevented or diminished. Structural, institutional and interpersonal forms of violence are examined as are theoretical perspectives focusing on the individual, socio-structural and cultural levels of explanation. prereq: Minimum 60 credits; no grad credit

**CRIM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CRIM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Cultural Entrepreneurship (CUE)

**CUE 1001. Culture Industry and Creative Economy.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Fall & Spring)

This course is an introduction to the history and contemporary scope of the culture industry, and the closely associated creative economy. Topics discussed include tourism, sports, arts and entertainment, mass media, and the food and beverage industry.

**CUE 1111. Creative Problem Solving.** (; 3 cr. ; A-F only; Every Fall & Spring)

This course provides students the change to explore and engage with contemporary and historic practice in the creative fields, principally in art and design through a series of personal and creative activities. The course promotes the exploration of new media as well as traditional practice through personal involvement in creativity and creative practice. Central to the mission of the course is the development of personal traits of: creativity, thoughtful analysis, ingenuity, experimentation and the ability to solve problems. It will challenge students to move outside of their existing comfort zone and to recognize the value of that exploration. It will help students understand the importance of diverse ideas, and to convey that understanding to others. The goal of this course is to create a lasting, permanent, and integrated connection between the student, their own creativity, and the creative fields.

**CUE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CUE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CUE 3001. Foundations of Cultural Entrepreneurship I.** (3 cr. ; A-F or Audit; Every Fall)

This first of the two entrepreneurship courses creates an entrepreneurial experience with all of the pressures and demands of an early stage creative startup. The class is designed to give students the experience of how to "search" for business models in the culture and creative industries. Students will use design and discovery thinking, combined with ideation and customer discovery to develop a business model and also a feasibility plan for the delivery of a cultural product or service. The business model can be for a for-profit enterprise or a non-profit organization, but in either case the same feasibility criteria would apply, i.e. the solution should generate financial returns and create cultural value through the preservation and/or revitalization of culture. prereq: minimum 60 earned or in-progress credits or instructor consent

**CUE 3002. Foundations of Cultural Entrepreneurship II.** (; 3 cr. ; A-F or Audit; Every Spring)

This second entrepreneurship course creates an entrepreneurial experience for students with typical pressures and demands of an early stage startup. The course is about Living the Entrepreneurial Experience. It is about being in action while advancing the cultural enterprise idea from feasibility study to testing the minimum viable product. Key elements of the process involve ongoing research, conducting rapid test cycles, while engaging prospective customers, experts, stakeholders, suppliers, business partners, collaborators, and financiers. Students will develop plans to test assumptions, execute the plans and make decisions pertaining to products and services. The semester ends with a minimum viable product or service. Through action and reflection students will develop the competency to think and act entrepreneurially in order to advance the development of their cultural enterprises. prereq: minimum 60 earned or in-progress credits or instructor consent

**CUE 3101. Introduction to Design Thinking and Conceptual Competencies.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

This course introduces students to each step of the design thinking process and design thinker's toolkit. Design thinking is an iterative problem solving process of discovery, ideation, and experimentation that employs design-based techniques to gain insight and yield innovative solutions for virtually any type of organizational or business challenge. Students will know the six conceptual competencies important for creatively solving complex real-world challenges. Students will develop skills as ethnographers, visual thinkers, strategists, and storytellers through a hybrid of seminar discussions and collaborative projects. Students will directly apply what they have learned to cases in order to untangle the complexities of markets, organizations, communities, policies and to create real impact. prereq: minimum 30 credits or instructor consent

**CUE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CUE 4002. Managing Cultural Organizations.** (; 3 cr. ; A-F or Audit; Every Spring)

This course provides students with the knowledge and skills needed to play a leadership role in a cultural organization. Using case methodology students will know theories, methods, and practices for managing cultural organizations, gain the skills to participate strategically in the governance of such organizations and be able to design and assess the effectiveness of governance models, volunteer programs, organizational capacity, and inter-organizational relationships. Students will also know the legal requirements affecting cultural organizations and approaches to finance the programming and operations. prereq: minimum 60 credits or instructor consent, no grad credit

**CUE 4003. Entrepreneurial Ethics and Values.** (3 cr. ; A-F or Audit; Every Spring)

This course offers an undergraduate introduction to organizational integrity and responsibility and related legal and social issues. Students will acquire an integrated and normatively substantive foundation in business ethics that distinguishes ethical justification from regulation by law and market forces. They will also develop skill for discerning the intrinsic ethical vocation for organizational leadership, develop an awareness of the effects of managerial decision making on the moral rights and interest of oneself and others. Additional, learn to appreciate the normative dimensions of managerial decision making in the context of a complete way of life, including family life, religious traditions, civic responsibilities, global integration and boarder issues of social justice. Students will also become proficient in systematically articulating ethical arguments to justify organizational policies and practices; and to grow in personal commitment to building organizational cultures that promote and reinforce ethical conduct. prereq: CUE 3001, no grad credit

**CUE 4091. Independent Study.** (1-4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Students devise programs of reading and research in consultation with instructor to expand upon a topic related to one studied in regular coursework. Strong focus on academic writing and research. An agreement that specifics nature of the project, amount of work, and number of credits must be approved by a faculty adviser. pre-req: instructor consent

**CUE 4096. Field Study.** (2 cr. [max 4 cr.] ; A-F only; Every Summer)

Students taking this course will be placed in an entrepreneurial project, following consultation with the Cultural Entrepreneurship faculty. Students complete a minimum of 80 hours of project-based work at a selected non-profit, business or governmental institution. A project charter stating the objective, scope, deliverable, timeline and communication protocol is established before the start of the course. Establishing and evaluation of student learning objectives are critical component of the course. To receive the credit for the course, students must complete the project deliverable with a sign-off from the appropriate stakeholder in the sponsoring organization and receive a favorable evaluation by their instructor. prereq: instructor consent, no grad credit

**CUE 4097. Internship.** (2 cr. [max 4 cr.] ; A-F or Audit; Every Summer)

Students taking this course have been place in an entrepreneurial internship, following consultation with the CUE director. Students complete a minimum of 80 hours of work at a selected internship site, observing and participating in the everyday operations of a non-profit or for-profit venture. To receive credit for the internship, students must complete a final report of their activities, and receive a favorable evaluation by their internship supervisor. prereq: 1001, 3001, instructor consent; no grad credit

**CUE 4201. Leadership Theory and Practice.**

(; 3 cr. ; A-F or Audit; Every Fall & Spring)  
This course examines theories and practices of leadership at the individual, group and cross-sector initiatives often found in the context and cultural enterprises. Students' ability to understand, apply, integrate and develop intellectual curiosity regarding diverse approaches to leadership is emphasized through projects and case studies. Through class assignments students will develop and refine understanding of themselves and their approach to leadership. They will also enhance appreciation of others leadership approaches and their own abilities to work effectively with others. The emphasis is on building a sound grasp of good practice, and on developing the ability to connect those practices comprehensively to contemporary social, cultural, environmental and organization problems. pre-req: minimum 60 credits or instructor consent; no grad credit

**CUE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CUE 5002. Managing Cultural Organizations.**

(; 3 cr. ; A-F only; Periodic Fall & Spring)  
This course provides students with the knowledge and skills needed to play a leadership role in a cultural organization. Using case methodology students will know theories, methods, and practices for managing cultural organizations, gain the skills to participate strategically in the governance of such organizations and be able to design and assess the effectiveness of governance models, volunteer programs, organizational capacity, and inter-organizational relationships. Student will also know the legal requirements affecting cultural organizations and approaches to finance the programming and operations. pre-req: graduate student

**CUE 5201. Leadership Theory and Practice.**

(; 3 cr. ; A-F or Audit; Every Fall & Spring)  
This course examines theories and practices of leadership at the individual, group and cross-sector initiatives often found in the context and cultural enterprises. Students' ability to understand, apply, integrate and develop intellectual curiosity regarding diverse approaches to leadership is emphasized through projects and case studies. Through class assignments students will develop and refine understanding of themselves and their approach to leadership. They will also enhance appreciation of others leadership approaches and their own abilities to work effectively with others. The emphasis is on building a sound grasp of good practice, and on developing the ability to connect those practices comprehensively to contemporary social, cultural, environmental and organization problems. pre-req: grad student

**CUE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Cultural Studies (CST)**

**CST 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CST 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CST 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CST 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**CST 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DE (DE)**

**DE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DENT (DENT)**

**DENT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DENT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DENT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DENT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DENT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DSGN (DSGN)**

**DSGN 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DSGN 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DSGN 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DSGN 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DSGN 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DWG (DWG)**

**DWG 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DWG 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DWG 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DWG 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DWG 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Dance (DN)**

**DN 1001. Introduction to the World of Dance.** (GLOBAL PER,FINE ARTS; 3 cr. ; A-F or Audit; Every Fall)

The course will foster appreciation for and deepen understanding of the varied styles, forms and functions of dance. By looking at dance from multiple perspective-historical, cultural, political, social , aesthetic - the course demonstrates the range of roles that dance plays in how we look at ourselves, others and our world. Course activities will include reading, video, discussion and lecture, and movement experiences.

**DN 1011. Tap Dance Fundamentals.** (; 2 cr. [max 4 cr.] ; A-F or Audit; Periodic Spring)  
Beginning work in fundamental tap dance technique, designed for students with minimum or no previous dance experience and emphasizing tap dance as a social and performing art form.

**DN 1110. Jazz Dance Fundamentals.** (FINE ARTS; 2 cr. [max 4 cr.] ; A-F or Audit; Every Fall & Spring)  
Beginning work, designed for the student with very minimal or no previous dance experience. Emphasis on introducing basic movement concepts (i.e. placement, musicality) and jazz dance styles. Concurring with Liberal Education objectives, the course will provide opportunities for creative expression through active participation and presentation. The course will also develop an appreciation for diverse cultural and historical influences on jazz dance as we experience it today.

**DN 1111. Jazz Dance Technique I.** (FINE ARTS; 2 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)  
Jazz Dance Technique I is designed for students with some previous dance experience to develop primary jazz dance skills with

emphasis on rhythm, musicality, flexibility, strength, placement, line and coordination. Concurring with Liberal Education objectives, the course will provide opportunities for creative expression through active participation and presentation. The course will also develop an appreciation for diverse cultural and historical influences on jazz dance as we experience it today.

**DN 1121. Tap Dance Technique I.** (2 cr. [max 8 cr.] ; A-F or Audit; Every Fall)

Beginning Tap dance technique with emphasis on musicianship. The course will also introduce improvisational skills, and an appreciation for the history of Tap dance as an American vernacular dance form. prereq: 4 credits of 110, 1111 or 1131, instructor consent

**DN 1131. Ballet Technique I.** (FINE ARTS; 2 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)

This course will introduce fundamental barre and center exercises of a traditional ballet class. Emphasis will be placed on correct positions of the body, vocabulary, anatomy and musicality. Class work will be augmented by video analyses, performance observation, supplemental readings, lecture and discussion. Upon successful completion, students will have a solid foundation of ballet technique and an appreciation for the historical and performance aspects of the art form.

**DN 1151. Modern Dance Technique I.** (FINE ARTS; 2 cr. [max 12 cr.] ; A-F or Audit; Every Fall)

Modern Dance Technique I is designed to introduce Modern Dance as both a historical form and contemporary practice and intended to develop Modern Dance skills with emphasis on placement, coordination, balance, and musicality. Concurring with Liberal Education objectives, the course will provide opportunities for creative expression through active participation and presentation. In addition, students will develop an appreciation for the diverse cultural influences on and stylistic variety in Modern Dance as a performance dance form.

**DN 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DN 2101. Physical Conditioning for Dance.** (; 1 cr. [max 3 cr.] ; A-F or Audit; Periodic Spring)

Introductory course in physical conditioning specifically aimed at cross training for dancers. Course will include basic anatomy, strengthening, stretching including static and dynamic, and addressing and eliminating muscular imbalances that inhibit proper technique. prereq: Completion of one 1xxx Dance course or instructor consent

**DN 2111. Jazz Dance Techniques II.** (FINE ARTS; 2 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)

This course is designed to strengthen jazz dance skills initially developed in Jazz I and/or other technique courses. Underlying technical goals - increased flexibility, increased core

strength and functionality, clear isolations and clear alignment will contribute to more secure movement execution which makes possible more dynamic and expressive dancing. The courses also further explore selected historical and theatrical styles. Students are expected to have the following: DN 1111 with grade of B or better and/or technical proficiency appropriate to the level. prereq: instructor consent repeatable: Allow up to 6 repetitions totalling up to 12 credits.

**DN 2131. Ballet Technique II.** (FINE ARTS; 2 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)

This course will provide students with the opportunity to build upon beginning level ballet skills within the context of a complete and traditional ballet class. Emphasis will be placed on solidifying current technique while improving the ability to quickly learn and retain combination. New skills such as epaulement and body facings will be introduced alongside continued study of ballet terminology, theory, and history. Students are expected to have the following: DN 1131 with a grade of B or better and/or technical proficiency appropriate to the level. prereq: instructor consent repeatable: Allow up to 6 repetitions totalling up to 12 credits.

**DN 2151. Modern Dance Technique II.** (2 cr. [max 12 cr.] ; A-F or Audit; Every Spring)

The course is designed to further develop the student as a modern dancer, building on skills and experience gained in previous technique classes including Modern I. Incorporating elements of various aesthetics including Humphrey/Lion, Horton, release techniques and post-modernism, the class will continue to emphasize basic principles - flexibility, strength, placement and musicality - but with greater stress on phrase work and more complex movement. prereq: instructor consent

**DN 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DN 3202. Improvisation for Dance.** (2 cr. [max 6 cr.] ; A-F or Audit; Fall Even Year)

The course is an exploration of spontaneous movement creation in solo, duet and groups. Students will get to know themselves better as movers through exercises to integrate technical skills with kinesthetic intuition in order to create dynamic movement and engaged sequences. The course will include improvisation as its own form, as well as the application of improvisation techniques to movement generation for set choreography. pre-req: successful completion of DN 2201 and/or DN 3201 with grade of 'B' or better, or by permission of instructor

**DN 3211. Jazz Dance Technique III.** (2 cr. [max 18 cr.] ; A-F or Audit; Every Spring)

This course builds on the foundations developed in previous technique classes, including Jazz I and II with a focus on intermediate work in lyrical and percussive jazz dance styles. Students will also work on developing personal artistry through attention to dynamics and phrasing. Students are expected to have the following: DN 2111 with a

grade of B or better and/or technical proficiency appropriate to the level. prereq: instructor consent repeatable: Allow up to 9 repetitions totalling up to 18 credits.

**DN 3221. Tap Dance Technique II.** (2 cr. [max 8 cr.] ; A-F or Audit; Every Spring)

This course focuses on musicianship, including tonal variation and speed. The course will hone improvisational skills, analysis/synthesis skills, and deepen the appreciation for the history of tap dance as an American vernacular dance form. Students are expected to have the following: DN 1121 with a grade of B or better and/or technical proficiency appropriate to the level. prereq: instructor consent repeatable: Allow up to 4 repetitions totalling up to 8 credits.

**DN 3231. Ballet Technique III.** (2 cr. [max 12 cr.] ; A-F or Audit; Every Fall)

The course explores ballet technique in greater depth with regard to steps, discipline - specific vocabulary, history, and pedagogy. The traditional ballet class will move at an accelerated pace and will be augmented by video analyses, performance observations, and supplemental readings. The course will culminate in the study, analysis, and dancing of classical repertoire from the great ballets of the 19th and 20th centuries. Students are expected to have the following: DN 2131 with a grade of B or better and/or technical proficiency appropriate to the level. prereq: instructor consent repeatable: Allow up to 6 repetitions totalling up to 12 credits.

**DN 3241. Social Dance for the Stage.** (1 cr. [max 2 cr.] ; A-F or Audit; Every Fall)

An introduction to social dance forms commonly used in theatrical staging and musical theatre choreography. As a studio course, the majority of work will be learning dance vocabulary and partnering techniques for social dances. Information on the historical and cultural contexts of the dances will be covered through discussion, brief reading assignments, and viewing of performance examples. The course draws primarily from 19th and 20th century European and American dances, but will also include other cultures' influences. prereq: minimum 60 credits, BFA Theatre major, instructor consent

**DN 3251. Modern Dance Technique III.** (2 cr. [max 8 cr.] ; A-F or Audit; Fall Even Year)

This course is a technique class in modern and contemporary dance at the high intermediate level. Drawing on a range of aesthetic traditions, with a special emphasis on the integration of somatic awareness as a means to deepen expressive capabilities, students will focus on longer phrasework and easeful transitions between set and improvised movement. pre-req: Successful completion of DN 2151 or 3201 with a grade of B or better, or permission of the instructor

**DN 3401. Dance Composition.** (3 cr. ; A-F or Audit; Periodic Spring)

This course is designed to provide a broad introduction to dance composition, based on the idea of introducing tools for the dancemaker's toolbox to help develop a

personal choreographic voice and style. The philosophical approach will emphasize rediscovering a sense of play and freedom to experiment without internal judgements disrupting creative exploration. Students will learn to generate and manipulate movement through exercises and improvisation and will expand those skills into shaping dances. Areas to be explored include elements of movement, musical structures, narrative, partnering and site specific work among others. prereq: instructor consent

**DN 3611. Dance History.** (3 cr. ; A-F or Audit; Periodic Spring)

The primary focus will be Western Theatrical Dance traditions from the 18th century to the present, with supplemental attention paid to world dance forms as well as vernacular and social dance. The course will explore how the innovations of the 18th and 19th centuries laid the groundwork for the explosion of 20th century creativity leading to today's diverse dance landscape. Balancing between a broad survey and an in depth seminar the course will build a chronological framework for the evolution of dance but also delve more deeply into particular artists and works. Students will also develop an understanding of dance history as both a scholarly and creative discipline. prereq: 1001 or instructor consent

**DN 3991. Independent Study in Dance.** (1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Directed readings and projects arranged between student and faculty mentor. The work may be scholarly or creative, but generally should be planned out with a faculty mentor during the semester prior to registration. prereq: instructor consent; undergrads may not take more than 6 credits in 3991 and 5991 combined

**DN 3995. Special Topics (Various Titles to be Assigned).** (; 1-9 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Special topics to be assigned.

**DN 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DN 4116. Musical Theatre Audition**

**Techniques.** (3 cr. ; A-F or Audit; Periodic Spring)  
Advanced dance, song, acting, and marketing capstone course for professionally oriented musical theatre student to hone tools, skills and materials needed to be confident and successful in professional musical theatre auditions. Students are expected to have the following: Theatre BFA and senior standing (90 credits). prereq: instructor consent

**DN 4311. Jazz Dance Technique IV.** (2 cr. [max 12 cr.] ; A-F or Audit; Every Fall)  
This course is designed to challenge the intermediate/advanced dancer, building on skills and experience gained in previous technique classes in the Jazz sequence. Synthesizing essential principles - flexibility, strength, placement and musicality - the course incorporates elements of various styles

within the jazz idiom, with greater stress on longer phrase work, complex movements and personal artistry. prereq: instructor consent; no grad credit

**DN 4331. Ballet Technique IV.** (2 cr. [max 12 cr.] ; A-F or Audit; Every Spring)

Students taking this course will expand their foundational knowledge of classical ballet technique both physically and intellectually. Technique class will progress at an accelerated rate and will be rigorous and disciplined. Students are expected to approach ballet class in a professional and goal oriented manner. Dancers will also have the opportunity to explore pointe work, character dance and partnering (pas de deux) techniques. Class work will be enhanced with performance and video analyses and will culminate in restagings of classical ballet repertoire with an emphasis on solo variations. prereq: 3231, instructor consent; no grad credit

**DN 4901. Intern Teaching Dance.** (2 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Practical experience teaching introductory level dance classes. Students serve as intern teachers assisting instructor in administration of course. Opportunities to assist in higher level courses are available at the discretion of the instructor. prereq: 3201 or 3211 or 3221 or 3231, instructor consent; no grad credit

**DN 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DN 5991. Independent Study in Dance.** (1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Advanced directed readings and projects arranged between student and faculty mentor. Work may be scholarly or creative, but should be planned with a faculty mentor the semester prior to registration. prereq: instructor consent; undergrads max 6 cr in 3991 and 5991 combined

**DN 5997. Internship in Professional Dance.** (1-12 cr. ; A-F or Audit; Every Fall & Spring)

Internship with a cooperating professional, commercial, or regional dance company. prereq: department approval; 1 cr for each 45 hrs of work

**DN 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Dental (DEN)

**DEN 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DEN 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DEN 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DEN 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DEN 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Drawing and Descriptive Geom (DRAW)

**DRAW 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DRAW 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DRAW 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DRAW 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**DRAW 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## EART (EART)

**EART 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EART 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EART 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EART 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EART 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## EDAS (EDAS)

**EDAS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDAS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDAS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDAS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDAS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## EDC (EDC)

**EDC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## EDU (EDU)

**EDU 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDU 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDU 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDU 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDU 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## EN (EN)

**EN 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EN 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EN 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EN 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EN 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## ENGW (ENGW)

**ENGW 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ENGW 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ENGW 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ENGW 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ENGW 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## ENTL (ENTL)

**ENTL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ENTL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ENTL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ENTL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ENTL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## EPS (EPS)

**EPS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EPS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EPS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EPS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EPS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## ESL (ESL)

**ESL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ESL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ESL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ESL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ESL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Early Childhood Studies (ECH)

**ECH 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**ECH 2010. Foundational Issues in Early Childhood Studies.** ( ; 3 cr. ; A-F or Audit; Every Fall)

This course examines historical and cultural perspectives of Early Childhood Studies. Theoretical models for the education of young children from birth through age eight will be addressed through professional exploration. Methods for facilitating child development as well as strategies for collaborating with families and communities will be discussed. pre-req: UECH major

**ECH 2015. Literature for Young Children.** ( ; 3 cr. ; A-F or Audit; Every Fall)

Introduces professionals who work with children from birth through age eight to literature for young children. Criteria for selecting book and non-book materials will be presented, discussed and utilized when examining, selecting, and reading such materials. Strategies for sharing the books and non-book materials with children and for integrating the materials into day care, preschool, and primary settings will be explored.

**ECH 2025. Brain Development: Environments and Relationships.** (SOC SCI; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

This course will address issues related to early brain development and the biological underpinnings of early emotional and cognitive development with attention to the impacts relationships and environments have on developing brain architecture. Current research in areas of Adverse Childhood Experiences (ACE) and developmental trauma will be explored with attention to mitigating long-term effects through trauma informed care. A biological view of attachment, social vulnerability, language, reading, math, and creativity will also be explored.

**ECH 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ECH 3000. Children in Health Care Settings.** ( ; 3 cr. ; A-F or Audit; Periodic Fall & Summer)

An online course for students interested in learning more about the profession of Child Life and aspects of pediatric healthcare. Pursuit of Child Life concentration is not required. Topics covered include Child Life theoretical foundations, assessment, preparation, play, coping, the therapeutic relationship, family centered care, documentation, grief and loss, and the role of Child Life within the interdisciplinary medical team. Attention is given to understanding children and teens in the context of their development as it relates to interventions in the medical settings.

**ECH 3021. Teaching Mathematics: Birth-Age Eight.** ( ; 4 cr. ; A-F or Audit; Every Spring)

Development and instruction in play-based and problem-based mathematics in birth to age 8 settings. Methods, materials, and research findings related to teaching of mathematics. Practicum required. prereq: Admitted to UECH program



**ECH 3022. Literacy for Young Children: Teaching Reading, Writing, Speaking, and Listening.** (; 4 cr. ; A-F or Audit; Every Spring)  
Prepares professionals who work with children from birth to age eight to introduce and teach developmentally appropriate skills and strategies related to reading, writing, speaking, and listening. Course assignments will be linked to practicum experiences. Practicum required. prereq: Admitted to UECH program

**ECH 3030. Inquiry, Social Studies, and Science Learning: Birth-Age Eight.** (5 cr. ; Student Option; Every Spring)  
Exploratory and socially sensitive environments for children from birth through age 8; inquiry, physical knowledge, social processes in children's play; planning, implementing, evaluating culturally and developmentally appropriate science and social studies learning experiences; integrated, thematic curricula and use of technology to enhance learning. Practicum required. prereq: admitted to UECH program; must be taken either after or concurrently with SpEd 3105

**ECH 3050. Early Relationships in Young Children: Observing and Guiding.** (; 4 cr. ; Student Option; Every Fall & Spring)  
Observing, recording, and guiding behaviors in children from birth through age eight. Focuses on informal methods for observation. Practicum is required. Use of technology for behavioral observation. prereq: Minimum 30 credits

**ECH 3055. Creative Expressions and Emergent Literacy: Birth - Age 8.** (; 4 cr. ; A-F or Audit; Every Spring)  
Exploration of developmentally appropriate methods and materials for the integration of art, music and movement experiences ages birth-age 8. An emphasis on using the arts to support development of concept of print, the alphabet, vocabulary, phonemic awareness, comprehension, motivation, and other literacy skills. This course will involve some field work. prereq: Admission to the UECh program or Early Childhood Studies

**ECH 3060. Teaching Culturally and Linguistically Diverse Children.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Provides Unified Early Childhood Education students with knowledge and skills to teach a variety of young diverse learners. The different groups the course will target include children learning English as a second language, urban, rural, gifted, and talented learners. prereq: admitted to UECH program

**ECH 3104. Family Partnerships.** (; 1 cr. ; A-F or Audit; Every Spring)  
Practicum experience in which students partner with a young child and their family. Through this experience, students practice advocacy skills, integrate theory in early childhood, and observe children in the context of the family. prereq: Admission to the UECh program

**ECH 3950. Guided Observations in Diverse Settings: Birth-Age Eight.** (1-6 cr. ; Student Option; Every Fall, Spring & Summer)  
This is a field-based capstone supervised experience for students pursuing the Early

Childhood Studies (ECS) Bachelor of Applied Arts degree. The purpose of this internship experience is to provide students with an opportunity to observe and apply knowledge and skills gained in the classroom, to the actual workplace. With faculty guidance, students will be placed in one of several possible early childhood settings. A suitable placement will be determined based on an individual student's interest, and will be also aligned with their minor and electives courses taken. The internship will be supervised by a faculty, in collaboration with an identified mentor working in the respective placement. The student's internship engagement will range from reflective observations to actual work that demonstrates strong theoretical application of knowledge and skills gained through course work. As a capstone experience, the internship aims to give the student an edge in launching into the workforce. pre-req: Capstone experience undertaken upon coursework completion and department consent

**ECH 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ECH 4009. Leadership in Early Childhood Studies.** (; 3 cr. ; A-F or Audit; Every Spring)  
Develops knowledge and competencies in the area of educational leadership, including development and administration of early childhood programs, professionalism, ethics and social policy. prereq: Admission to UECh program; no grad credit

**ECH 4010. Infant and Early Childhood Perceptual and Psychomotor Development.** (; 2 cr. ; A-F or Audit; Every Fall)  
Issues related to typical and atypical perceptual and psychomotor development in children from birth to age eight will be examined. The interaction of the mover with the contextual features of the environment and the demands of the movement task will provide an opportunity to explore developmentally appropriate methods and materials for the integration of physical activities and movement for children's overall growth. prereq: Admitted to UECH program, no grad credit

**ECH 4400. Professional Development Seminar.** (; 1 cr. [max 3 cr.] ; A-F or Audit; Every Spring)  
Professional development through documentation, reflection, synthesis of learning as related to standards. Development of process and product portfolios. Presentation of and dialogue about emergent learning. prereq: admitted to UECH program; no grad credit

**ECH 4600. Student Teaching in Early Childhood/Primary.** (3-12 cr. [max 24 cr.] ; S-N only; Every Fall & Spring)  
Application of skills, understanding, and knowledge related to working with children from birth through age eight. prereq: Admitted to UECH program or post bac per instructor consent; no grad credit

**ECH 4610. Professional Issues Seminar in Early Childhood Education.** (; 1 cr. ; A-F only; Every Fall & Spring)

Reflections on current issues and ethical dilemmas in field of early childhood education, birth through age eight; preparation for professional job-seeking and interviewing. prereq: admitted to UECH program; no grad credit

**ECH 4950. Guided Field Experience for Early Childhood Studies.** (; 3 cr. [max 9 cr.] ; S-N or Audit; Every Spring)

This is a field-based capstone supervised experience for students pursuing the Early Childhood Studies (ECS) Bachelor of Applied Science degree. With faculty support, students will be placed in an early childhood based setting where they will spend 10 hours per week. The experience will provide students with opportunities to apply knowledge and skills gained from previous course work. Further, students will expand their knowledge through a capstone project. Weekly faculty led discussions will be a part of the requirement of the course. Examples of field placements include childcare settings, Headstart classrooms, Early Childhood Family Education Centers, and social service agencies focusing on children's wellbeing. pre-req: Early Childhood Studies major, minimum 90 credits and department consent

**ECH 4991. Independent Study.** (1-6 cr. ; A-F or Audit; Every Fall & Spring)  
Individualized reading and research in a special topic. prereq: instructor consent; no grad credit

**ECH 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ECH 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Economics (ECON)

**ECON 1003. Economics and Society.** (SOC SCI; 3 cr. ; A-F or Audit; Periodic Spring)  
General description of U.S. economy and analysis of contemporary economic problems. Introduction to major economic issues and problems of the day, providing a simple framework used by economists for analysis. prereq: Cannot apply credit to economics major or minor or BAC or BBA majors

**ECON 1022. Principles of Economics: Macro.** (SOC SCI; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Analyzing overall performance of an economic system. National income accounting and theory, unemployment, inflation, fiscal policy, money, monetary policy, economic growth, international trade, non-U.S. economies, and real-world application of these concepts. prereq: Minimum 15 credits or department consent

**ECON 1023. Principles of Economics: Micro.** (SOC SCI; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Analyzing free enterprise system through study of product and resource markets. Supply and demand, utility, production and cost, market structure, resource use, market failures,

regulatory role of government, and real-world application of these concepts. prereq: Minimum 15 credits or department consent

**ECON 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Economics (EC)

**EC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Economics (ECON)

**ECON 2030. Applied Statistics for Business and Economics.** (LOGIC & QR; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Introduction to modern business statistics, emphasizing problem solving applications through statistical decision making using case studies. Topics include organization and presentation of data, summary statistics, distributions, statistical inference including estimation, and hypothesis testing. prereq: minimum 30 credits, LSBE student, pre-business or pre-accounting or Econ BA major or Graphic Design and Marketing major or Graphic Design with Marketing subplan major or Econ minor or Accounting minor or Business Admin minor or Arts Administration; credit will not be granted if already received for Econ 2020, Stat 1411, Stat 2411, Stat 3611, Soc 3151, Psy 3020

**ECON 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Economics (EC)

**EC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Economics (ECON)

**ECON 3020. Applied Statistics for Business and Economics II.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
A second introductory statistics course including more advanced topics. Topics include hypothesis testing, analysis of variance, and introduction to correlation and regression. prereq: LSBE Candidate and one of the following courses: ECON 2030, POL 2700, PSY 3020, SOC 3155, STAT 1411, STAT 2411, STAT 3411 or STAT 3611.

**ECON 3022. Intermediate Macroeconomics.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Determinants of national income, employment, and price levels with particular attention to aggregate demand and aggregate supply, and monetary and fiscal policy. prereq: 1022, 1023, Math 1160 or Math 1296, Econ major or minor or LSBE candidate

**ECON 3023. Intermediate Microeconomics.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Behavior of households as consuming units and suppliers of resources; analysis of

decision making by firms under various market conditions. prereq: 1022, 1023, Math 1160 or Math 1296, Econ major or minor or LSBE candidate

**ECON 3030. Econometrics I.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Techniques used in analyzing economic and business data; emphasis on computer methods and research applications. Analysis of variance, qualitative data analysis, modeling, regression, residual and influence analysis, time series. prereq: 1022, 1023, (2030 or Stat 1411 or Stat 2411 or Stat 3611), Math 1160 or Math 1296, Econ 3020 or STAT 3612, Econ major or minor or LSBE candidate

**ECON 3150. Development Economics.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Overview of the conceptual meaning of economic growth and development, problems facing developing countries, economic models underlying different development paths. Exploration of socio-historical and economic reasons for lack of development in selected areas and policy options to promote economic progress. prereq: 1022, 1023

**ECON 3311. Money and Banking.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Role of financial institutions and markets, emphasis on Federal Reserve System and its control of commercial banking system, monetary theory and policy, and international economics. prereq: 1022, Econ major or minor or LSBE candidate

**ECON 3314. Sports Economics.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course will introduce and apply microeconomic concepts to issues that arise or pertain to the business and practice of sports. The relevant areas of microeconomics include industrial organization, antitrust, game theory, labor, public finance and urban economics. When and where possible, current real world applications of economics in the sporting world will be discussed. prereq: 1022, 1023, Econ major or minor or LSBE candidate

**ECON 3402. Global Economic Issues.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Application of economic theory of markets to analyze major issues shaping the future of the world economy. Emphasizes globalization of markets and the institutions involved in coordinating economic policies among world economies prereq: LSBE candidate or Econ major or Econ minor

**ECON 3570. Public Finance.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Theory and practice of determining governmental expenditures and revenues, including consideration of public goods, welfare economics, raising of revenues, debt policy, and economic stabilization. prereq: 1022, 1023

**ECON 3595. Special Topics: (Various Titles to be Assigned).** (; 1-3 cr. ; A-F or Audit; Periodic Spring)  
Topics announced in Class Schedule.

**ECON 3721. Natural Resource and Energy Economics.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Microeconomic analysis of natural resource and energy markets. Role of these resources in production processes and waste generation, use and pricing of nonrenewable and renewable resources over time, resource availability, sustainable development, and ecological economics. prereq: 1023, preferred but not required: 3023; credit will not be granted if already received for ECON 4721

**ECON 3777. Environmental Economics.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Microeconomic analysis of environmental quality as an economic good. Pollution control, benefit-cost analysis, valuation methodologies and their application to air and water quality, hazardous waste management, preservation, and global pollutants. prereq: 1023, preferred but not required: 3023; credit will not be granted if already received for ECON 4777

**ECON 3821. Labor Economics: Theory and Issues.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Labor markets from theoretical and institutional perspectives, including wage theories, labor supply, labor demand and employment, human capital investments, and occupational choice. prereq: 1023, preferred but not required 3023, Econ major or minor or LSBE cand

**ECON 3910. Economics of Health Care.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Explores the health care sector and health policy issues from an economic perspective. Topics to be examined include the demand for health and medical care services, health insurance markets, federal health insurance programs, and the pharmaceutical industry. prereq: 1022, 1023, Economics major or minor or Health Care Management minor or LSBE cand

**ECON 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Economics (EC)

**EC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Economics (ECON)

**ECON 4040. Econometrics II.** (3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Development and application of tools of economic research and analysis; emphasis on critical thinking using computer-based statistical methods. Econometrics (theory and practice), applied research techniques, economic forecasting, and time series analysis. Research report. prereq: 3030 or Stat 5511 or MKTG 3761

**ECON 4213. Mathematical Economics.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Application of fundamentals of differential and integral calculus and linear algebra to static,

comparative static, and dynamic topics in microeconomics and macroeconomics. prereq: 1022, 1023, Math 1160 or Math 1296

**ECON 4315. Monetary Theory and Policy.**

(; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Development of monetary theory and implications of theory for Federal Reserve System's control of money supply and financial institutions, money market strategy, and monetary policy, including goals, targets, and indicators. prereq: 3022

**ECON 4397. Economics Internship.** (1-6 cr. ; A-F only; Every Fall, Spring & Summer)

Work-integrated learning program providing practical experiences within students major. Students participate in approved program within cooperating business, governmental agencies, or civic organizations. There are minimum hours based upon the credits you select for the course; 1 credit = 100 hour minimum; 2 credits = 150 hours minimum; 3 credits = 200 hour minimum. The course also requires completion of internship contract, assignments, and performance evaluations. For LSBE majors that allow for only three (or fewer) credit hours of internship in the major curriculum, students will be allowed to count the remaining internship credits in the Upper Division Supporting Courses category. Maximum credits: 6; 3 completions allowed Prereq: LSBE Candidate, prior major coursework, consent of Internship Director; no grad credit

**ECON 4410. International Economics.**

(3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Classical and modern theory of international trade. Extension, empirical verification, and applications of modern theory. Alternative theories of international trade. Concept and measurement of balance of payments. Methods of balance of payments adjustments. Alternative international monetary systems. Selected current issues. prereq: 1022, 1023, 3022 or 3023, no grad credit

**ECON 4512. Firm Decision and Strategy.**

(3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Applied microeconomics combining topics that focus on decision-making faced primarily by private institutions from the Managerial and Industrial Organization fields. Topics include demand for products, production and costs, pricing and output decision, and antitrust law. prereq: 3023, 3030 or STAT 5511; no grad credit

**ECON 4590. Economic and Business Forecasting.** (3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

The course seeks to provide students with the statistical and computational tools required to conduct economic forecasting applied to economic and business decision-making. Topics include time series analysis, Box-Jenkins and ARIMA processes, Exponential Smoothing, Estimation and Forecasting, Forecast Evaluation, Nonlinear Time Series, Time Series Topics. Forecasts will be

applied to economic and business examples, including sales, financial decisions and policy. Econometric software will be taught. pre-req: 3022 and (ECON 3030 or STAT 5511)

**ECON 4613. Oligopoly and Monopoly.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Alternatives open to a free-enterprise economy when economic goals have not been satisfactorily achieved by the private sector. Public regulation and antitrust legislation and enforcement examined as a means of social control when unacceptable market failures exist. prereq: 1023, 3023

**ECON 4991. Independent Study.** (1-6 cr. ; A-F or Audit; Every Fall, Spring & Summer)

For students wishing to do special work in areas useful to individual programs and objectives and not available in regular course offerings. prereq: Economics major, 12 credits of Econ 3xxx or above, instructor consent

**ECON 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Economics (EC)

**EC 4999X. Non Direct Equivalent.** (0-999

cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Economics (ECON)

**ECON 5040. Econometrics II.** (3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Development and application of tools of economic research and analysis; emphasis on critical thinking using computer-based statistical methods. Econometrics (theory and practice), applied research techniques, economic forecasting, and time series analysis. Research report. pre-req: Econ 3030 or STAT 5511 or MKTG 3761 or CIA 3761, MBA student or department consent

**ECON 5213. Mathematical Economics.**

(3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Application of fundamentals of differential and integral calculus and linear algebra to static, comparative static, and dynamic topics in microeconomics and macroeconomics. pre-req: MBA student or department consent

**ECON 5410. International Economics.**

(3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Classical and modern theory of international trade. Extension, empirical verification, and applications of modern theory. Alternative theories of international trade. Concept and measurement of balance of payments. Methods of balance of payments adjustments. Alternative international monetary systems. Selected current issues. pre-req: ECON 1022, 1023, 3022 or 3023, MBA student or department consent

**ECON 5590. Economic and Business Forecasting.** (3 cr. ; A-F or Audit; Fall Odd Year)

The course seeks to provide students with the statistical and computational tools required to conduct economic forecasting applied to economic and business decision-making. Topics include time series analysis, Box-Jenkins and ARIMA processes, Exponential Smoothing, Estimation and Forecasting, Forecast Evaluation, Nonlinear Time Series, Time Series Topics. Forecasts will be applied to economic and business examples, including sales, financial decisions and policy. Econometric software will be taught. pre-req: MBA student or department consent

**ECON 5613. Oligopoly and Monopoly.**

(3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Alternatives open to a free-enterprise economy when economic goals have not been satisfactorily achieved by the private sector. Public regulation and antitrust legislation and enforcement examined as a means of social control when unacceptable market failures exist. pre-req: ECON 1023, 3023, MBA student or department consent

**ECON 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Economics (EC)

**EC 5999X. Non Direct Equivalent.** (0-999

cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Education (EDUC)

**EDUC 1000. Human Development.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Patterns and theories of development from conception through late adulthood emphasizing early childhood through adolescence; analysis of individual, family, and environmental factors which affect development over the life span.

**EDUC 1001. Cross-cutting Science**

**Concepts for Teachers.** (3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Explore cross-cutting concepts for science in order to develop pedagogical content knowledge for teaching science in elementary schools. Big ideas in science frame the course, including: patterns; cause and effect; scale and quantity; systems; energy and matter; structure and function; and stability and change. Interdisciplinary connections between earth science, physical science, and life science concepts will be examined, as well as connections to engineering and mathematics. pre-req: IESE major or pre-IESE major

**EDUC 1100. Human Diversity.**

(CDIVERSITY; 3 cr. ; A-F or Audit; Every Fall & Spring)

Cultural, physical, socially constructed, and psychological differences in people. Social, political, and economic implications of human diversity in modern society. Practicum in community agency.

**EDUC 1101. Education in Modern Society.**

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

Survey of educational institutions and practices used in different sectors of society. Historical and philosophical foundations of American education.

### **EDUC 1103. Introduction to Africa.**

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

Examination of the histories, cultures, and peoples of Africa. Pre-colonization Africa societies. Colonial and postcolonial contacts with Europe. Brief survey of major social, cultural, economic, and political institutions of Africa and their roles in socioeconomic and political development. Issues facing contemporary African societies. Programs and policies to address Africa's problems. Africa and the world. Positioning Africa and its peoples in world affairs.

### **EDUC 1201. Managing Planet Earth.**

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

Environmental education; exploration of key concepts and principles that govern how nature works; potential solutions to environmental and resource problems.

### **EDUC 1302. Topics in Academic Reading I.**

(; 3 cr. [max 6 cr.] ; A-F or Audit; Every Fall) Topics in Academic Reading I focuses on critical reading in a particular field, building an academic context for language development. Students read, take notes, study terminology, develop ideas, and organize, extend, and articulate opinions about the readings through writing and discussion. Course activities will center around reading authentic college texts in an academic area (ex. the social sciences). This is intended to be a learning-community paired course. prereq: This course was previously offered as LANG 1302; instructor consent; maximum of 4 credits between EDUC 1302 and LANG 1302

**EDUC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## **Education (ED)**

**ED 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## **Education (EDUC)**

### **EDUC 2000. Technology for Teaching and Learning.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Using technology tools to enhance student learning in kindergarten through grade 6, including interactive whiteboards, tablet computers, other technology tools. Creating, teaching and assessing lessons; differentiating instruction with technology. prereq: minimum 12 credits

### **EDUC 2301. English for Academic Writing.**

(3 cr. [max 6 cr.] ; A-F or Audit; Every Fall) Academic writing for students who are not native speakers of English. Build fluency, comfort with summarizing, quoting, using sources to develop an organized essay;

practice drafting and revising; sentence-level editing. prereq: This course was previously offered as LANG 2301; instructor consent; maximum of 6 credits between EDUC 2301 and LANG 2301

### **EDUC 2302. Topics in Academic Reading II.**

(; 3 cr. [max 6 cr.] ; A-F or Audit; Every Spring) Topics in Academic Reading II focuses on critical reading in a particular field, building an academic context for language development. Students read, take notes, study terminology, develop ideas, and organize, extend, and articulate opinions about the readings through writing and discussion. Course activities will center around reading authentic college texts in an academic area (ex. the social sciences). For students whom English is not the first language. prereq: This course was previously listed as LANG 2302; maximum of 6 credits between EDUC 2302 and LANG 2302

### **EDUC 2303. Academic Interactions:**

**Listening and Speaking in the College Classroom.** (; 2 cr. ; A-F or Audit; Every Fall & Summer)

English for advanced listening/speaking in the college classroom, for international, non-native speakers of English: lecture comprehension; language and strategies for negotiating group work, leading discussions, giving presentations, and other forms of class participation. Course includes orientation to U.S. classroom, campus life and student services. prereq: This course was previously listed as LANG 2303; instructor consent; maximum of 5 credits between EDUC 2303 and LANG 2303

### **EDUC 2304. Editing for Writers.** (; 2 cr. [max 4 cr.] ; A-F or Audit; Every Fall & Spring)

This language course focuses on editing for grammatical accuracy and academic style. Students will examine features of formal academic writing, study grammar, take useful grammar notes, practice with a variety of sentence structures, and develop strategies for editing and proofreading. Can be taken concurrently with Writ. 1120. For students for whom English is not the first language. prereq: This course was previously listed as LANG 2304; maximum of 4 credits between EDUC 2304 and LANG 2304

**EDUC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## **Education (ED)**

**ED 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## **Education (EDUC)**

### **EDUC 3100. Bilingualism & Biliteracy Development: Foundations of Second Language Acquisition.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Students in this course learn about cognitive and social benefits of bilingualism and multilingualism while considering how second language acquisition research informs

language teaching. They learn about the major theories in the field of second language acquisition, including newer interdisciplinary approaches. Students explore the internal and external factors affecting second language acquisition in naturalistic and instructional settings, such as motivation and length of instruction. They also learn about biliteracy development, the transfer of skills across languages, and academic language acquisition. By the end of this course, students are able to explain the processes of second language acquisition and the outcomes of such processes in social and academic contexts.

### **EDUC 3202. African Story-Telling and Folklore.** (; 3 cr. ; A-F or Audit; Every Fall & Summer)

This course is about the importance of story-telling and folklore in diverse African societies. It will examine the social context of the types, forms, and genres of story-telling in African societies and the folklores associated with story-telling. It traces the history of story-telling in African societies before and after colonization, the cultural expressions and meanings of folklore, uses and applications of story-telling and folklore, and the role of community in defining the boundaries of story-telling and folkloric culture.

### **EDUC 3211. Teaching English as a Foreign Language Theory and Methods.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

This course is intended for students interested in teaching internationally and offers a practical introduction to English language teaching to non-native speakers of English in a non-native language environment by linking practice to current theory and research. In addition to reviewing how to create lesson plans based on principles and knowledge of learning outcomes, meaningful teaching techniques, models of teaching, motivation, and classroom management, this class provides a solid pedagogical foundation for teaching listening, speaking, reading, writing, pronunciation, vocabulary, and grammar. Students review the classification of language instruction practices and the major international language tests, discuss cross-cultural communication, and address the impact of cultural variables on English language learning in an international setting. The course includes a module on using technology in a variety of educational contexts. This course and program do not lead to a Minnesota teaching license. pre-req: EDUC 3100

### **EDUC 3311. English Language Learner Teaching Methods.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

The course prepares students for teaching and accommodating culturally and linguistically different learners by reviewing the foundations of immersion education and content-based language instruction. Students learn to adapt materials and activities, as well as evaluate and effectively use existing practices and resources. Students practice making graphic organizers, study guides, and other materials required to teach English language learners (ELL). The course analyzes the principles of

backward course design, learners' needs assessment, cooperative learning strategies, and includes comparative analysis of Basic Interpersonal Communication Skills (BICS) vs. Cognitive Academic Language Proficiency (CALP). Students develop the instructional strategy of modeling and enhance their teaching skills through the advanced use of visual resources. The course incorporates highly practical readings and provides students with successful real-life classroom strategies for improving the learning achievements of all their learners with a focus on English language learners. This course and program do not lead to a Minnesota teaching license. pre-req: EDUC 3100

**EDUC 3330. Assessment of Language Development.** (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

This course includes a review of assessment theory and its application in teaching English language learners (ELLs) and multilingual students. This includes an emphasis on performance-based assessment in language education. In addition, the course explores equity issues related to assessment practices in light of bilingualism and cultural backgrounds. Students will analyze how language and cultural differences impact responses to tasks and learn to identify bias present in assessment methods. They will demonstrate how to provide meaningful feedback to ELLs and incorporate test-taking strategies into their lessons. By the end of this course, students will describe best practices of assessment theory and apply this to the creation of authentic assessment plans for language education. They will also demonstrate thinking critically about assessment methods in regards to multilingual learners based on increased knowledge of language proficiency levels and cultural inclusivity.

**EDUC 3340. Interacting with Diverse Families.** (3 cr. ; A-F or Audit; Every Fall) Issues relating to working with and advocating for families from diverse backgrounds and/or with diverse needs. Emphasis on linguistically diverse families, immigrant families, families headed by single parents, members with a disability and families headed by lesbian/gay parents. pre-req: Credit will not be granted if credit has been received for EDUC 5340.

**EDUC 3412. The Computer in Education.** (4 cr. ; A-F or Audit; Every Fall, Spring & Summer) Introduction to computer use in instructional settings. PC and Mac platforms. Develops basic skills using software commonly used by educators. Teaching strategies using computer-based instruction.

**EDUC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Education (ED)

**ED 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Education (EDUC)

**EDUC 4040. World Language Teaching Methods.** (4 cr. ; A-F or Audit; Every Spring) This course prepares teacher candidates with the necessary information, resources, and skill to become teachers of world languages in K-12. Content focus will include various teaching methods and approaches, fundamentals of language learning, and program components such as assessment, proficiency, and language standards. Students will develop their skills in planning and implementing language programs through lesson and unit planning, and micro-teaching experience. pre-req: FR 2301 or GER 2301 or SPAN 2301 or equivalent, admission to EdSe program or instructor consent; grad credit; credit will not be granted if already received for LANG 4044

**EDUC 4050. Language Policy and Education.** (2 cr. ; A-F or Audit; Every Fall, Spring & Summer)

The course reviews the connection between language, culture, and identity while focusing on the global state of immersion education in which content is taught in a language other than the majority language. Students will examine issues related to language ideologies and power both in the United States and abroad. They will explore the philosophical goals of immersion education, comparing and contrasting the different models of one-way immersion and two-way immersion (also known as bilingual education). This course includes a historic overview of language policy in the United States. Students will analyze past and present legislation as they discuss the role of education in language planning. By the end of this course, students will be able to match key features of immersion programs, including one-way and two-way programs, to the particular needs of a student or community and will be able to situate models of language education in a sociopolitical context. pre-req: EDUC 3100; no grad credit

**EDUC 4099. Teaching English to Speakers of Other Languages/Teaching English as a Foreign Language Practicum.** (1 cr. ; A-F only; Every Fall, Spring & Summer) This practicum is required for students in the Teaching English to Speakers of Other Languages (TESOL) and Multilingual Education minor or Teaching English as a Foreign Language (TEFL) Certificate. The course includes observation of experienced English as a Second Language teachers as well as hands-on experience working with English language learners and emerging bilinguals. In this course, students synthesize theoretical research with reflective observation, thus adding to their understanding of evidence-based teaching. In practicum placements, students will be exposed to a variety of age groups and proficiency levels in order to broaden their understanding of the field of TESOL and TEFL within public schools and immersion programs. Students with proficiency in another language may also have the option to be placed in immersion schools.

Students complete 40 hours of combined observation and direct work with English language learners and emerging bilinguals. At the end of this practicum, students have a deeper understanding of the connection between theory and practice. pre-req: EDUC 3211 or 3311 (or concurrent registration) and instructor consent

**EDUC 4110. Advanced Earth Science for Teachers.** (2 cr. ; A-F or Audit; Every Spring) Investigative approach to secondary school teaching of modern earth science curricula, including aspects of astronomy, meteorology, oceanography, and geology, the latter with an emphasis on plate tectonics. (2 hrs lect) prereq: AST 1040, EDSE 4204, GEOL 1110, 2110 or 2120 or 3210; teaching science majors or grad student or instructor consent; no grad credit, credit will not be granted if already received for GEOL 4110

**EDUC 4226. Geometry for Teachers in Grades 5-8.** (3 cr. ; A-F or Audit; Every Spring)

The development of geometry concepts through investigations of geometric relationships and informal properties provides the basis for examining the teaching and learning of geometry in grades 5-8. pre-req: Math 1140 or 1296

**EDUC 4227. Number Theory for Teachers in Grades 5-8.** (3 cr. ; A-F or Audit; Every Fall) The development of number concepts and theories through investigations and applications of discrete mathematics strategies provides the basis for examining the teaching and learning of number theory in grades 5-8. pre-req: Math 1140 or 1296

**EDUC 4228. Teaching Mathematics with Technology.** (3 cr. ; A-F only; Every Fall) Using mathematics-based technology such as computer software, calculators, and Internet applets to examine the teaching and learning of mathematics. pre-req: Math 1140 or 1296

**EDUC 4234. Science, Technology, and Society.** (SUSTAIN; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Nontechnical study of historical and cultural impact of natural science and technology on the earth and its inhabitants. pre-req: Minimum 30 credits, no grad credits

**EDUC 4347. Second Language Acquisition & ELL: How Second Languages are Learned & Methods for Teaching.** (2 cr. ; A-F only; Every Fall & Spring)

English language learners are increasing as a significant demographic in US P-16 classrooms. This course provides a theoretical and research-based introduction to Second Language Acquisition, including description of theoretical, pedagogical and policy issues. Candidate will learn classroom methodology for instruction ELL, and best practices for developing literacy skills in diverse classrooms, with attention to oral, written, academic literacy, and reading comprehension. pre-req: Admission to IESE program and successful completion of Block One courses and associated field experience; no grad credit; credit will not be granted if already received for ELED 4347

**EDUC 4381. Teaching Indigenous Students.**

(; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Survey of contemporary and historical Indian education; evaluation of attitudes toward Indian students; direct interaction with Indian parents and students; development of culturally sensitive teaching plans; specific cultural characteristics of indigenous groups; examination of American Indian outcomes. prereq: EDSE 4100 or Admission to IESE program and successful completion of Blocks One and Two courses and associated field experiences, no grad credit; credit will not be granted if already received credit for EDUC 5381.

**EDUC 4500. Professional Issues and Ethics.**

(; 1 cr. ; A-F or Audit; Every Fall & Spring)  
Provides an overview of several topics affecting practicing teachers including: employment preparation (resume, cover letter, interviewing skills), licensure application, professional organizations, professional codes of ethics, and district procedures. Offered concurrent with student teaching in order to provide options for discussion during practica. prereq: Admission to the elementary education program, successful completion of courses in block one and block two, no grad credit

**EDUC 4990. Education Teacher**

**Performance Assessment.** (0 cr. ; No Grade Associated; Every Fall, Spring & Summer)  
This 0 credit course is designed to cover the expense of the Education Teacher Performance Assessment (edTPA) required by the State of Minnesota Board of Teaching to be complete by Education candidates during student teaching in order to be eligible for licensure in the State of Minnesota. pre-req: taken simultaneous with one of the following student teaching courses ECH 4600 or ELED 4600 or EDSE 4600, department consent; no grad credit

**EDUC 4991. Independent Study.**

(0.5-3 cr. [max 6 cr.]; A-F or Audit; Every Fall & Spring)  
Directed independent study, readings, and/or projects of interest to education students. prereq: instructor consent; no grad credit

**EDUC 4995. Education Special Topics.**

(; 1-4 cr. ; A-F or Audit; Periodic Summer)  
Special topics as assigned

**EDUC 4999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Education (ED)****ED 4999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Education (EDUC)****EDUC 5081. Indigenous Education: History, Policy and Decolonization.**

(; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Focus on the development of educational policies for American Indian people through the 20th Century. Examines shifts in educational policy the impact of such policy and how

American Indians reacted to the nature of education programs and sought to reform schools to better meet tribal and community needs. Features of American Indian education policy development, relationship and role of research and science, public perceptions of American Indians, Indian activism, and tribal and community involvement in educational policy will be discussed and analyzed. A number of policy themes will be explored such as language and culture, self-determination and control, expansion of education opportunities and the well being of American Indian children and youth through the statutory and programmatic iterations of these themes. The focus will be on cultural pluralism and the importance of education today that support American Indian/Alaska Native self-determination, identity and cultural integrity. prereq: Graduate student; credit will not be granted if already received for EDUC 4081

**EDUC 5227. Number Theory for Teachers in**

**Grade 5 - 8.** (; 3 cr. ; A-F or Audit; Every Fall & Summer)

The development of number concepts and theories through investigations and applications of discrete mathematics strategies provides the basis for examining the teaching and learning of number theory in grades 5 - 8. prereq: Math 1141 or 1296 or 1596

**EDUC 5230. Indigenous Peoples and the**

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

This course will examine the intersection of Indigenous peoples, traditional and contemporary practices of sustainability, planetary ecological issues, the impact on Indigenous peoples and the possibilities provided by Indigenous place-based/ environmental education. Indigenous peoples cultural relationship to place will also be explored along with a critical examination of the impact colonization, patriarchy and capitalism has had on Indigenous homelands and centers of power. Attention will be given to Indigenous initiatives that are working toward the healing of their homelands and the planet. pre-req: instructor consent

**EDUC 5340. Interacting With Diverse**

**Families.** (3 cr. ; A-F or Audit; Every Fall)  
Issues relating to working with and advocating for families from diverse backgrounds and/or with diverse needs. Emphasis on linguistically diverse families, immigrant families, families headed by single parents, families with members with a disability, families headed by lesbian/gay parents. prereq: 90 cr or instructor consent

**EDUC 5412. The Computer in Education.**

(4 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Introduction to computer use in instructional settings. PC and Mac platforms. Develops basic skills using software commonly used by educators. Teaching strategies using computer-assisted instruction.

**EDUC 5413. Teaching With Technology.**

(; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Develops basic computer and educational technology skills focusing on using

microcomputers for communications. prereq: 3412 or 5412, min 60 cr or coll grad or instructor consent

**EDUC 5414. Using Technology for the Administrative Tasks of Teaching.**

(; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Develops basic computer and educational technology skills focusing on using microcomputers for administrative tasks of teaching. prereq: Min 60 cr or coll grad; 3412 or 5412, 5413 or instructor consent

**EDUC 5415. Teaching Online and Hybrid**

**Courses.** (; 4 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Designing completely online courses and hybrid (partially face-to-face and partially online) courses. Instructional design, methods of teaching, creating learning activities, technology tools, social dimensions, assessment of student learning. prereq: Min 60 cr or coll grad, 3412 or 5412, 5413, 5414 or instructor consent

**EDUC 5990. Research Project.**

(1-6 cr. [max 36 cr.]; S-N only; Every Fall, Spring & Summer)

Faculty-supervised research project required for MED prereq: Instructor consent

**EDUC 5991. Independent Study.**

(; 0.5-4 cr. [max 8 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Directed independent study, readings, and/or projects of interest to students in education.

**EDUC 5995. Special Topics: (Various Titles to be assigned).**

(; 0.5-4 cr. [max 16 cr.]; A-F or Audit; Periodic Fall & Spring)  
Topics selected from education to meet needs and interests of different groups of students.

**EDUC 5999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Education (ED)****ED 5999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Education Curriculum & Instr (EDCI)****EDCI 1999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDCI 2999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDCI 3999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDCI 4999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDCI 5999X. Non Direct Equivalent.**

(0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**Education, Secondary (EDSE)**

**EDSE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDSE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDSE 3206. Apprenticeship: Secondary School.** (; 2 cr. ; A-F or Audit; Every Fall & Spring)

Fifty hours of experience in a high school, including observing, teaching, tutoring, working with individual students and small groups. Focuses on classroom management, multicultural education, and students with special needs. Weekly seminar. prereq: Admission to EdSe program, must be taken either after or concurrently with EDSE 3204

**EDSE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDSE 4100. Teaching in a Diverse Society.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Examination of cultural differences; planning instruction to accommodate individual differences in race, gender, ethnic background, cultural background, and physical and mental development; Including the diverse needs of learners in middle school and secondary school settings; integrated and exploratory curriculum, utilization of technology, community resources, structured service learning and humanizing classroom environments and classroom management procedures. prereq: Admission to EdSe program

**EDSE 4204. Designing Learning Environments and Lessons.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

The characteristics of effective teachers, various developmentally appropriate teaching strategies, design of lessons using Universal Backward Design framework, designing effective learning environments, goals and action plans, site data, collaboratively review of student work, collaborative planning, integrated and exploratory curriculum, content standards, teaching with technology, observation skills and teacher readiness will be presented with integration and analysis of materials. prereq: Admission to EdSe program; no grad credit

**EDSE 4214. Teaching Content-Area Reading.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Teaching reading within 5-12 content-area courses as pedagogy for improving literacy. Developing an understanding of the brain, cognition, and reading. Exploration of stages of literacy, methods for promoting reading, and strategies for improving comprehension. Lesson planning for content-area reading. Diverse learners and critical literacy in the content-area classroom.

**EDSE 4215. Teaching Reading and Literature: Grades 5-12.** (4 cr. [max 5 cr.] ; A-F or Audit; Periodic Fall & Spring)

Teaching procedures, objectives, and materials; emphasis on teaching of reading in various subject-matter fields, practicum experience. prereq: Major or pre teaching comm arts/lit students

**EDSE 4222. Teaching Mathematics: Grades 5-12.** (4 cr. ; A-F or Audit; Every Fall)

Standards for secondary mathematics as they apply to learning, teaching, curriculum, and integration of technologies in mathematics grades 5-12; emphasis on use of problematic approach to mathematical sense-making. prereq: Admission to EdSe program, 4204 or instructor consent, no grad credit

**EDSE 4244. Teaching Social Studies: Grades 5-12.** (3 cr. ; A-F or Audit; Every Spring)

History and philosophy of social studies education; social studies objectives; curriculum design; instructional planning and use of resources; evaluation procedures. prereq: Admission to EdSe program, 3204 or instructor consent; no grad credit

**EDSE 4255. Teaching Science: Grades 5-12.** (3 cr. ; A-F or Audit; Every Spring)

Historical development of science education. Goals and purposes of science education in secondary schools; methods and materials; evaluation procedures; current trends. prereq: Admission to EdSe program, 3204 or instructor consent; no grad credit

**EDSE 4501. Adolescent/Adult Development and Learning Theory.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Principles of psychology applied to teaching; examination of adolescent growth and development; classroom management. prereq: Admission to EdSe program; no grad credit

**EDSE 4525. Assessment for Secondary Education.** (; 3 cr. ; A-F only; Every Fall & Spring)

An exploration of topics in responsive and responsible assessment of student learning. Topics include types and appropriate uses of classroom assessment strategies, large-scale and high stakes testing, backwards design, rubrics, checklists, and other evaluative tools and techniques. prereq: instructor consent; no grad credit

**EDSE 4600. Student Teaching.** (3-24 cr. ; S-N or Audit; Every Fall & Spring)

Supervised practicum in secondary or middle school under direction of licensed teacher. Demonstration of subject matter, teaching competence, and potential for future improvement. Maximum number of 12 credits per semester. prereq: 4100, 4501, appropriate methods course; no grad credit

**EDSE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDSE 5000. Introduction to Post-Secondary Teaching.** (; 2 cr. ; A-F or Audit; Every Fall)

Introduction to Teaching will provide a brief overview of learning theory, student and teacher expectations, development of a syllabus, lesson planning goals, rubrics, assignments, student evaluation/assessment,

how to submit grades, online teaching using electronic course platforms, classroom management and other topics pertinent to teaching adult learners. This class will provide support for new graduate teaching assistants and new faculty at community colleges. prereq: grad student or community college faculty

**EDSE 5204. Designing Learning Environments.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

A comprehensive course that describes the characteristics of effective teachers, introduces teaching strategies using the Universal Backward Design framework, how to design effective learning environments, how to develop goals and action plans, manage data, review student work, plan lessons, and teach with technology. prereq: Grad student or new faculty at a community college; instructor consent

**EDSE 5255. Teaching Science Grades 5 - 12.** (3 cr. ; A-F or Audit; Every Spring)

The course serves to help teacher candidates focus on important elements to teaching of science in secondary and post-secondary education settings. Topics include: historical development of science education, goals and purposes of science education in secondary schools and post-secondary education settings; inquiry, methods and materials' evaluation procedures; current trends; and compare adolescent learning to adult learning of science education. prereq: 5000, 5204, 5501, 5525

**EDSE 5501. Adolescent/Adult Development and Learning Theory.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Principles of psychology applied to teaching; examination of adolescent growth and development and classroom management. Graduate students will include adult learning theory in terms of growth and development and how to organize and manage post-secondary classroom. prereq: Grad student or faculty at post-secondary institution or instructor consent

**EDSE 5525. Assessment for Secondary Education.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

An exploration of topics in responsive and responsible assessment of student learning. Topics include types and appropriate uses of classroom assessment strategies, large-scale and high stakes testing, backwards design, rubrics, checklists, and other evaluative tools and techniques. Graduate students will complete an adult based project to develop a model of assessment to measure adult learners in their classes. prereq: graduate student, faculty at community college or instructor consent

**EDSE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Education/Human Service Pro (EHS)**

**EHS 1000. Into the World.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Fall)



This course fulfills the UST 1000 requirement. Facilitates the transition into college learning and student life at UMD and the College of Education and Human Service Professions. Introduces the promise and peril of global challenges in the 21st century and relates these challenges to local communities. pre-req: 1st semester CEHSP student

**EHS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EHS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EHS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EHS 4990. Individualized Integrated Major Capstone Project.** (1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
EHS 4990 is the culminating course for students enrolled in the Individualized Integrated Major Program (IIMP). The IIMP Capstone Project will be developed by the student in consultation with their project advisor(s). The project will be reflective of the interdisciplinary nature of the program and could take the form of either a research project or an applied project. All projects will require a written final report. The IIMP Committee will review and approve both the proposed and the completed capstone project. Students must complete a minimum of 3 credits for this course. pre-req: IIMP major, minimum 90 credits, instructor consent

**EHS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EHS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Educational Administration (EDAD)

**EDAD 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDAD 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDAD 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDAD 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EDAD 5911. Educational Organization and Leadership.** ( ; 3 cr. ; A-F or Audit; Every Summer)  
An overview of leadership from a theoretical perspective. Learners will begin to see the role and styles of leadership in relationship to the culture of schools and communities. prereq: EdAd lic program or collegiate grad program admission or instructor consent

**EDAD 5912. Supervision of Teachers and School Staff.** ( ; 3 cr. ; A-F or Audit; Every Fall)  
Includes applications and philosophies of supervision of teachers/principals, staff development, motivation, attention to diversity, evaluation, MN teacher tenure rules ad process for hiring and for dismissal, interpersonal communications, and human resource management. prereq: EdAd lic program or collegiate grad program admission or instr consent; no Grad School cr

**EDAD 5913. Communication and Community Relations.** ( ; 3 cr. ; A-F or Audit; Every Summer)  
Schools' public and media relations, communication needs of internal/external publics, processes to solicit support for initiatives, review of crises plans. prereq: EdAd lic program or collegiate program admission or instructor consent

**EDAD 5914. Education Policy.** ( ; 3 cr. ; A-F or Audit; Every Spring)  
Decision-making and school governance based on current laws and mandates. Rules, reporting, and regulations governing private, public, parochial, BIE, Community Education, and Alternative schools will be studied including special education, data privacy, right to know, liability. Tribal school policy and relations with independent districts will be examined. prereq: EdAd lic program or collegiate graduate program admission instr consent; no Grad School cr

**EDAD 5915. Operations Resource Management and Scheduling in Education.** ( ; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Focus on skills, knowledge and dispositions that enable administrators to plan and schedule work in ways that ensure that resources are used appropriately and goals are met. prereq: EdAd lic program or collegiate graduate program admission or instr consent; no Grad School cr

**EDAD 5916. Curriculum and Instruction and Assessment.** ( ; 3 cr. ; A-F or Audit; Every Fall)  
Overview of curriculum design. Both traditional and backwards design with practice in mapping, scope and sequence, large-scale testing, assessment of individual and systemic growth, early child education, and providing opportunities for all students. prereq: EdAd lic program or collegiate graduate program admission or instructor consent

**EDAD 5917. EdAd Technology Seminar.** ( ; 1 cr. [max 10 cr.] ; S-N or Audit; Every Summer)  
Showcases school management systems and innovation in educational technology, research in area schools, and current trends in leadership and educational administration.

**EDAD 5918. Continuous Improvement Processes for Schools.** ( ; 3 cr. ; Student Option; Every Summer)  
Examines effective data-driven continuous improvement best practices in schools. Learners will examine strategic planning, accreditation processes, state and federal accountability, AYP, reporting in order to

continue funding flow and establishment of effective leadership terms. prereq: EdAd lic program or collegiate graduate program admission or instructor consent

**EDAD 5919. Superintendency.** ( ; 3 cr. ; A-F or Audit; Every Fall)  
Examine the level of decision making that differentiates district administration and responsibility unique to the position including creating district level mission, vision, and strategic planning; contract negotiation; working with local, state, and federal agencies, program coordination at all levels, school board relations, and clear establishment of expectations. prereq: EdAd lic program or collegiate graduate program admission or instructor consent

**EDAD 5920. Problem Solving for Principals: Student Discipline and Behavior Management.** ( ; 3 cr. ; A-F or Audit; Every Fall)  
Case-study based course will examine theories of behavior management and evaluate the effectiveness of discipline approaches through lenses of development, culture, leadership styles and legal aspects of discipline for all students. prereq: EdAd lic program or collegiate graduate program admission or instructor consent

**EDAD 5921. Principalship.** ( ; 3 cr. ; A-F or Audit; Every Fall)  
Orients individuals to the responsibilities of the principal's positions in schools and districts. prereq: EdAd lic program or collegiate graduate program admission or instructor consent

**EDAD 5922. Problem Solving for Superintendents.** ( ; 3 cr. ; A-F or Audit; Every Summer)  
Presents solutions and pathways for superintendents, including labor relations, contract negotiations, bonds and referenda, policy creation and relationships with school boards and communities. prereq: EdAd lic program or collegiate grad program admission or instructor consent

**EDAD 5923. Field Exploration.** ( ; 2 cr. ; S-N only; Every Summer)  
Candidates for licensure as educational administrators will experience working in school systems that do not follow the traditional American model of delivery of programs and instruction. Travel is required and 20 hours of internship will be coordinated through the office of the Educational Administration Program Coordinator. prereq: EdAd lic program or collegiate grad program admission or instructor consent

**EDAD 5997. Professional Competency Assessment: Principals.** ( ; 1 cr. ; A-F or Audit; Every Fall)  
Capstone for the educational administrative program for principals. Learners will complete an electronic portfolio which includes valid evidence of competency for each core leadership and principal's competencies required for certificate approval. Candidates will prepare for final panel presentations. prereq: EdAd lic program or collegiate graduate program admission or instructor consent

**EDAD 5998. Professional Competency Assessment: Superintendents.** ( ; 1 cr. ; A-F or Audit; Every Fall)

Learners will complete an electronic portfolio which includes valid evidence of competency for each Core Leadership and Superintendent's Competencies required for certificate approval. Candidates will prepare for final panel presentations. prereq: EdAd Lic program or collegiate graduate program admission or instructor consent

**EDAD 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Electrical Engineering (EE)

**EE 1001. Introduction to Electrical Engineering.** ( ; 2 cr. ; A-F or Audit; Every Fall)  
Definition and description of electrical engineering. Digital and analog systems. Electrical engineering lab equipment and software. Selected specialties. (2 hrs lect) prereq: CE, ChE, CS, EE, IE, ME, EP majors only

**EE 1315. Digital Logic.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Binary number system and digital coding techniques. Boolean algebra, combinational logic circuits, and minimization techniques. Synchronous sequential circuits and state reduction techniques. Medium Scale Integration (MSI) combinational components. prereq: CE, ChE, CS, EE, IE, ME majors or instructor consent

**EE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EE 2006. Electrical Circuit Analysis.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Basic circuit analysis: resistive circuits, voltage and current sources--independent and dependent. Nodal and mesh analysis. Network theorems. Energy storage elements. RC, RL, and RLC transient and steady state analysis, phasors. SPICE analysis. (3 hrs lect, 3 hrs lab) prereq: Phys 2015, Math 3280 (Concurrent registration is allowed)

**EE 2111. Linear Systems and Signal Analysis.** ( ; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Signal and system modeling concepts, system analysis in time domain, Fourier series and Fourier transform. Discrete time domain signals and systems, Z transform, applications. (3 hrs lect, 3 hrs lab) prereq: 2006

**EE 2212. Electronics I.** ( ; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Diodes, BJTs, FETs, ideal operational amplifiers, DC analysis, small signal models, and analysis; single-stage circuits design; power amplifiers. (3 hrs lect, 3 hrs lab) prereq: 2006

**EE 2325. Microprocessor Systems.** ( ; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Microcomputer components. Instruction set, machine and assembly language programming. Addressing modes. Signed/

unsigned arithmetic. Stack uses. Assembly-level translation of high-level language constructions. Input/Output interfacing. Interrupt programming. (3 hrs lect, 3 hrs lab) prereq: 1315

**EE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EE 3151. Control Systems.** ( ; 4 cr. ; A-F or Audit; Every Fall & Spring)  
System mathematical modeling: differential equations, Laplace transform, block diagrams, signal flow graphs. System performance characteristics: time response, sensitivity, steady-state error. Stability analysis: Routh-Hurwitz, root locus and Nyquist. State variables. Compensation design, software tools. (3 hrs lect, 3 hrs lab) prereq: 2111

**EE 3235. Electronics II.** ( ; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Multistage circuits, frequency analysis, non-ideal operational amplifiers, feedback and stability, oscillators, filters. (3 hrs lect, 3 hrs lab) prereq: 2212

**EE 3445. Electromagnetic Fields.** ( ; 3 cr. ; A-F or Audit; Every Fall)  
Fundamentals of electromagnetic analysis. Electrostatic and magnetostatic fields. Introductory numerical analysis of electromagnetic fields. Time-varying fields and potentials. Maxwell's equations and their applications. (3 hrs lect) prereq: Math 3280, 3298, Phys 2012 or 2015 and 2016

**EE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EE 4151. Digital Control System Design.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Digital control system characteristics: transient and steady-state responses, frequency response, stability. Digital control system design using transform techniques. Controllability and observability. Design of digital control systems using state-space methods: pole placement and observer design, multivariable optimal control. Implementation issues in digital control. pre-req: EE 3151, , no grad credit, credit will not be granted if already received for EE 5151

**EE 4161. Linear State-Space Control Systems.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
State space representations of control systems and analysis and design. Stability, controllability, observability, realizations, state estimator or observer design and state feedback design. pre-req: EE 3151 or instructor consent, credit will not be granted if already received for EE 5161

**EE 4305. Computer Architecture.** (4 cr. ; A-F or Audit; Every Fall)  
Advanced assembly language programming techniques. Memory design principles. Virtual memory. Cache memory. Processor design. Pipelined and Reduced Instruction Set Computers (RISC). Advanced microprocessor features. (3 hrs lect, 3 hrs lab) prereq: 2325

**EE 4311. Design of VLSI Circuits.** ( ; 4 cr. ; A-F or Audit; Every Fall)

The course covers custom design process of very large scale integrated circuits in CMOS technology. prereq: 2212 or instructor consent, no grad credit, credit will not be granted if already received for 5311

**EE 4321. Computer Networks.** (3 cr. ; A-F or Audit; Periodic Fall)  
Network classification and services. Protocol and communication architectures. Hardware components: multiplexers, concentrators, bridges, routers, access servers. (3 hrs lect) prereq: 2325

**EE 4341. Digital Systems.** ( ; 4 cr. ; A-F or Audit; Periodic Spring)  
Digital logic family characteristics. Medium Scale Integration (MSI) components and applications. Programmable Logic Devices (PLDs). Alternative clocking techniques. Computer arithmetic circuits and memory design. Fundamental mode asynchronous finite-state machine design. (3 hrs lect, 3 hrs lab) prereq: 2325, no graduate credit; credit will not be granted if already received for ECE 3341

**EE 4351. Introduction to Robotics and Mobile Control Architecture.** (3 cr. ; A-F or Audit; Every Spring)  
Basic concepts and tools for the analysis, design, and control of robotic mechanisms. Topics include basic robot architecture and applications to dynamical systems, mobile mechanisms, kinematics, inverse kinematics, trajectory and motion planning, mobile robots, collision avoidance, and control architectures. pre-req: EE 3151, no grad credit, credit will not be granted if received for EE 5351

**EE 4477. Antennas and Transmission Lines.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Theory and performance of antennas and transmission lines. Topics: Allocation of RF spectrum, radiation theory, EM wave propagation, ground effects, interference, antenna performance metrics, transient and sinusoidal transmission line behavior, bounce diagrams, Smith chart, waveguide theory, modeling with the numerical electromagnetics code (NEC), unlicensed wireless applications, specific antenna designs and applications, class demonstrations. pre-req: EE 3445 or instructor consent. no grad credit, credit will not be granted if already received for EE 5477

**EE 4501. Power Systems.** (4 cr. ; A-F or Audit; Every Spring)  
Fundamentals of rotating machines: DC, synchronous, and induction machines. Transformers. Power system representation. Transmission lines. Power system analysis: stability and dynamic performance. Balanced and unbalanced faults. Power system protection. (3 hrs lect, 3 hrs lab) prereq: 2006; no grad credit

**EE 4522. Power Electronics I.** (3 cr. ; A-F or Audit; Every Spring)  
The course covers basic operating principles of different power topologies as well as feedback

loop design. pre-req: EE 3235 or instructor consent, no grad credit, credit will not be granted if already received for EE 5522.

**EE 4533. Grid - Resiliency, Efficiency and Technology.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Concepts are architecture or grid, smart grid and microgrid; resiliency under physical and cyber attacks; grid efficiency via sensors, networks and control; technology for cybersecurity and protection of the grid. pre-req: EE 2006 or instructor consent, no grad credit, credit will not be granted if already received for EE 5533

**EE 4611. Introduction to Solid-State Semiconductors.** (3 cr. ; A-F or Audit; Every Spring)

Fundamentals of solid-state semiconductors and devices. Quantum mechanical concepts and atomic states, solid-state structure, band structure, semiconductor statistics, and transport. (3 hrs lect) pre-req: Phys 2012 or 2015; credit will not be granted if already received for ECE 3611

**EE 4621. Microelectronics Technology.** (3 cr. ; A-F or Audit; Every Fall)

Various fabrication processes in micro-/ nano-scale semiconductor electronic and optoelectronic devices: lithography, oxidation, diffusion, thin film, deposition, etching and integration of various technologies; device simulation using COMSOL software; new materials and fabrication technologies. pre-req: EE 3235 or instructor consent, no grad credit, credit will not be granted if already received for EE 5611 or 5621.

**EE 4765. Modern Communication Systems.** (4 cr. ; A-F only; Periodic Fall & Spring)

Design and analysis of modern communication systems; evaluation of analog and digital modulation techniques with and without presence of signal noise. pre-req: EE 2111 or instructor consent, no grad credit, credit will not be granted if already received for EE 5765

**EE 4896. Co-op in Electrical Engineering.** (1 cr. [max 6 cr.] ; S-N or Audit; Every Fall, Spring & Summer)

Career-related work experience with employer closely associated with student's academic area. Students must have department approval for the course prior to starting the Co-op. Midterm status report and final written report with employer survey must be submitted to the EE department. This course cannot be counted towards EE degree requirements or EE technical electives. pre-req: BSEE or MSEE standing in Electrical Engineering, department consent

**EE 4899. Senior Design Project I.** (1 cr. ; A-F or Audit; Every Fall & Spring)

Selection and completion of team project approved and supervised by faculty. See also ECE 4999. pre-req: WRIT 3130, BSECE or BSEE or BSEP cand, instructor consent; no grad credit, credit will not be granted if already received for 4951

**EE 4951. Design Workshop.** (4 cr. ; A-F or Audit; Periodic Spring)

Study of a selected topic; its application to a design project, completed individually or in a small group. Focuses on a different method each semester offered. Completion satisfies requirement for a senior design project. pre-req: WRIT 3130 previous or concurrent registration allowed, BSECE or BSEE or BSEP cand, instructor consent; no Grad credit; credit will not be granted if already received for 4899

**EE 4991. Independent Study.** (1-3 cr. ; A-F or Audit; Periodic Fall & Spring)

Special projects not available in regular curriculum. Independent investigation, research studies, or survey of selected projects or problems. pre-req: instructor consent; does not qualify as EE or ECE technical elective

**EE 4999. Senior Design Project II.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Students present senior design project results in formal written and oral reports after making refinements. Complete documentation of results in professional manner required. Results must be presented in an oral report with other senior project team members. ECE 4899 and ECE 4999 must be completed within one year for credit. pre-req: 4899 and BSEP candidate, instructor consent, no Grad credit; credit will not be granted if already received for 4951

**EE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EE 5151. Digital Control System Design.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Digital control system characteristics: transient and steady-state responses, frequency response, stability. Digital control system design using transform techniques. Controllability and observability. Design of digital control systems using state-space methods: pole placement and observer design, multivariable optimal control. Implementation issues in digital control pre-req: 3151; credit will not be granted if already received for 4151

**EE 5161. Linear State-Space Control Systems.** (3 cr. ; A-F or Audit; Every Fall & Spring)

State space representations of control systems and analysis and design. Stability, controllability, observability, realizations, state estimator or observer design and state feedback design. pre-req: 3151 or instructor consent, credit will not be granted if already received for 4161

**EE 5311. Design of VLSI Circuits.** (4 cr. ; A-F or Audit; Every Fall)

This course covers custom design process of very large scale integrated circuits in CMOS technology. pre-req: EE 2212 or instructor consent

**EE 5315. Multiprocessor-Based System Design.** (3 cr. ; A-F or Audit; Periodic Fall)

Parallelism, interconnection networks, shared memory architecture, principles of scalable performance, vector computers, multiprocessors, multicomputers, dataflow architectures, and supercomputers. pre-req: 2325; credit will not be granted if already received for 4315

**EE 5351. Introduction to Robotics and Mobile Robot Control Architectures.** (3 cr. ; A-F or Audit; Every Spring)

Basic concepts and tools for the analysis, design, and control of robotic mechanisms. Topics include basic robot architecture and applications to dynamical systems, mobile mechanisms, kinematics, inverse kinematics, trajectory and motion planning, mobile robots, collision avoidance, and control architectures. pre-req: 3151, credit will not be granted if already received for 4351

**EE 5477. Antennas and Transmission Lines.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Theory and performance of antennas and transmission lines. Topics: Allocation of RF spectrum, radiation theory, EM wave propagation, ground effects, interference, antenna performance metrics, transient and sinusoidal transmission line behavior, bounce diagrams, Smith chart, waveguide theory, modeling with the numerical electromagnetics code (NEC), unlicensed wireless applications, specific antenna designs and applications, class demonstrations. pre-req: 3445; credit will not be granted if already received for 4477

**EE 5479. Antennas and Transmission Lines Laboratory.** (1 cr. ; A-F or Audit; Every Spring)

This laboratory course provides hands-on experience with designing, constructing, and measuring the performance of radio frequency (RF) antennas and transmission lines. Concepts include velocity factor, propagation, factors, characteristic impedance, tuning stubs and matching sections, resonance, parasitic elements, gain, directivity, return loss and RF safety. This course supports the theory presented in EE 5477 (Antennas and Transmission Lines) and is optional for those enrolled in or having completed EE 5477. pre-req: 5477 pre or co-req

**EE 5501. Energy Conversion System.** (3 cr. ; A-F or Audit; Every Fall)

Theory, design and operation of conventional and alternative electrical energy conversion systems. Carbon dioxide cycle, Earth/Sun radiation balance, and environmental impacts. Power delivery systems and integration of conversion systems with the grid. Development of generation portfolios. Impact of energy policies and current energy issues. Case studies. pre-req: Chem 1151 or 1153 and 1154

**EE 5522. Power Electronics I.** (3 cr. ; A-F or Audit; Every Spring)

Power semiconductor devices; traditional power converters; ac-dc converters: half-wave and full-wave rectifiers; dc-dc converters: traditional and transformer derived choppers; dc-ac converters: single-phase and three-phase inverters; ac-ac converters; pulse-width modulation; applications. pre-req: 3235; credit will not be granted if already received for 4522

**EE 5533. Grid- Resiliency, Efficiency and Technology.** (3 cr. ; A-F or Audit; Every Fall)

Concepts and architecture of grid, smart grid and microgrid; resiliency under physical and cyber attacks; grid efficiency via sensors, networks and control; technology including

standards and protocols for cybersecurity and protection of the grid; case studies and testbeds. prereq: 2006 or instructor consent

**EE 5621. Microelectronics Technology.** (; 3 cr. ; A-F only; Every Fall)

Various fabrication processes in silicon-based microelectronic circuits and devices: lithography, oxidation, diffusion, thin film deposition, etching and integration of various technologies; material defects analysis and device characterization skills; design of fabrication proc prereq: 3235, credit will not be granted if already received for 4621 or 5611less with SUPREME IV simulator; fabrication technologies involved in other devices: optical devices, MEMS and semiconductor nanostructures.

**EE 5741. Digital Signal Processing.** (3 cr. ; A-F or Audit; Periodic Spring)

Discrete linear shift-invariant systems, z- & Fourier transform, sampling, discrete-time processing of signals, reconstruction of analog signals, filters and filter structures in direct, parallel, and cascaded forms, FIR & IIR digital filter design, impulse-invariant, bi-linear transform & window functions, FFT, introduction to image processing. prereq: 2111; credit will not be granted if already received for 4741

**EE 5742. Pattern Recognition and Machine Learning.** (4 cr. ; A-F or Audit; Fall Even, Spring Odd Year)

Various methods of pattern recognition, non-parametric techniques, linear discriminant functions, support vector machines, statistical classification, min-max procedures, maximum likelihood decisions and case studies. prereq: STAT 3611, senior or graduate standing in science or engineering or instructor consent; some basic concepts in linear algebra and probability theory.

**EE 5745. Medical Imaging.** (; 3 cr. ; A-F or Audit; Spring Odd Year)

Introduction to the methods and devices for medical imaging, including x-ray imaging, x-ray computer tomography (CT), nuclear medicine (single photon planar imaging, single photon emission computer tomography (SPECT), and positron emission tomography (PET), magnetic resonance imaging (MRI), and ultrasound imaging. The physics and design of systems, typical applications, medical image processing, and tomographic reconstruction. prereq: EE (ECE) 2111, Math 3298 or instructor permission

**EE 5765. Modern Communication.** (4 cr. ; Student Option; Every Fall)

Design and analysis of modern communication systems; evaluation of analog and digital modulation techniques. (3 hrs lect, 3 hrs lab) prereq: 2111; credit will not be granted if already received for 4765

**EE 5801. Introduction to Artificial Neural Networks.** (3 cr. ; A-F or Audit; Periodic Fall)

General techniques and theory of neural networks, their applications and limitations. The course particularly addresses the design issues and learning algorithms for diverse areas of

applications. prereq: CS 1521, Math 3280, Stat 3611 or instructor consent; credit will not be granted if already received for 4801

**EE 5995. Special Topics: (Various Titles to be Assigned).** (; 1-3 cr. ; A-F or Audit; Periodic Fall & Spring)

Current problems and research. Discussions, selected reading, and/or invited speakers. prereq: instructor consent

**EE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Electrical and Computer Eng (ECE)

**ECE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ECE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ECE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ECE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ECE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Electronics Technology (ET)

**ET 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ET 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ET 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ET 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ET 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Elementary Education (ELED)

**ELED 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ELED 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ELED 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ELED 4600. Student Teaching.** (; 6-12 cr. [max 24 cr.] ; S-N or Audit; Every Fall & Spring)

Demonstrating competence in developing, implementing, and assessing curriculum based on learners' needs and district, state and national standards, exhibiting classroom and behavioral management skills, and collaborating with specialist. Consideration of issues related to the professional status and activity of teachers with reference to philosophical foundations, communication, job seeking skills, and professional organization will be interwoven. prereq: Successful completion of Blocks One, Two, and Three courses and associated field experiences, admission to Student Teaching, no grad credit

**ELED 4650. Student Teaching in Individual Subjects: K-8.** (1-6 cr. [max 7 cr.] ; S-N or Audit; Every Fall & Spring)

Student teaching in, e.g., art, music, physical education. Demonstrating subject matter competence, instructional strategies, and management skills; self-evaluation. prereq: Art education candidate or music education candidate, or physical education candidate or instructor consent; no grad credit

**ELED 4991. Independent Study.** (1-6 cr. ; A-F or Audit; Periodic Fall & Spring)

Directed independent study, reading, and/or projects in elementary or middle school education of interest to student. prereq: department consent; no grad credit

**ELED 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ELED 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Engineering (ENGR)

**ENGR 1210. Introduction to Engineering.** (; 2 cr. ; A-F or Audit; Every Fall & Spring)

An introduction to the engineering profession with an emphasis on mechanical and industrial engineering. Topics include the roles and responsibilities of an engineer, the engineering disciplines, problem solving skills and tools, oral and written communication, teamwork, and the engineering design process.

**ENGR 1222. Introduction to Solid Modeling.** (; 2 cr. ; A-F or Audit; Every Fall & Spring)

An introduction to the use of modern solid modeling software. Generating 3D models and detailed 2D engineering drawings of parts, including proper geometric dimensioning and tolerancing. Modeling assemblies of 3D parts, and generating assembly drawings and exploded views. prereq: Engr 1210 (co-registration allowed)

**ENGR 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Engineering (EG)

**EG 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Engineering (ENGR)**

**ENGR 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Engineering (EG)**

**EG 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Engineering (ENGR)**

**ENGR 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Engineering (EG)**

**EG 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Engineering (ENGR)**

**ENGR 4001. Engineering Professionalism.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Relationship of engineering to topics in economics, environment, sustainability, manufacturing, ethics, health and safety, society, and politics. Multidisciplinary engineering design lab experience. Written lab reports, proposals, professional letters, resume. Oral lab progress reports. prereq: BSECE or BSChE or BSIE or BSME student, minimum 60 credits, no grad credit

**ENGR 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Engineering (EG)**

**EG 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Engineering (ENGR)**

**ENGR 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Engineering (EG)**

**EG 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Engineering Management (EMGT)**

**EMGT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EMGT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EMGT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EMGT 4110. Engineering Professionalism and Practice.** (2 cr. ; A-F only; Every Fall & Spring)

Professional responsibilities of engineers and expectations of industry and society. Ethics and law for engineers. Codes of ethics and professional engineering societies. Design, intellectual property, record keeping. Environmental and safety issues in design. Group processes, conflict management. Project management. prereq: WRIT 3130 or 3150 or 3180 and BSCE or BSChE or BSEE or BSIE or BSME or BSEP candidate within 2 semesters of graduation or instructor consent; no grad credit

**EMGT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EMGT 5110. Management of Engineers and Technology.** (; 3 cr. ; A-F only; Fall Even Year)

Managing the synergism of people and technology. Overview of management functions, tools, methods. Planning, organization, leadership, motivation, control, quality, human resources, effective decision making. prereq: EMgt student or department approval

**EMGT 5120. Advanced Project Management.** (; 3 cr. ; A-F only; Spring Odd Year)

The course discusses the project life cycle, the project management process, and the skills of a project manager. The traditional approach to project management and modern approaches to project management under uncertainty including Critical Chain Project Management and Agile Project Management will be both covered. prereq: EMgt student or department approval

**EMGT 5130. Operations Modeling and Analysis.** (; 3 cr. ; A-F only; Spring Even Year)

This course will prepare students to analyze, formulate, and solve optimization problems under different conditions to facilitate managerial decision-making. Topics covered include data collection, linear programming, network analysis, integer linear programming, goal programming, multi objective programming, nonlinear programming, and their application in the field of engineering and technology management field. Communicating results from quantitative analysis in an effective manner will also be covered. prereq: EMgt student or department approval

**EMGT 5160. Quality Management.** (; 3 cr. ; A-F only; Fall Odd Year)

Global competitiveness, organizational culture, management role responsibilities, concepts for customer value, strategic management, measurement of customer value, organizing to improve systems, employee involvement, culture change and organizational learning. ISO 9000, quality awards. prereq: EMgt student or department approval

**EMGT 5220. Innovation Management.** (; 3 cr. ; A-F only; Periodic Fall & Spring)

Key success factors of technological innovation will be identified by looking at the diverse economic, social, cultural, psychological and technical phenomena that comprise innovation. Questions that will be answered include why certain inventions successfully make it to the market but some others did; why some organizations keep coming up with innovations with tremendous business value but some others stay as followers; how to enhance creativity at individual, team, organizational, and national levels; what the emerging trend is in today's business innovation environment and how organizations should cope with it, etc. prereq: EMgt student or department approval

**EMGT 5230. Technical Forecasting.** (3 cr. ; A-F only; Spring Even Year)

Statistical review, data sources, choosing a forecasting technique, moving averages, smoothing, regression analysis, time series analysis, the Box-Jenkins (ARIMA) methodology. prereq: EMgt Student or department approval

**EMGT 5240. Advanced Operations Management.** (3 cr. ; A-F only; Every Spring)

Emphasis on quantitative methods for designing and analyzing manufacturing and service operations, simulation, and recent paradigms in manufacturing including just-in-time production, synchronous manufacturing, and agile manufacturing. Current competitiveness-enhancing techniques like continuous improvement, benchmarking, and business process re-engineering will also be covered. prereq: EMgt student or MBA student or department approval

**EMGT 5250. Legal, Ethical and Environmental Issues in Engineering.** (3 cr. ; A-F only; Fall Even Year)

Covers topics in basic law, contracts, intellectual property, professional ethics, the responsible engineer, moral thinking, risk/safety/liability, employer responsibilities, product liability, and environmental responsibilities. Provides a historical perspective on society's environmental concerns, and discusses federal environmental statutes, our regulatory system, approaches to preventing and mitigating environmental problems, and the elements of an effective environmental management system. prereq: EMgt student or engineering candidate or department approval

**EMGT 5260. Advanced Decision Making for Engineering Managers.** (; 3 cr. ; A-F or Audit; Spring Even Year)

This course introduces students to a variety of tools that help them sharpen the judgment and improve the decision making process. The rational basis behind decisions under certainty, uncertainty, risk and conflicts will be evaluated. The analytical approach to decision making will be presented by combining the qualitative and quantitative aspects of management decisions. Mathematical foundations for conflict resolution in multi-criteria decision making will be introduced. Quantification of subjective judgment, the development

of Hierarchical Decision Models and their sensitivity analysis will be covered. Methods to measure inconsistencies in individual and group decisions will also be discussed. prereq: EMGT student or departmental consent

**EMGT 5991. Independent Study in Engineering Management.** (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Directed study of special interest topics not available in standard curriculum. Must be arranged with instructor before registration. May include readings, research and/or special projects. prereq: MSEM cand, department approval

**EMGT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## English (ENGL)

**ENGL 1535. King Arthur in History, Literature, and Art.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Survey of historical accounts, and literary and artistic treatments of King Arthur in Latin, French, and German sources of the Middle Ages and in selected works in modern Arthurian literature.

**ENGL 1582. Introduction to World Literatures.** (HUMANITIES,GLOBAL PER; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Sampling of literary works mainly from Middle East, Africa, Far East, and South America.

**ENGL 1583. Introductory Study of Major Topics in Contemporary African Literature.** (HUMANITIES,GLOBAL PER; 4 cr. ; A-F or Audit; Spring Odd Year)

Introductory study of the major topics in Contemporary African Literature. Draws on literary texts and films to broaden students' understanding of Africa's cultural, social, economic, and political challenges from colonization to globalization.

**ENGL 1585. Australian and New Zealand Literature and Culture.** (HUMANITIES,GLOBAL PER; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Introduces students to the literature and cultures of Australia and New Zealand, focusing on the formation of national identity, both countries' relationship to Great Britain and the US, conventions like "mateship," and the cultural politics of aboriginal peoples.

**ENGL 1666. Tales of Terror.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Gothic masterpieces chiefly from English and American literature, with emphasis on sociological and psychological implications of the genre.

**ENGL 1777. Crime and Detective Fiction.** (CDIVERSITY,HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Stories about crimes, criminals, and detectives have captivated, entertained, and challenged readers for centuries. What might we learn from these fictional accounts about crime and

justice? What might we learn from them about storytelling, the literary imagination, and the tastes of readers? To address these questions, this course surveys a range of stories about detectives, crime, and the criminal mind.

Authors might include Arthur Conan Doyle, Dashiell Hammett, Chester Himes, Patricia Highsmith, Sue Grafton, and Walter Mosley. Relevant movies, television shows, and true-crime writing might also be included.

**ENGL 1818. Science Fiction in Film and Literature.** (HUMANITIES; 4 cr. ; A-F or Audit; Every Fall)

This course introduces students to techniques of film and literary study through the genre of science fiction. It requires students to interpret literary works with attention to form, genre, plot, character and historical and cultural contexts. In addition, it introduces students to competing definitions of the genre while acquainting them with some of its subgenres such as dystopian and cyberpunk literature.

**ENGL 1907. Introduction to Literature.** (HUMANITIES; 3 cr. ; A-F or Audit; Every Fall & Spring)

Literary modes and methods of literary study and interpretation. prereq: Primarily for nonmajors

**ENGL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## English (ENG)

**ENG 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## English (ENGL)

**ENGL 2333. Harry Potter: Texts and Contexts.** (HUMANITIES; 4 cr. ; A-F or Audit; Fall Even Year)

This class will examine the Harry Potter phenomenon by reading the novels from a variety of critical perspectives in the context of key works of fairy tale and fantasy by J.K. Rowling's literary predecessors, influences, and contemporaries.

**ENGL 2535. The Bible in Literature, Art and History.** (GLOBAL PER,HUMANITIES; 4 cr. ; A-F or Audit; Fall Even Year)

Study of how scripture has shaped literature and art, and how they have responded to scripture, with consideration of a range of historical, philosophical social and culture context ancient, medieval, and contemporary. Readings and discussions about art and literature representing a variety of literary genres (e.g. poetry, drama, musical theatre, novel, graphic novel) that primarily address the Judeo-Christian tradition, but also offer comparisons with other scriptural traditions.

**ENGL 2571. Contemporary Literature.** (GLOBAL PER,HUMANITIES; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Readings in world literature since 1945. Close attention to literary texts from Americas,

Europe, Africa, and Asia in their various aesthetic, historical, and cultural contexts. Topics of discussion might include the literary/aesthetic implications of post-colonialism, globalization, the Cold War and its aftermath, and technological developments.

**ENGL 2601. Reading Film.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Spring)

This course teaches students how to analyze movies and aims to inspire an on-going interest in film. Through discussion of a wide range of films and theoretical texts, students learn to think critically about the medium in terms of its uniquely cinematic attributes (e.g., editing, mise-en-scene, cinematography, lighting, sound, spectatorship) as well as its more literary qualities (e.g., narrative, character, genre). By the end of the semester, students will have the tools to think analytically about the films they encounter in future courses and in their movie-going lives more broadly.

**ENGL 2800. Nature Writing.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Spring)

This course introduces students to the practices and conventions of nature writing. Students learn to write creatively about the natural world and to read literary works that engage with it. Students produce creative work in a variety of forms and submit two of their productions for review by the class. The class also conducts numerous field trips to local outdoor settings, such as Tischer Creek and, if logistics permit, Gooseberry Falls, where they engage in nature writing directly and discuss relevant texts. By the end of the semester, students can expect to have a richer understanding of environmental literature, the ethical debates surrounding it, and the craft behind it, as well as, hopefully, a deeper appreciation for nature.

**ENGL 2906. Methods of Literary Study.** (; 4 cr. ; A-F or Audit; Every Fall & Spring)

This is a foundational course for the English major and for successful literary study. Students will examine what it means to study literature, exploring ideas that have been central to literary studies over the past century. Students will apply different approaches to thinking about, researching, and writing about literature to a range of texts and genres. prereq: WRIT 1120

**ENGL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## English (ENG)

**ENG 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## English (ENGL)

**ENGL 3115. Writing Fiction.** (; 4 cr. [max 8 cr.] ; A-F or Audit; Every Fall)  
Writing of original fiction, with emphasis on the short story; structure and techniques learned from critical reading and classroom analysis.

prereq: WRIT 1120, minimum 60 credits (6 credits literature) or instructor consent

**ENGL 3121. Writing Poetry.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Writing of poetry, with emphasis on techniques learned through critical reading and classroom analysis.

**ENGL 3223. Shakespeare.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Introduction to Shakespeare. Selected plays from the histories, comedies, tragedies, and dramatic romances. Aspects of drama, such as structure, language, characterization, theme, and dramatic conventions examined in study of individual plays.

**ENGL 3333. Children's Literature: Texts and Contexts.** (; 4 cr. ; A-F or Audit; Periodic Fall)

Forms of children's literature, from folk and fairy tales to contemporary stories, poems, and novels for children; major historical, literary and critical issues affecting the production and reception of literature for children.

**ENGL 3411. The Modern Short Story.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Study of the genre, emphasizing close reading and interpretation of the elements of short fiction in selected works. prereq: Minimum 60 credits (6 credits literature) or instructor consent

**ENGL 3501. British Literature I.**

(HUMANITIES; 4 cr. ; A-F or Audit; Every Fall) Chronological study of English literature from beginnings to late-18th century, emphasizing major works, authors, and important literary forms, styles, themes, and movements. prereq: Engl major or minor or teach comm art/lit major or minor or elem-middle educ comart/lit specialization

**ENGL 3502. British Literature II.**

(HUMANITIES; 4 cr. ; A-F or Audit; Every Fall & Spring) Chronological study of English literature from late-18th to late-20th century, emphasizing major works, authors, and important literary forms, styles, themes, and movements. prereq: Engl major and minor

**ENGL 3563. American Literature I.**

(HUMANITIES,CDIVERSITY; 4 cr. ; A-F or Audit; Every Fall & Spring) Historical survey of important authors, movements, conventions, genres, and themes: origins to Civil War.

**ENGL 3564. American Literature II.**

(HUMANITIES,CDIVERSITY; 4 cr. ; A-F or Audit; Every Fall & Spring) Historical survey of important authors, movements, conventions, genres, and themes: Civil War to present.

**ENGL 3573. Survey of African American Literature.** (HUMANITIES,CDIVERSITY; 4 cr. ; A-F or Audit; Fall Odd Year)

Survey of African American literatures with an emphasis on cultural and historical contexts. Acritical reading, writing, and discussion of major themes such as slavery, freedom, race, gender, sexuality, class, violence, literacy, home, family, community, double-

consciousness, Christianity, and language. Consideration of narrative strategies, literary tradition, and major genres such as songs, sermons, pamphlets, folktales, poetry, novels, drama, life writing, and film.

**ENGL 3574. Reconstituting the Past in African Diaspora Literature.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Predicated on the value of a more heterogeneous world, the course celebrates obliterated legacies, cultures, and traditions with an aim of rewriting history, remaking the present, and re-imagining the future of African Diaspora Literature. The course advances credibility, diversity, and social justice by giving voice to the suppressed past muted narratives, forgotten traditions, marginalized indigenous cultures, trivialized revolutions, distorted epistemologies, and lost lives. Draws on various disciplines such as literature, history, cultural studies, film, and music to show the cultural and political imperative of negotiating the past.

**ENGL 3605. The Irish Landscape in Science and Literature - Study Abroad.** (GLOBAL PER; 4 cr. ; A-F or Audit; Periodic Summer)

Study abroad in Ireland. This course focuses on the natural, cultural, and literary history of Ireland, with a particular emphasis on the intersection of science and the humanities. The last Ice Age left its marks on the Irish landscape, and, human communities over millennia have left their imprints as well. The stages of human settlement over time have adapted to postglacial climate change and associated changes of flora and fauna. The evolving landscape and coastlines and the archaeological record of human history from the paleolithic period to modern times make the Irish landscape a fascinating field stie. Moreover, the Irish literary tradition from the ancient oral cultural to the beginning of literacy in the early Middle Ages has a long, rich, often locally-based heritage of nature writing. The assigned literature wll connect postglacial history and climate change to the natural systems and environments and to the history of human adaptation over time. Students will visit important geographic and cultural sites and learn how cultural evolution remains a powerful presence in modern Ireland. pre-reg: WRIT 1120 or equivalent, GEOL 1110 or GEOL 1610 or GEOG 1414, instructor consent

**ENGL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

## English (ENG)

**ENG 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

## English (ENGL)

**ENGL 4097. Internship for English Majors.**

(; 1-4 cr. [max 8 cr.] ; S-N only; Every Fall, Spring & Summer) Supervised practical experience in an approved business, agency, or organization seeking

student interns with strong skills and/or knowledge in English. Placement is in a variety of work fields, including publishing, museumship librarianship, theatre, and public service. prereq: minimum 60 credits, instructor consent; no grad credit

**ENGL 4116. Advanced Writing of Fiction.** (; 4 cr. ; A-F or Audit; Periodic Spring)

Writing of original fiction beyond the beginning stages; some experience required. prereq: instructor consent, no grad credit

**ENGL 4122. Advanced Writing of Poetry.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Study of poetics and poetry, with emphasis on student poems. prereq: 3121 or instructor consent, no grad credit

**ENGL 4222. Shakespeare.** (4 cr. ; A-F or Audit; Periodic Fall)

Concentrated study of selected plays, with attention to Shakespearean criticism and scholarship. Recommended as the second course in Shakespeare. prereq: 6 credits literature, no grad credit

**ENGL 4270. Digital Literature, Video Games and Online Culture.** (; 4 cr. ; A-F or Audit; Spring Odd Year)

Introduction to the genres and history of digital literature, and to the literary dimensions of online games, social media, and other network forms. Students will learn the theories, tools, and practices of digital literary study and criticism. pre-reg: 8 credits of literature preferred, no grad credit

**ENGL 4292. Literature into Film.** (; 4 cr. ; A-F or Audit; Periodic Spring)

Comparative study of novels and their film adaptations. prereq: Minimum 60 credits (6 credits literature) or instructor consent

**ENGL 4295. Special Topics in Early Period Literature (Various Titles to be Assigned).**

(; 4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer) Topics in early period literature (pre-1800 for British and global literatures, and pre-1865 for American literature) that are not included in regular curriculum. No grad credit.

**ENGL 4300. Shakespeare in England - Study Abroad.** (GLOBAL PER; 4 cr. ; Student Option; Every Summer)

This short-term study abroad course will explore Shakespeare's theatre world in London and his birthplace in Stratford-upon-Avon, allowing students to experience, first-hand, how Shakespeare's plays were shaped by his environment in his own day, and how they were modified, adapted, and marketed over the next four centuries. By attending performances at modern reconstructions of the Globe and Blackfriars, students will see how Shakespeare wrote his plays to capitalize on the strengths (and minimize the limitations) of the physical theatre. Students will also tour the areas where Shakespeare lived and worked, such as Southwark and Blackfriars, and visit historic landmarks, such as The Tower, Westminster Abbey, and the Inns of Court, that figure prominently in his plays. A side-trip to Stratford-upon-Avon will help



students better understand his upbringing—they will visit his birthplace and grammar school—and also see where he returned to retire early, live extravagantly, and die. Stratford-upon-Avon is also the home of the Royal Shakespeare Company, the world-famous acting troupe devoted to promoting Shakespeare's works. A principal focus of this course is to consider why Shakespeare is more popular today than he has ever been. Seeing Shakespeare performed by a range of actors (A-list to amateur), in a variety of theatres (West End to fringe), in a range of dramatic styles (period performance to avant-garde) will bring to life how Shakespeare is transformed from the page to the stage, how his works have been suited to changing tastes across the centuries, and why, despite the challenges posed by the language and subject matter of his plays, he continues to have a commanding presence in theatres and classrooms across the world. pre-req: instructor consent; admission to an approved study abroad program requires consent from the International Programs and Services Office

**ENGL 4312. Chaucer.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to Middle English. Reading and analysis of Chaucer's works, primarily *Canterbury Tales* and *Troilus and Criseyde*. prereq: 6 credits literature, no grad credit

**ENGL 4374. Modern Poetry.** (4 cr. ; A-F or Audit; Periodic Spring)

Study of modern poetry written in English. prereq: 6 credits literature

**ENGL 4375. Drama.** (4 cr. ; A-F or Audit; Periodic Fall)

Selected playwrights, plays, types, traditions, or periods; relevant theoretical and critical writings. Authors and topics vary.

**ENGL 4395. Special Topics in Late-Period Literature (various titles to be assigned).** (4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Topics in later-period literature (post-1800 for British and global literature and post-1865 for American literature) that are not included in regular curriculum.

**ENGL 4444. Childhood in Literature, History and Culture.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Examines traditional kinds of children's literary texts, as well as literary and pedagogical theory, advertising, movies, and television to consider childhood as an historical, aesthetic and social construct in Western culture from the eighteenth century to the present. prereq: Junior or senior or instructor consent, no grad credit

**ENGL 4495. Special Topics in Genre and Media Studies (various titles to be assigned).** (4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Topics in genre and media studies that are not included in the regular curriculum. No grad credit

**ENGL 4533. Studies in English Literature Before 1800.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Intensive study of a theme, literary school or circle, literary genre in historical and cultural context. Themes may vary per term.

**ENGL 4541. Restoration and 18th-Century Literature.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Study of controversies and cultural change evident in English literature, 1660-1800. Such authors as Dryden, Behn, Pope, Fielding, Johnson prereq: 6 credits literature, no grad credit

**ENGL 4562. Studies in 19th-Century British Literature.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Advanced study of British literature and culture of the Romantic and Victorian periods. Authors and historical focus will vary according to instructor interest. No grad credit

**ENGL 4564. Studies in British Literature after 1900.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Advanced study of British literature written after 1900. Topic, genre, and historical focus vary according to instructor interest. No grad credit.

**ENGL 4572. American Renaissance.** (4 cr. ; A-F or Audit; Periodic Fall)

American Romanticism and the flowering of American literature from early 19th century to the Civil War (authors and topics vary; e.g., Thoreau, Fuller, Hawthorne, Dickinson, Whitman). prereq: 6 credits literature, no grad credit

**ENGL 4574. Studies in American Literature to 1914.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Study of selected North American authors from the Colonial Era to the end of WWI. Literature studied will vary in relation to what kind of literary or cultural study instructor intends or what kind of critical approach to literature is used. prereq: 6 credits literature, no grad credit

**ENGL 4575. Studies in American Literature after 1914.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Study of selected North American authors after 1914. Literature studied will vary in relation to what kind of literary or cultural study instructor intends or what kind of critical approach to literature is used. prereq: 6 credits literature, no grad credit

**ENGL 4577. Major American Authors.** (4 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)

Concentrated study in one to three authors, who are announced before course is offered. prereq: 6 credits literature, no grad credit

**ENGL 4580. The Novel.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Explores the novel in its cultural, intellectual, and aesthetic contexts. Topics addressed may include issues of authorship, print culture and the literary marketplace, narrative style, and how what we think of as "the novel" has changed over time and in various parts of the world. Authors and topics vary. pre-req: Preferred 6 credits in ENGL or instructor consent, no grad credit

**ENGL 4584. Mapping Postcolonial Literature.** (4 cr. ; A-F or Audit; Spring Odd Year)

Interdisciplinary study of postcolonial literatures of Africa, Asia, and Latin America in their cultural and historical contexts. Critical examination of the postcolonial condition, including colonial constructions of knowledge and power and anti-colonial struggles against subordination. Exploration of key concepts, geography, history, theory, and future of postcolonial studies. prereq: minimum 6 credits of Literature, no grad credit

**ENGL 4591. Independent Study.** (1-4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer)

Students choose projects in consultation with their instructor. prereq: instructor consent; no grad credit

**ENGL 4595. Special Topics: (Various Titles to be Assigned).** (4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Topics not included in regular English curriculum. prereq: Primarily for majors, minors, or graduate students

**ENGL 4661. Publishing the Middle Ages.** (4 cr. ; A-F or Audit; Periodic Fall)

Study of the ways in which the middle ages were defined and canonized in print culture. Instruction on the processes of medieval manuscript production and editing, followed by analysis of rhetorical framework within which "medievalism" was constructed in the 19th century. prereq: Junior or senior or instructor consent, no grad credit

**ENGL 4662. The Making of a Major Author: The Scholarly Edition in 17th- and 18th-Century England.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Study of the ways in which writers such as Shakespeare and Milton were transformed into "major authors" and "national poets" through the publication of scholarly editions of their works subsequent to their deaths. Textual analysis of the editions is combined with study of their publication histories, including the roles of editors and publishers who produced them. prereq: Junior or senior or instructor consent, no grad credit

**ENGL 4663. Readers and the History of Books.** (4 cr. ; A-F or Audit; Periodic Fall)

History of reading, primarily in the United States and England. Study of factors affecting literacy in late 18th through early 20th centuries, including technological advances, educational reform and changes in authorship and literature. prereq: Junior or senior or instructor consent, no grad credit

**ENGL 4665. The American Literary Marketplace.** (4 cr. ; A-F or Audit; Spring Odd Year)

Study of the making, marketing, and selling of American literature. Close attention to history of American publishing industry, emergence of popular genres such as the romance and popular forms such as the dime novel, and material and technological changes in book production. prereq: Junior, senior or instructor consent, no grad credit

**ENGL 4802. English Language for**

**Educators.** ( ; 4 cr. ; A-F or Audit; Every Fall)  
Application of linguistic and language learning theories to the teaching of communication arts, with emphasis on preparation of secondary school English teachers. Includes a focus on first and second language acquisition, approaches to language and grammar instruction, and the roles of language and dialect in culture and youth development. Note: credit will not be granted if already received for ENGL 5802

**ENGL 4821. History of the English**

**Language.** ( ; 4 cr. ; A-F or Audit; Every Fall)  
History of sounds, word stock, and structures of English language from earliest records to present. No grad credit

**ENGL 4901. Creative Writing Capstone.** ( ; 1 cr. ; S-N only; Every Fall & Spring)

Students assemble a portfolio of creative writing, and with the guidance of a faculty advisor, craft a letter that introduces their work to prospective literary agents, editors, and publication venues. pre-req: After completing the majority of the Certification in Creative Writing requirements students should register for this course, instructor consent

**ENGL 4902. Teaching Writing.** ( ; 4 cr. ; A-F only; Every Fall)

Theory and practice of teaching composition. Includes cognitive theories of the composition process, teaching, and writing across genres and purposes, and assessment of writing. For prospective teachers, grade 5 to community college level. prereq: Teaching Comm Art & Lit major or instructor consent, no grad credit; credit will not be granted if already received for ENGL 5902

**ENGL 4909. Senior Portfolio.** ( ; 1 cr. ; S-N or Audit; Every Fall & Spring)

Required portfolio and research project undertaken for senior seminar. prereq: English major, senior, instructor consent

**ENGL 4922. Teaching Communication Arts and Literature.** ( ; 4 cr. [max 5 cr.]; S-N only; Every Fall)

Theory and applications in teaching reading, writing, literature, speaking, listening and non-print media, grades 5 - 12. Synthesizes work in previous Teaching Communication Arts and Literature courses with special attention to reflective pedagogy, curriculum design, and the transition into the teaching profession. prereq: Teaching Comm Arts & Lit major or instructor consent, no grad credit

**ENGL 4931. Practicum in Teaching**

**Literature.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Assisting in teaching a 1-, 2-, or 3-level literature course; experience preparing course materials; advising students in course; learning about the grading process; experience in lecturing and leading discussions; conferences with professor about teaching issues. prereq: 3906, senior, 4 other upper division literature courses and instructor consent; no grad credit

**ENGL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**English (ENG)**

**ENG 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**English (ENGL)**

**ENGL 5097. Graduate Internship.** ( ; 1-3 cr. ; S-N only; Every Fall, Spring & Summer)  
Supervised practical experience in an approved business, agency, or organization seeking student interns with strong skills and/or knowledge in English. Placement is in a variety of work fields including publishing, museumship, librarianship, theatre and public service. prereq: 8906, instructor consent

**ENGL 5116. Advanced Writing of Fiction.** ( ; 4 cr. [max 8 cr.]; A-F or Audit; Periodic Spring)  
Writing of original fiction beyond the beginning stages; some experience required. prereq: instructor consent

**ENGL 5122. Advanced Writing of Poetry.** (4 cr. [max 8 cr.]; A-F or Audit; Periodic Fall & Spring)  
Study of poetics and poetry, with emphasis on student poems. prereq: graduate student or instructor consent

**ENGL 5222. Shakespeare.** (4 cr. ; A-F or Audit; Periodic Fall)

Concentrated study of selected plays, with attention to Shakespearean criticism and scholarship. Recommended as the second course in Shakespeare. prereq: 6 credits literature

**ENGL 5270. Digital Literature, Video Games and Online Culture.** ( ; 4 cr. ; A-F or Audit; Spring Odd Year)

Introduction to the genres and history of digital literature, and to the literary dimensions of online games, social media, and other network forms. Students will learn the theories, tools, and practices of digital literary study and criticism. pre-req: 8 credits of literature preferred

**ENGL 5295. Special Topics in Early Period Literature (Various Titles to be Assigned).** ( ; 4 cr. [max 8 cr.]; A-F or Audit; Periodic Fall, Spring & Summer)

Topics in early period literature (pre-1800 for British and global literatures, and pre-1865 for American literature) that are not included in regular curriculum.

**ENGL 5312. Chaucer.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to Middle English. Reading and analysis of Chaucer's works, primarily Canterbury Tales and Troilus and Criseyde. prereq: graduate student or instructor consent

**ENGL 5375. Modern Poetry.** (4 cr. ; A-F or Audit; Periodic Spring)  
Study of modern poetry written in English. prereq: 6 credits literature

**ENGL 5395. Special Topics in Late-Period Literature (various titles to be assigned).**

( ; 4 cr. [max 8 cr.]; A-F or Audit; Periodic Fall, Spring & Summer)

Topics in later-period literature (post-1800 for British and global literature and post-1865 for American literature) that are not included in regular curriculum.

**ENGL 5444. Childhood in Literature, History and Culture.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Examines traditional kinds of children's literary texts, as well as literary and pedagogical theory, advertising, movies, and television to consider childhood as an historical, aesthetic and social construct in Western culture from the eighteenth century to the present. prereq: Junior or senior or grad student or instructor consent

**ENGL 5495. Special Topics in Genre and Media Studies (various titles to be assigned).** ( ; 4 cr. [max 8 cr.]; A-F or Audit; Periodic Fall, Spring & Summer)

Topics in genre and media studies that are not included in the regular curriculum.

**ENGL 5533. Studies in English Literature Before 1800.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Intensive study of a theme, literary school or circle, literary genre in historical and cultural context. Topics vary. prereq: 6 credits literature

**ENGL 5541. Restoration and 18th-Century Literature.** ( ; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Study of controversies and cultural change evident in English literature, 1660-1800. Such authors as Dryden, Behn, Pope, Fielding, Johnson prereq: 6 credits literature

**ENGL 5562. Studies in 19th-Century British Literature.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Advanced study of British literature and culture of the Romantic and Victorian periods. Authors and historical focus will vary according to instructor interest.

**ENGL 5564. Studies in British Literature after 1900.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Advanced study of British literature written after 1900. Topic, genre, and historical focus vary according to instructor interest. pre-req: none

**ENGL 5572. American Renaissance.** (4 cr. ; A-F or Audit; Periodic Fall)

American Romanticism and the flowering of American literature from early 19th century to the Civil War (authors and topics vary; e.g., Thoreau, Fuller, Hawthorne, Dickinson, Whitman). prereq: 6 credits literature

**ENGL 5574. Studies in American Literature to 1914.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Study of selected North American authors from the Colonial Era to the end of WWI. Literature studied will vary in relation to what kind of literary or cultural study instructor intends or what kind of critical approach to literature is used. prereq: 6 credits literature

**ENGL 5575. Studies in American Literature after 1914.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Study of selected North American authors after 1914. Literature studied will vary in relation to what kind of literary or cultural study instructor intends or what kind of critical approach to literature is used. prereq: graduate student or instructor consent

**ENGL 5577. Major American Authors.** (4 cr. [max 8 cr.]; A-F or Audit; Every Fall & Spring) Concentrated study in one to three authors, who are announced before course is offered. prereq: 6 credits literature

**ENGL 5580. The Novel.** (4 cr. ; A-F or Audit; Periodic Fall & Spring) Explores the novel in its cultural, intellectual, and aesthetic contexts. Topics addressed may include issues of authorship, print culture and the literary marketplace, narrative style, and how what we think of as "the novel" has changed over time and in various parts of the world. Authors and topics vary. pre-req: Preferred 6 credits in ENGL or instructor consent

**ENGL 5584. Mapping Postcolonial Literature.** (; 4 cr. ; A-F or Audit; Spring Odd Year) Interdisciplinary study of postcolonial literatures of Africa, Asia, and Latin America in their cultural and historical contexts. Critical examination of the postcolonial condition, including colonial constructions of knowledge and power and anti-colonial struggles against subordination. Exploration of key concepts, geography, history, theory, and future of postcolonial studies. prereq: minimum 6 credits of Literature

**ENGL 5591. Independent Study.** (1-4 cr. [max 8 cr.]; Student Option; Every Fall, Spring & Summer) Students choose projects in consultation with their instructor. prereq: instructor consent; maximum 6 credits may be applied to grad program

**ENGL 5595. Special Topics: (Various Titles to be Assigned).** (; 4 cr. [max 8 cr.]; A-F or Audit; Periodic Fall, Spring & Summer) Topics not included in regular English curriculum. prereq: Primarily for majors, minors, or graduate students

**ENGL 5661. Publishing the Middle Ages.** (; 4 cr. ; A-F or Audit; Periodic Fall) Study of the ways in which the middle ages were defined and canonized in print culture. Instruction on the processes of medieval manuscript production and editing, followed by analysis of rhetorical framework within which "medievalism" was constructed in the 19th century. prereq: Junior or senior or grad student or instructor consent

**ENGL 5662. The Making of a Major Author: The Scholarly Edition in 17th- and 18th-Century England.** (4 cr. ; A-F or Audit; Periodic Fall & Spring) Study of the ways in which writers such as Shakespeare and Milton were transformed into "major authors" and "national poets" through the publication of scholarly editions of their works subsequent to their deaths. Textual analysis of the editions is combined with study

of their publication histories, including the roles of editors and publishers who produced them. prereq: Junior or senior or grad student or instructor consent

**ENGL 5663. Readers and the History of Books.** (4 cr. ; A-F or Audit; Periodic Fall) History of reading, primarily in the United States and England. Study of factors affecting literacy in late 18th through early 20th centuries, including technological advances, educational reform and changes in authorship and literature. prereq: grad student or instructor consent

**ENGL 5665. The American Literary Marketplace.** (4 cr. ; A-F or Audit; Spring Odd Year) Study of the making, marketing, and selling of American literature. Close attention to history of American publishing industry, emergence of popular genres such as the romance and popular forms such as the dime novel, and material and technological changes in book production. prereq: Junior, senior or graduate student or instructor consent

**ENGL 5802. English Language for Educators.** (4 cr. ; A-F or Audit; Every Fall) Application of linguistic and language learning theories to the teaching of communication arts, with emphasis on preparation of secondary school English teachers. Includes a focus on first and second language acquisition, approaches to language and grammar instruction, and the roles of language and dialect in culture and youth development. prereq: graduate student; credit will not be granted if already received for ENGL 4802

**ENGL 5821. History of the English Language.** (; 4 cr. ; A-F or Audit; Every Fall) History of sounds, word stock, and structures of English language from earliest records to present.

**ENGL 5902. Teaching Writing.** (4 cr. ; A-F only; Every Fall) Theory and practice of teaching composition. Includes cognitive theories of the composition process, teaching, and writing across genres and purposes, and assessment of writing. For prospective teachers, grade 5 to community college level. prereq: graduate student or instructor consent; credit will not be granted if already received for ENGL 4902

**ENGL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

## English (ENG)

**ENG 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

## Environment and Sustainability (ES)

**ES 1000. Global Cultural Perspectives on Environmental Sustainability.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Fall)

This course fulfills the UST 1000 requirement. This course explores the global cultural context of sustainability while facilitating the successful transition into college learning and student life at UMD. Examine the topic of environmental sustainability through the context of global culture and affairs. Explore different cultural approaches to solving environmental issues, compare and contrast these approaches with those taken in the US. Investigate the concept of outsourcing with respect to the peoples and ecosystems that are impacted by the practice. pre-req: less than 30 credits earned

**ES 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**ES 2005. Environment and Sustainability.** (SUSTAIN; 3 cr. ; A-F or Audit; Every Fall) This course will cover human impacts on their natural environments (resource depletion and pollution) and the complex notion of Sustainable Development. Students will analyze resource depletion (i.e., fossil fuels, forests, fisheries, water and soil) and pollution (i.e., climate change, ocean acidification, and oceanic garbage patches and dead zones) trends over the past century to better understand our growing impacts on the natural environment. Students will also analyze a wide variety of solutions (i.e., local food systems, renewable energy systems and water systems) from the emerging field of Sustainable Development aimed at mitigating these alarming resources depletion and pollution trends. Finally, students will be introduced to policy considerations regarding the implementation of these solutions and new economic approaches to help transition from economic growth to Sustainable Development.

**ES 2095. Special Topics: (various titles to be assigned).** (; 3 cr. [max 6 cr.]; A-F only; Periodic Fall, Spring & Summer) Special topics in the environment and sustainability field not offered in the regular curriculum.

**ES 2100. Western Lake Superior Sustainable Food Systems.** (4 cr. ; A-F or Audit; Periodic Summer) This course covers issues in sustainable agriculture including relationships between food, environmental quality, human health and nutrition, social justice and economic imperatives. It is designed for student interested in hands-on, interdisciplinary field work, and community engaged learning. The course brings a systems-thinking approach to sustainable farming methods and healthy, equitable food systems. This course maximizes time: outside on the University's Land Lab (Sustainable Agriculture Project Farm), in the greenhouses, fields, orchard, forests and greenhouse. The training is rounded out with field trips, service learning, reading, assignments, and team projects.

**ES 2803. Issues in Global Ecology.** (; 3 cr. ; A-F only; Every Spring) An examination of our most pressing global environmental problems and their most promising solutions.

**ES 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ES 3100. Sustainable Food Systems.** (; 4 cr. ; A-F only; Every Fall)  
Historical and contemporary food systems within sustainability framework. Understands food within social, political, economic and environmental contexts. Looks at sustainable production, consumption and processing issues.

**ES 3200. Environmental and Ecological Justice.** (; 3 cr. ; A-F or Audit; Every Fall)  
Integrated study of justice issues as it relates to both the distribution of pollution and related negative impacts of contemporary society and of the natural world and non-human life. Emphasis on identifying how fairness is imagined, debated, determined via structure and/or legislated.

**ES 3300. Anthropocene Stories: Geology, Human Histories and Possible Futures.** (3 cr. ; A-F or Audit; Every Fall)  
Study of Anthropocene discourse and social ecological reality from scientific, social science and humanities point of view. Explore this rupture in geological history that collective and cumulative human activity has created, contemporary social and political movements that has arisen to meet the challenges this unprecedented reality, and possible futures that it may bring. Focus on comparing the assumptions and implications of these frameworks.

**ES 3500. Ecological Economics.** (; 3 cr. ; A-F only; Every Fall)  
Examine the basic principles and assumptions of Micro and Macro Economics, and their relevance in our modern global economic system. Examine the environmental/social consequences of deviations from these assumptions, and alternative economic models/analyses and policies consistent with sustainable development. prereq: [ES major or minor or URS major] and [Econ 1022 or Econ 1023] or instructor consent

**ES 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ES 4005. Environmental Policy.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course explores the creation and implementation of environmental policy in the United States. Major environmental policies and laws at the federal and state level. Particular attention will be paid to air and water pollution, climate change, and natural resource use. pre-req: minimum 60 credits or instructor consent

**ES 4010. Seminar.** (4 cr. ; A-F only; Every Spring)  
Compare and contrast global free market capitalism and democratic socialism. Identify political and economic barriers to achieving the goal of sustainable development. Examine the recent history of the move towards global free market capitalism around the world and its implications for sustainable development.

Develop sustainable development projects and write proposals to targeted funders. prereq: ES major or minor, 90 credits; credit will not be granted if already received for 5001

**ES 4090. Internship Preparation & Career Development.** (; 1 cr. ; S-N only; Every Spring)

Various employers and members of environmental/social organizations from Duluth and northern Minnesota will speak to describe how their organization supports a transition towards sustainability in the region. Students will work together under the guidance of their instructor to assess, reflect, and prepare for graduation and the job market. prereq: ESG major

**ES 4091. Independent Study.** (1-3 cr. ; A-F only; Every Fall, Spring & Summer)  
Directed readings and projects for students who wish to do independent advanced study or work on topics not normally covered in other courses. prereq: 60 credits; instructor consent; no grad credit; credit will not be granted if already received for ES 4001

**ES 4097. Internship.** (3 cr. [max 6 cr.] ; S-N only; Periodic Fall, Spring & Summer)  
Experience in the field of environment and sustainability with direct supervision in public agencies or relevant private firms. prereq: instructor consent; no grad credit

**ES 4612. Field Techniques and Research Design.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course is an introduction to qualitative research methods in environmental sustainability, and is designed to equip students to plan, analyze, and present original research. Students will follow the complete research design process, including funding and grant proposals internal review board applications, and how to use these leverage employment and graduate school applications. Specifically, students will learn to collect data through interviews, focus groups, textual analysis, and participant observation; how to analyze data through these techniques; and how to prepare sound scientific arguments based on these analyses. Based on the collection of data throughout the semester students will produce original research that will be presented to the public. no grad credit

**ES 4910. Teaching Assistantship.** (1-3 cr. [max 6 cr.] ; S-N only; Periodic Fall, Spring & Summer)  
Practical experience in teaching beginning courses in the program. Students serve as intern teachers assisting with the administration of the course. pre-req: instructor consent

**ES 4999. Honors Project.** (1-3 cr. [max 4 cr.] ; A-F only; Periodic Fall, Spring & Summer)  
Advanced individual project in any area of environment and sustainability demonstrating sound theoretical and research foundations and resulting in a written report or other expression of scholarly production. pre-req: instructor consent

**ES 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**ES 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Environmental Education (ENED)

**ENED 1000. Introduction to Environmental and Outdoor Education.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Overview of outdoor education, including outdoor recreation, environmental education and adventure education, will be explored. The structure and role of outdoor education in contemporary society will be considered. prereq: Credit will not be granted if already received for REC 1000

**ENED 1201. Outdoor Skills I.** (; 2 cr. ; A-F or Audit; Every Fall)

Instruction and practice in skills of fall outdoor activities. Camping, canoeing, hunting, and climbing; equipment, shelters, and navigation. prereq: credit will not be granted if already received for REC 1201

**ENED 1202. Outdoor Skills II.** (; 2 cr. ; A-F or Audit; Every Spring)

Instruction and practice in skills of winter and spring outdoor activities. Camping, backpacking, dogsledding, and fishing; equipment and navigation. prereq: credit will not be granted if already received for REC 1202

**ENED 1203. Outdoor Skills I.** (2 cr. ; A-F or Audit; Every Fall)

Instruction and practice in skills of fall outdoor activities. Camping, canoeing, fishing, hunting; equipment, shelters, and navigation. prereq: Environmental and Outdoor ed major or minor; credit will not be granted if already received for REC 1203

**ENED 1204. Outdoor Skills II.** (2 cr. ; A-F or Audit; Every Spring)

Instruction and practice in skills of winter and spring outdoor activities. Camping, backpacking, dogsledding, and fishing; equipment and navigation. prereq: Environmental and outdoor educ major or minor; credit will not be granted if already received for REC 1204

**ENED 1500. Children, Nature and Sustainability.** (SUSTAIN; 3 cr. ; A-F or Audit; Every Spring)

Study of the rationale and underpinnings for merging nature, education for sustainability, and early childhood education, as well as practices and possibilities for doing so. Emphasized are the outcomes associated with nature-based experiences for children, including healthy development of children and furthering more sustainable communities.

**ENED 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ENED 2000. Technology in Outdoor Education.** (3 cr. ; A-F or Audit; Every Fall)

The use of technology to conduct and manage outdoor and environmental education

programs. Includes basic computer hardware and software selection related to technology such as GPS, interpretation, and trail cameras guiding outdoor education and management prereq: Environmental and Outdoor Education major or instructor consent

**ENED 2300. Teaching and Learning.** (3 cr. ; A-F or Audit; Every Spring)

Learning in the outdoor context is explored via presentation and active consideration of philosophical and theoretical foundations of environmental and outdoor education. Teaching skills for the environmental and outdoor non-formal educational context are presented and developed; for example, instruction in basic educational methodology and accompanying field-teaching experiences is provided. Outdoor classroom management including basic risk management, student behavior management, lesson planning and use of the outdoor classroom are presented and explored. prereq: ENED 1000; credit will not be granted if already received for REC 2300

**ENED 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ENED 3309. Outdoor Leadership.** (1 cr. ; S-N or Audit; Every Spring)

Theories of leadership practices commonly used in outdoor education settings. Includes group development stages and techniques of group management. Concludes with preparation for 9-day field experience (EnEd 3310). This course MUST be taken in conjunction with EnEd 3310. prereq: EnEd 2300

**ENED 3310. Outdoor Leadership Field Experience.** (2 cr. ; A-F or Audit; Every Summer)

Practice, theory, and methods involved in leadership development including a detailed analysis of the qualities and roles of leaders in outdoor educational settings. recreation settings. This course will occur as a 9-day field experience. prereq: ENED 3309

**ENED 3327. Large Event Management.** (3 cr. ; A-F or Audit; Every Spring)

Organization and administration of life fitness activities and informal instruction in recreational sport programs. Design, implementation, and evaluation of large-scale recreational sports events such as triathlons and tournaments. prereq: ENED 2300 or instructor consent; credit will not be granted if already received for REC 3327

**ENED 3330. Outdoor Recreation.** (3 cr. ; A-F or Audit; Every Fall)

Examination of outdoor recreation as a part of natural resource-based agencies as well as in nature centers, commercial operations, and in municipal settings. This course will focus on outdoor recreation uses in northeastern Minnesota. prereq: ENED 2300 or instructor consent; credit will not be granted if already received for REC 3330

**ENED 3341. Field Interpretive Techniques I.** (3 cr. ; A-F or Audit; Every Fall)

Techniques and methods used to interpret natural history of autumn and early winter environments. Emphasizes geomorphology, tree identification, and basic raptor ecology. Primarily field based at sites throughout northeastern Minnesota. prereq: credit will not be granted if already received for REC 3341

**ENED 3342. Field Interpretive Techniques II.** (3 cr. ; A-F or Audit; Every Spring)

Techniques and methods used to interpret natural history of winter and spring environments. Ecology of winter, vernal ponds, spring wildflowers, biomes, and migratory birds. Primarily field based at sites throughout northeastern Minnesota. prereq: credit will not be granted if already received for EnEd 3342

**ENED 3400. Program Development and Evaluation in Environmental and Outdoor Education.** (3 cr. ; A-F or Audit; Every Spring)

This course provides an introduction to the techniques of program development and evaluation in the context of outdoor and environmental education. It is designed for those who will be working in these fields to gain skills in developing a program and conducting evaluations of program outcomes, as well as in accessing, understanding, and using existing evaluations to guide practice. The focus of this course is at a program-level, as opposed to assessing learning/outcomes at a lesson-level. prereq: ENED 2300

**ENED 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ENED 4163. Outdoor Education Methods.** (3 cr. ; A-F or Audit; Every Fall)

Methods and theoretical basis for teaching outdoor education. Emphasis on application at outdoor sites. Weekend experience at a regional nature center required. prereq: ENED 3342 or instructor consent; credit will not be granted if already received for EDUC 4163

**ENED 4300. Therapeutic Applications of Outdoor Education.** (3 cr. ; A-F or Audit; Every Fall)

The principles and practices of therapeutic outdoor education in a variety of contexts, including: wilderness therapy, residential treatment, correctional facilities, and community programs will be examined. The history, philosophy, and methodological approaches will provide a basis for learning current trends, program models, and research in the field. Professional competencies and standards related to the field will also be addressed. prereq: Minimum 30 credits, no grad credit

**ENED 4315. Operations and Management.** (4 cr. ; A-F or Audit; Every Fall)

Methods and practice of administrative processes of personnel, fiscal, and facility management. Field study and presentation of a management plan. prereq: ENED 2300 or instructor consent

**ENED 4320. GIS Management for Recreation Professionals.** (3 cr. ; Student Option; Every Spring)

Using G.I.S. mapping techniques for recreation and outdoor education professionals in

resource management decisions. Arcview and Landview software will be used to visualize and analyze landscapes. This course is specific to recreation and/or outdoor education professionals. prereq: credit will not be granted if already received for REC 4320

**ENED 4410. Ropes Course Management.** (3 cr. ; A-F or Audit; Every Fall)

Management of a ropes course as a part of an outdoor education facility. Includes ropes course elements, instructional techniques, group debriefing skills, site inspection, safety, recommend and equipment maintenance. This course will follow industry standards such as Project Adventure. prereq: ENED 2300 or instructor consent, no Grad credit; credit will not be granted if already received for Rec 4410

**ENED 4555. Foundations of Environmental Education.** (3 cr. ; A-F or Audit; Every Spring)

Provides a background of skills and understanding of environmental education delivery in various educational settings, with emphasis on formal classroom audience. prereq: ENED 2300 or instructor consent

**ENED 4565. Young Children, Nature, and Sustainability.** (SUSTAIN; 3 cr. ; A-F or Audit; Every Spring)

Focus on education for sustainability in an early childhood (infant-preschool age) context. Study of rational for merging education for sustainability and early childhood education, as well as recommended practices and possibilities for doing so. Also emphasized are skills for developing and implementing developmentally appropriate learning experience that support health development of young children and further education for sustainability goals. no grad credit

**ENED 4601. Wilderness Philosophy.** (2 cr. ; Student Option; Every Fall)

People and social forces that have influenced land-use related to designated wilderness; philosophical and historical basis for wilderness management. prereq: No grad credit; credit will not be granted if already received for Educ 4601

**ENED 4800. North Karelia: Outdoor Education and National Parks of Eastern Finland.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Summer)

This is a Study Abroad Program in the country of Finland in the Karelia region. Karelia is a magnificent area of lakes and forests in Eastern Finland. You will learn how outdoor education is used to teach about the protected natural areas in the Karelia district, particularly Finnish Wilderness Areas. You will learn basic natural history such as plants, trees, birds, and wildlife. You will explore how the Finnish "Everyman's Right" applies to sustainable use and management of Protected Nature Areas. From your experiences in Finland you will compare cross-cultural nature experiences in Finnish and U.S. protected areas, particularly those in Minnesota such as the Boundary Waters Canoe Area Wilderness (BWCAW), which is very similar to the Finnish Karelia Region. pre-req: minimum GPA 2.5, minimum 30 credits

**ENED 4805. Environmental Sustainability, Education and Culture in Cuba.** (GLOBAL PER; 3 cr. ; A-F or Audit; Summer Odd Year) Courses will be a short-term study abroad to Cuba with a focus on ecological sustainability, education, health and culture. Over the past two decades, Cuba has turned toward sustainable agricultural and environmental sustainability against the backdrop of scarce fossil fuel resources, they learned how to produce nearly 100% of their fruits and vegetables by organic means while building a more cohesive community. These efforts build upon the longer-term success of the Cuban literacy and health care campaign which, have been exported to the poorest communities around the world. In preparation for travel to Cuba, students will be given background readings prior to departure; the week prior to departure we will hold 3 face-to-face meetings to discuss Cuba's history, education, health and environmental sustainability. While in Cuba, students will engage in an in-depth study by visiting multiple sites of relevance and importance. Site may include: the Cuban Literacy Museum, organic farms, Museum of the Revolution, artists community, Latin American Medical School, an eco biosphere reserve and meet with Cuban citizens, leaders, workers and scholars. pre-req: instructor consent, no grad credit

**ENED 4991. Independent Study.** (1-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer) Independent project that would serve to further the student's knowledge base and/or professional competencies. pre-req: instructor consent; no grad credit

**ENED 4992. Readings in Recreation.** (1-4 cr. [max 16 cr.] ; A-F or Audit; Every Fall, Spring & Summer) Complementary readings and discussion in student's area of interest with faculty supervision. pre-req: instructor consent; no grad credit

**ENED 4996. Outdoor Education Internship.** (12 cr. ; S-N or Audit; Every Fall, Spring & Summer) Supervised field experience in outdoor education. pre-req: Environmental and Outdoor education major, instructor consent; no grad credit; credit will not be granted if already received for Rec 4996

**ENED 4997. Recreation Practicum.** (3 cr. ; S-N only; Every Fall, Spring & Summer) Field-based experience through a selected recreation agency. pre-req: ENED 4163, PETE 3508 and instructor consent; no grad credit; credit will not be granted if already received for REC 4997

**ENED 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**ENED 5100. Research Design and Methods in the Social Sciences.** (3 cr. ; A-F or Audit; Every Fall) An overview of the designs, methods, and processes used in social science research. Course content includes the following

topics: Developing a purpose statement and research questions; conceptualization, operationalization, and measurements of variables' choosing and using human research subject; experimental research' survey research pre-req: graduate student or instructor consent

**ENED 5163. Outdoor Education Methods.** (; 3 cr. ; A-F or Audit; Every Fall) Methods and theoretical basis for teaching outdoor education. Emphasis on application at outdoor sites. Weekend experience at a regional nature center required pre-req: MEd candidate or instructor consent

**ENED 5164. Environmental Education In-Service Training.** (0.5-10 cr. ; A-F or Audit; Periodic Fall) Environmental education methods, materials, and curricula for educators wishing to enhance their environmental education training. pre-req: instructor consent; credit will not be granted if already received for Educ 5164

**ENED 5165. Theories and Models in Outdoor Education.** (2 cr. ; A-F or Audit; Every Fall) Overview of theoretical foundations of outdoor education. Definitions of terms related to outdoor education, historical antecedents, future adventure education, social and psychological benefits of outdoor education. pre-req: instructor consent; credit will not be granted if already received for Educ 5165

**ENED 5315. Operations and Management.** (4 cr. ; A-F or Audit; Every Fall) Methods and practice of administrative processes of personnel, fiscal, and facility management. Involves annual operations and long-range management with sustainability of agency natural resources. Field study and presentation of a long-range management plan are included requirements. pre-req: Certificate or Master of Environmental Education student

**ENED 5325. Sustainability Issues Investigation.** (2 cr. ; A-F or Audit; Every Spring) The study of resolving environmental problems that affect sustainability. This includes issue identification; building an effective team of investigators; and, study of the issue to the point of making recommendations to resolve the issue of sustainability management and education.

**ENED 5343. Advanced Field Interpretive Techniques.** (3 cr. ; A-F or Audit; Every Summer) Techniques and methods used to interpret the natural and cultural history of unique field sites; For example, Isle Royale National Park. Specific, in-depth topics of natural and cultural history will be emphasized. Techniques for field site investigation and field based interpretation as an educational approach will be investigated. pre-req: ENED 3341 or ENED 3342 or instructor consent

**ENED 5560. Current Research and Issues.** (3 cr. ; A-F or Audit; Every Spring) Examines research literature and related issues pertaining to outdoor education including disciplines of science, environmental

experiential, and adventure education. Trends in research, teaching, plus research design and methods. pre-req: grad student or instructor consent

**ENED 5565. Young Children, Nature, and Sustainability.** (3 cr. ; A-F or Audit; Every Spring) Focus on education for sustainability in an early childhood (infant-preschool age) context. Study of rational for merging education for sustainability and early childhood education, as well as recommended practices and possibilities for doing so. Also emphasized are skills for developing and implementing developmentally appropriate learning experience that support health development of young children and further education for sustainability goals. pre-req: graduate or post-baccalaureate student; credit will not be granted if already received for ENED 4565

**ENED 5625. Program Development and Evaluation.** (; 3 cr. ; A-F or Audit; Every Spring) A comprehensive approach to program development will be applied to youth-based environmental education programs. Course is designed for those working in supervisory capacities to gain skills in designing, implementing, and evaluating environmental education programs.

**ENED 5800. Sustainability Education: Methods and Strategies.** (3 cr. ; A-F or Audit; Every Summer) Methods and lesson strategies connected to current definitions, theories, and practices of teaching sustainability practices and management. Sustainability of the natural environment from the effects of outdoor education and nature-based tourism is an underestimated aspect of sustainability practices. Pedagogical approaches to teach sustainable practices for the natural environment will be the primary focus of this course. Students will be able to apply this course to other sustainability practices such as sustainable energy or food practices. pre-req: Minimum 60 credits or Environmental Education Certificate or Graduate student or instructor consent

**ENED 5850. Classroom Applications.** (2 cr. ; A-F or Audit; Every Fall) Understanding the formal classroom environment: scope and sequence, management, assessment, and standards for applications pertinent to audience and setting in environmental education. pre-req: MEd candidate or instructor consent

**ENED 5855. Programming for School Systems.** (3 cr. ; A-F or Audit; Every Spring) The relationship between environmental education and the formal school system (P-12) will be examined. Instructional approaches that use the environment as a context for helping students develop essential content and skills in the core academic disciplines will be emphasized. pre-req: 5850, Educ 5850 or instructor consent

**ENED 5990. Research Project.** (1-6 cr. ; S-N only; Every Fall, Spring & Summer)

Faculty-supervised research project required for MEd prereq: Instructor consent

**ENED 5991. Independent Study.** (1-6 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Directed independent study or projects in a particular area of interest. Approved degree program plan should be completed before course is taken by graduate students. prereq: Certificate or Masters Environmental Education student, instructor consent

**ENED 5992. Readings in Environmental Education.** (1-6 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Special complementary readings and discussion in advanced or graduate student's field of interest in environmental or outdoor education. Readings exceed the scope and/or offering of regular courses. prereq: Certificate or Master Environmental Education student or instructor consent

**ENED 5998. Outdoor Education Seminar.** (1 cr. [max 3 cr.] ; S-N or Audit; Every Fall & Spring)  
Facilitated discussions and presentations of contemporary recreation research, curricula, and/or issues. prereq: instructor consent, credit will not be granted if already received for Rec 4998

**ENED 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Environmental Science (ESCI)

**ESCI 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ESCI 2010. Surface Processes.** (4 cr. ; A-F or Audit; Every Fall)  
Study of Earth surface processes emphasizing the origin and evolution of the earth's response of the physical environment to anthropogenic perturbations, climate change, and tectonic events; and application of physical, chemical, and mathematical principles to the study and interpretation of the environment. Surface processes will be explored through field and lab exercises designed to give the student hands-on experience in environmental characterization and monitoring. pre-req: GEOL 1110 or 1610 or GEOG 1414, MATH 1250 or 1290 or 1296, CHEM 1153 or 1173 or instructor consent

**ESCI 2210. Environmental Characterization and Monitoring.** (4 cr. ; A-F or Audit; Every Fall)  
Scientific foundations of major environmental issues that impact society, including water, natural resources, and global climate change. Issues and human impacts will be explored through field and lab exercises designed to give the student hands on experience in environmental characterization and monitoring. prereq: GEOL 1110 and (CHEM 1155 or 1162)

**ESCI 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ESCI 3095. Environmental Science Special Topics (various titles to be assigned).** (1-3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Topics not covered in regular curriculum. Topic announced before course offered.

**ESCI 3201. Mineral Resources.** (3 cr. ; A-F or Audit; Every Fall)  
An introduction to the geology, extraction, processing, and disposal of mineral deposits, including major metal deposits (Fe, Al, Pb, Zn, Cu), scarce metals (high-technology metals, rare earth metals), non-metal deposits (salt, fertilizer, chemicals) as well as industrial minerals and resources (stone, sand/ clay). Also, includes topics related to the environmental footprint of resource mining and the impact of technological and societal development. prereq: MATH 1290 or 1296 or instructor consent

**ESCI 3202. Energy Resources.** (3 cr. ; A-F or Audit; Every Spring)  
Geologic principles of carbon-based energy resources, with emphasis on coal and conventional and unconventional (e.g. shale oil, oil-sands, ultra-heavy crude oil) petroleum and gas; fundamentals of nuclear energy; introduction to technologies associated with the extraction, production, refinement, consumption, and byproduct treatment/disposal of carbon-based and nuclear-energy resources; importance of carbon-based energy in global industrialization and associated population growth; limits of population growth imposed by energy requirements; principles and associated technologies of renewable energy and energy conversion, with focus on solar (direct and indirect), geothermal, tidal, and biofuel energy resources. prereq: MATH 1290 or 1296 or 1596 and PHYS 1001 or 2013 or 2017 or instructor consent

**ESCI 3203. Environmental Hydrology.** (3 cr. ; A-F or Audit; Every Spring)  
Water at the Earth's surface is constantly exchanged between wetlands, streams, lakes and shallow groundwater reservoirs. Human activities alter drainage patterns and impact surface water, runoff, and infiltration. Drainage of wetlands and construction of impervious surfaces increases the rate of storm water runoff and can lead to increases in flood frequency. Agricultural activities introduce fertilizers and pesticides into the soil, which can then contaminate surface water and groundwater reservoirs. Surface water is intimately connected to ground water through complex hydraulic interactions that are difficult to observe and measure and therefore are often ignored in water management policy implementation. This course examines the natural processes of groundwater and surface water interaction; classification of lakes, streams, and wetlands; sources, measurement and interpretation of hydrologic and geochemical data; and, through numerous case studies, the impacts of human activities on surface water and groundwater. pre-req: GEOL 1110 or 1610 or GEOG 1414 and GEOL 2010 or ESCI 2010 or instructor consent

**ESCI 3291. Independent Study.** (1-3 cr. ; Student Option; Every Fall, Spring & Summer)  
Directed, student motivated, study arranged with instructor and ESCI director before registration. prereq: instructor consent

**ESCI 3296. Internship in Environmental Science.** (1-2 cr. [max 4 cr.] ; S-N only; Every Fall, Spring & Summer)  
Practical work experience with an employer closely associated with student's academic area. Arranged by mutual agreement between student, department, and employer. Written report and assessment by non-academic supervisor at the end of the work experience. prereq: Environmental Science major and instructor consent

**ESCI 3301. Meteorology and Climatology for the Earth Sciences.** (3 cr. ; A-F or Audit; Every Fall)  
This course addresses the fundamentals of meteorology and climatology with an emphasis on weather systems in the humid, temperate climate of central North America. Topics covered include: Large-scale atmospheric circulation and associated fluxes of heat and water vapor; formation and evolution of mid-latitude cyclones; convective precipitation and severe weather; tropical cyclones; forensic analysis of historical weather events; and fundamentals of weather forecasting. A significant course component focuses on the weather and meso-scale climatology that characterize the Great Lakes region, where there exists a fascinating juxtaposition of continental and maritime climates. pre-req: MATH 1290 or 1296 or 1596 or instructor consent

**ESCI 3562. Introduction to Principles of Geographic Information Systems in Environmental Science.** (4 cr. ; A-F or Audit; Periodic Spring)  
This course introduces fundamental concepts and methods in geographic information science (GIScience), and the GIS software ESRI ArcGIS Pro. The course is designed for students who have an interest in learning the stories behind the maps. The lectures introduce basic concepts and methods in GIS with real-world examples. The lab exercises help students to comprehend those concepts and methods. The focus will be on environmental applications and problems encountered by natural scientists. This class will allow students to continue into GIS 3564 (GIS 2). Students already considering a certificate, minor, or major in GIS are encouraged to take GIS 2552 first. pre-req: minimum 90 credits or instructor consent

**ESCI 3605. The Irish Landscape in Science and Literature - Study Abroad.** (GLOBAL PER; 4 cr. ; A-F or Audit; Periodic Summer)  
Study abroad in Ireland. This course focuses on the natural, cultural, and literary history of Ireland, with a particular emphasis on the intersection of science and the humanities. The last Ice Age left its marks on the Irish landscape, and, human communities over millennia have left their imprints as well. The stages of human settlement over time have adapted to postglacial climate change and



associated changes of flora and fauna. The evolving landscape and coastlines and the archaeological record of human history from the paleolithic period to modern times make the Irish landscape a fascinating field site. Moreover, the Irish literary tradition from the ancient oral cultural to the beginning of literacy in the early Middle Ages has a long, rich, often locally-based heritage of nature writing. The assigned literature will connect postglacial history and climate change to the natural systems and environments and to the history of human adaptation over time. Students will visit important geographic and cultural sites and learn how cultural evolution remains a powerful presence in modern Ireland. pre-req: WRIT 1120 or equivalent, GEOL 1110 or GEOL 1610 or GEOG 1414, instructor consent

**ESCI 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ESCI 4094. Environmental Science Problems and Research.** (1-2 cr. [max 4 cr.] ; A-F only; Every Fall & Spring)  
Individual research in lab or field problems. pre-req: minimum 30 credits and instructor consent

**ESCI 4102. Environmental Assessment.** (3 cr. ; A-F or Audit; Every Spring)  
Environmental issues identification and investigation. Review of case studies of environmental investigations and the components of environmental impact statements. Selection of local or regional environmental issues and evaluation of the environmental problems from a multidisciplinary perspective. Preparation of draft Environmental Impact Statement (EIS). prereq: instructor consent; no grad credit

**ESCI 4180. Teaching Assistant Experience.** (1-2 cr. [max 4 cr.] ; S-N only; Every Fall & Spring)  
Participate in teaching Environmental Science lecture and lab courses, including preparation of material, instruction, and student interaction. pre-req: minimum 30 credits, instructor consent

**ESCI 4201. Watershed Hydrology.** (3 cr. ; A-F or Audit; Every Spring)  
This is an upper-division hydrology course covering the hydrologic cycle in the context of wildland watersheds. The course will cover the major components of the hydrologic cycle, including precipitation, snow hydrology, canopy interception, evapotranspiration, infiltration, soil water storage, runoff, streamflow and groundwater flow. The impacts of watershed management on water quantity and quality will be discussed using regional, national, and global examples, with an emphasis on solving real-world problems using hydrologic datasets. This course includes a 2-hour lab that meets once per week. pre-req: MATH 1290 or MATH 1296, no credit granted if already received for ESCI or GEOL 5201

**ESCI 4250. Environmental Applications in Hydrology & Hydrogeology.** (4 cr. ; A-F or Audit; Periodic Fall)  
Fundamentals of hydrology and hydrogeology with emphasis on environmental applications.

The course develops the disciplines of surface water hydrology, surface water/groundwater interaction, and groundwater flow with application to common environmental problems and investigations. Emphasis is on analysis of precipitation and streamflow, hydrologic budgets, surface water/groundwater interaction, pumping tests to evaluate aquifer properties and safe yields, evaluation of the impacts of agricultural irrigation and agricultural feedlots, commonly used methods of environmental assessment, and introduction to the regulatory framework. pre-req: MATH 1290 or 1296 or 1596 and PHYS 2011 or 2013 or 2014 or instructor consent

**ESCI 4270. Field Methods in Snow Hydrology.** (1 cr. ; A-F or Audit; Spring Odd Year)

This course will give a brief overview on the basic principles governing snow in the hydrologic cycle and will then focus on field applications in snow hydrology including snow course measurements and characterizing snow profiles. pre-req: ESCI 3203 or 4201 or 5201 or GEOL 5250 or CE 3225; or instructor consent; no grad credit.

**ESCI 4280. Principles of Soil Science.** (3 cr. ; A-F or Audit; Spring Even Year)  
This course covers basic concepts on all aspects of soil science including soil genesis and taxonomy; physical, chemical, and biological properties; vadose zone hydrology; soil conservation and management; and soil fertility. pre-req: GEOL 1110 or 1610 or GEOG 1414; CHEM 1153; or instructor consent; no grad credit

**ESCI 4863. Ecosystems Ecology and Biogeochemistry.** (3 cr. ; A-F or Audit; Every Spring)  
Ecosystems ecology is the integrated study of the flows of materials and energy through ecosystems, which includes both the living (biotic) and non-living (abiotic) components. Biogeochemistry is a major subfield of ecosystems ecology, and deals with the cycling of nutrients through ecosystems. In this class, we will discuss the integration of ecosystems and biogeochemistry in terrestrial environments, specifically focusing on how human activities influence ecological systems and vice versa. It is my hope that you walk away from this course with a better understanding of how large environmental issues such as climate change and invasive species affect ecological systems. pre-req: BIOL 2801, CHEM 1153 or CHEM 1173 or instructor consent; no grad credit

**ESCI 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ESCI 5095. Environmental Science Special Topics (various titles to be assigned).** (1-3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Topics not covered in regular curriculum. Topics announced before course offered.

**ESCI 5150. Organic and Stable Isotope Biogeochemistry.** (3 cr. ; A-F or Audit; Spring Odd Year)

Production and chemical composition of natural organic matter (OM), diagenesis and catagenesis of OM; stable isotopic fractionation processes of C, H, O, N & S in natural systems, fractionation theory, isotopic indicators of climate, oceanographic/limnologic processes, trophic structure, microbial processes. pre-req: Graduate standing or instructor approval

**ESCI 5201. Watershed Hydrology.** (3 cr. ; A-F or Audit; Every Spring)

This is an upper-division hydrology course covering the hydrologic cycle in the context of wildland watersheds. The course will cover the major components of the hydrologic cycle, including precipitation, snow hydrology, canopy interception, evapotranspiration, infiltration, soil water storage, runoff, streamflow and groundwater flow. The impacts of watershed management on water quantity and quality will be discussed using regional, national, and global examples, with an emphasis on solving real-world problems using hydrologic datasets. This course includes a 2-hour lab that meets once per week. pre-req: MATH 1290 or 1296 or grad student; no credit granted if already received for ESCI or GEOL 4201

**ESCI 5270. Field Methods in Snow Hydrology.** (1 cr. ; A-F or Audit; Spring Odd Year)

This course will give a brief overview on the basic principles governing snow in the hydrologic cycle and will then focus on field applications in snow hydrology including snow course measurements and characterizing snow profiles. pre-req: graduate student or instructor consent

**ESCI 5450. Structural Geology.** (5 cr. ; A-F or Audit; Every Fall)  
Introduction to brittle and ductile deformation, including joints, faults, shear zones, and folds; deformation mechanism; elementary stress and strain theory. Labs include geometric, structural and kinematic analysis, and a group project. Course fee assessed. pre-req: graduate student or instructor consent

**ESCI 5863. Ecosystems Ecology and Biogeochemistry.** (3 cr. ; A-F or Audit; Every Spring)  
Ecosystems ecology is the integrated study of the flows of materials and energy through ecosystems, which includes both the living (biotic) and non-living (abiotic) components. Biogeochemistry is a major subfield of ecosystems ecology, and deals with the cycling of nutrients through ecosystems. In this class, we will discuss the integration of ecosystems and biogeochemistry in terrestrial environments, specifically focusing on how human activities influence ecological systems and vice versa. It is my hope that you walk away from this course with a better understanding of how large environmental issues such as climate change and invasive species affect ecological systems. pre-req: BIOL 2801, CHEM 1153 or CHEM 1173 or graduate student

**ESCI 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Exercise Science (EXSC)

### EXSC 1000. Introduction to Exercise Science Foundations and Exploration for Allied Health Professions. (2 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to Exercise Science teaches students about various fields of exercise science and related areas, such as physical therapy, occupational therapy, cardiac rehabilitation, personal training, exercise physiology, athletic training and sports medicine. Students will learn about diverse areas of exercise science through career exploration as well as receive an overview of evidence-based practice, critical thinking and practical application of each topic in the curriculum to coursework and future career opportunities.

**EXSC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### EXSC 2420. Aerobic and Fitness Assessment Techniques in Exercise Science. (1 cr. ; A-F or Audit; Every Fall & Spring)

This laboratory-based course teaches students how to properly assess aerobic fitness levels. Students will develop precise health and fitness assessment skills required by the American College of Sports Medicine under supervision with instruction for proper technique. Students will learn about giving feedback for each skill. pre-req: EXEC 1000 and minimum 30 credits

### EXSC 2430. Resistance Training Techniques in Exercise Science. (1 cr. ; A-F or Audit; Every Fall & Spring)

This lab-based course will introduce resistance training techniques that address the major muscle groups and movement patterns in the human body. Students will learn fundamental body weight, free weight, and machine-based exercises that may be applied in rehabilitation, general health & fitness, and sports performance populations. General safety practices including spotting techniques and contraindications to exercise will also be addressed. pre-req: EXSC 1000, minimum 30 credits; transfer students may concurrently enroll in EXSC 1000 and EXSC 2430 with instructor consent

**EXSC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### EXSC 3200. Motor Learning and Control. (4 cr. ; A-F or Audit; Every Fall & Spring)

Classification of motor skills and principles and theories of human motor learning and control sports, exercise and rehabilitation setting. Motor control theories and principles of effective trainings such as practice condition, verbal instructions and demonstrations will be covered. prereq: Minimum 60 credits, Athletic training or Exercise Science or Physical Education major or instructor consent prereq: Minimum 60 credits, Athletic training or Exercise Science or Physical Education major or instructor consent

### EXSC 3210. Exercise Adherence. (3 cr. ; A-F or Audit; Every Fall & Spring)

Fundamental concepts of exercise psychology. Physical activity models of involvement; exercise determinates and correlates; exercise interventions. prereq: Minimum 60 credits, Exercise Science major or instructor consent

### EXSC 3300. Human Biomechanics. (4 cr. ; A-F or Audit; Every Fall & Spring)

Application of physical laws to human movement. Laws of mechanics and tissue biomechanics concepts are applied to human motor function. (3 hr lect, 1 hr lab) prereq: HLTH 2030, PHYS 1001, minimum 60 credits, Exercise Science major or instructor consent

### EXSC 3400. Exercise Physiology. (4 cr. ; A-F or Audit; Every Fall & Spring)

Physiological responses and adaptations to acute and chronic exercise. (3 hrs lect, 1.25 hrs lab) prereq: HLTH 2040 or PHSL 3011, minimum 60 credits, Exercise Science major, or instructor consent

### EXSC 3402. Electrocardiogram Foundations and Interpretation for Health and Medical Professions. (1 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Electrocardiography teaches the fundamentals of reading and analyzing electrocardiograms, ECGs. Students will learn about common cardiac rhythm abnormalities and clinical application skills. pre-req: minimum 60 credits, HLTH 2030 or BIOL 3771; HLTH 2040 or BIOL 3772; HLTH 1104 or PHAR 5201; or instructor consent

### EXSC 3410. Exercise Metabolism and Nutrition. (4 cr. ; A-F or Audit; Every Fall & Spring)

Physiology of metabolism and nutrients in humans undertaking intentional physical activity in rehabilitation, recreation, exercise, sport and competition. prereq: Hlth 2040, Exercise Science major or instructor consent

### EXSC 3420. Exercise Testing and Prescription. (4 cr. ; A-F or Audit; Every Fall & Spring)

Physical fitness programming for adults; principles of exercise testing and prescription. prereq: 3400, Exercise Science major or instructor consent

### EXSC 3430. Principles of Strength and Conditioning Programs. (4 cr. ; A-F or Audit; Every Fall & Spring)

Theory and practice of developing and implementing strength training and conditioning programs; emphasis on technique analysis and instructional methods. prereq: 3400, Exercise Science major or instructor consent

### EXSC 3440. Clinical Exercise Physiology. (4 cr. ; A-F or Audit; Every Fall & Spring)

Examination of the use of physiological principles and relationships in clinical situations where exercise is used for prevention or alleviation of disease. prereq: 3420, Exercise Science major or instructor consent

**EXSC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### EXSC 4600. Senior Seminar Athletic Training. (2 cr. ; A-F or Audit; Every Spring)

A culminating course that includes a review of current trends in health care, preparation for the BOC examination, and a research project related to athletic training. prereq: 4001, Athletic Training major, no grad credit; credit will not be granted if already received for PEP 5600

### EXSC 4698. Clinical Experiences in Athletic Training VI. (2 cr. ; A-F or Audit; Every Spring)

Athletic training psychomotor skills are enhanced and assessed by an approved clinical instructor during the clinical rotation. Emphasis is on previously learned classroom material. 300 hours of clinical experiences are required. prereq: 4697, Athletic Training major, no grad credit

### EXSC 4700. Statistics and Research Methods in Exercise Science. (4 cr. ; A-F or Audit; Every Fall & Spring)

Descriptive and inferential statistical procedures and research design in exercise science. Prepares students to conduct and analyze research projects in exercise physiology, biomechanics, motor learning, and/or the psychological factors that influence exercise. prereq: 12 cr from 3200, 3300, 3400, 3410, Exercise Science major, no grad credit

### EXSC 4710. Applied and Experimental Exercise Science. (4 cr. ; A-F or Audit; Every Fall & Spring)

Advanced study and research in exercise science; methods of quantifying exercise responses and adaptations; basic research design. prereq: 3200, 3300, 3400, 3410, 4700, Exercise Science major or instructor consent; no grad credit

### EXSC 4996. Internship. (3-12 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Supervised field internship experience in hospital, fitness facility, or agency setting. Six credits required for Health Fitness concentration. Additional credits may be used as electives in this program. Forty clock hours experience are required per credit hour of registration. prereq: 3420, Exercise Science major, instructor consent; no grad credit

**EXSC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**EXSC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Exercise Science Athletic Trng (ESAT)

**ESAT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ESAT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ESAT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**ESAT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ESAT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## FD (FD)

**FD 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FD 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FD 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FD 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FD 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## FOR (FOR)

**FOR 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FOR 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FOR 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FOR 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FOR 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## FRD (FRD)

**FRD 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FRD 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FRD 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FRD 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FRD 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

## FW (FW)

**FW 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FW 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FW 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FW 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FW 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Family Life (FAML)

**FAML 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FAML 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FAML 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FAML 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FAML 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Family Medicine (FMED)

**FMED 5591. Independent Study.** (0 cr. ; No Grade Associated; Every Fall, Spring & Summer)  
Intensive, independent study project of student's interest in medical research, interdisciplinary fellowship, preceptorship in rural health care delivery, or another medical area approved by Department of Family Medicine. Reflective summary upon completion (paragraph). prereq: department consent

## Finance (FIN)

**FIN 1501. Consumer Finance.** (3 cr. ; A-F or Audit; Every Spring)  
The purpose of this course is to familiarize students with the basic concepts of personal finance at an introductory level with the overall goal of improving students' financial literacy. Topics discussed will include budget development, the time value of money, the use and management of common forms of debt such as student loans, credit cards and mortgages, and an introduction to saving and investing. Evaluation of current financial events

and discussion of ethical issues in finance will also entail a significant portion of the course. pre-req: credit will not be granted if already received for FMIS 1501

**FIN 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FIN 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FIN 3601. Corporate Finance.** (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Fundamental concepts of managerial financial decision making. Time value of money, valuation, risk and return, financial statement analysis, short-run financial management, capital budgeting, cost of capital, long-term financing, and corporate taxation. prereq: LSBE candidate or approved non-LSBE business administration minor or approved Finance minor or college consent; credit will not be granted if already received for FMIS 3601

**FIN 3612. Managerial Finance.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Intermediate conceptual and analytical applications in capital budgeting, funds flow, cost of capital, debt management, equity financing, mergers and acquisitions, business reorganizations, international financial management. prereq: FMIS 3601 or FIN 3601, LSBE candidate or approved Finance minor or college consent; credit will not be granted if already received for FMIS 3612

**FIN 3619. Analysis of Financial Statements.** (3 cr. ; A-F or Audit; Every Spring)  
Analysis and interpretation of financial statements, presentation of analytical techniques, including trend, comparative, and ratio analysis. Use of computer assisted analysis prereq: FMIS 3601 or FIN 3601, LSBE candidate or approved finance minor or instructor consent; an Accounting/Finance double major cannot take FMIS 3619 to count as a Group B finance elective. See your finance adviser for details; credit will not be granted if already received for FMIS 3619

**FIN 3620. Real Estate Finance and Investment.** (3 cr. ; A-F or Audit; Every Spring)  
This course deals with residential and commercial real estate from the perspective of an investor. Its focus is on the main debt and equity vehicles for financing real estate, with a particular emphasis on mortgages (structure, pricing and securitization through mortgage-backed securities) and real estate investment trusts (REITs). An essential component of the course will be the development of Excel models to analyze real estate investment decisions. pre-req: FMIS/FIN 3601 and LSBE candidacy or non-LSBE Finance minor; preferred but not required FIN 3612

**FIN 3644. Investment Fundamentals.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Comprehensive introduction to nature, problems, and process of evaluating particular securities and portfolio construction. Survey of basic principles of security analysis, analytical

techniques, and investment policy for individual and institutional investors. Introduction to computer-assisted investment analysis. prereq: FMIS 3601 or FIN 3601, LSBE candidate or approved finance minor or college consent; credit will not be granted if already received for FMIS 3644

**FIN 3647. Financial Markets and Institutions.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Analysis of money and capital markets, savings-investment process, and financial institutions. Role of Federal Reserve and Treasury in finance market development; supply and demand for loanable funds; level and structure of interest rates. Asset/liability management. prereq: FIN 3601 or FMIS 3601, LSBE candidate or approved Finance minor or college consent; credit will not be granted if already received for FMIS 3647

**FIN 3649. International Finance.** (3 cr. ; A-F or Audit; Every Fall & Summer)  
Comprehensive framework and analysis for financial management of international firm. International financial markets, exchange rates and international firms, elements of international investments, financing decisions, and strategy formulation. prereq: FMIS 3601 or FIN 3601, LSBE candidate or Finance minor or college consent; credit will not be granted if already received for FMIS 3649

**FIN 3655. Risk Management and Insurance.** (3 cr. ; A-F or Audit; Every Fall)  
Foundations as well as the economic, financial and legal issues surrounding risk management and insurance. Students will discuss and analyze risk management techniques currently used in business and examine different types of insurance policies. prereq: FMIS 3601 or FIN 3601, LSBE candidate or approved Finance minor or instructor consent; credit will not be granted if already approved for FMIS 3655

**FIN 3691. Independent Study Finance.** (1-3 cr. ; A-F only; Every Fall, Spring & Summer)  
For students wishing to do special work in finance that extends beyond, or in greater depth than, regular course offerings. prereq: department consent; credit will not be granted if already received for FMIS 3691

**FIN 3695. Special Topics: (Various Titles to be Assigned).** ( ; 1-3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall & Spring)  
Exploration of specific finance problems, issues, and approaches. prereq: FMIS 3601 or FIN 3601, LSBE candidate or college consent; repetition of course credits includes credits earned between FMIS 3695 and FIN 3695

**FIN 3697. Finance Internship.** (1-6 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Work-integrated learning program providing practical experiences within students major. Students participate in approved program within cooperating business, governmental agencies, or civic organizations. There are minimum hours based upon the credits you select for the course; 1 credit = 100 hour minimum; 2 credits = 150 hours minimum; 3 credits = 200 hour minimum. The course also requires completion of internship contract,

assignments, and performance evaluations. For LSBE majors that allow for only three (or fewer) credit hours of internship in the major curriculum, students will be allowed to count the remaining internship credits in the Upper Division Supporting Courses category. Maximum credits: 6; 3 completions allowed between FMIS 3697 and FIN 3697. prereq: LSBE candidate, prior major coursework and consent of internship director; credit will not be granted if already received for FMIS 3397

**FIN 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FIN 4615. Derivative Securities.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Nature and functions of derivative security markets such as options, futures, options on futures, swaps, and financial engineering. Emphasizes their use as tools for risk reduction, portfolio management, and speculative medium for aggressive investor. prereq: FMIS 3644 or FIN 3644, LSBE candidate or Finance minor with 60 credits or grad student or college consent; credit will not be granted if already received for FMIS 4615

**FIN 4616. Security Analysis.** (3 cr. ; A-F or Audit; Every Fall)  
Introduction to theory, concepts, and practices of security analysis and investment practices. Common stock, fixed income securities, derivative securities, and mutual funds will be analyzed. Other topics include sector analysis, financial statement analysis, ratio analysis, diversification, and hedging. prereq: FMIS 3644 or FIN 3644, Acct 3101 or FMIS 3619 or FIN 3619, Financial Markets major or minor; no grad credit; credit will not be granted if already received for FMIS 4616

**FIN 4617. Management of Financial Institutions.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Techniques for managing commercial banks and other financial institutions through asset/liability management. prereq: FMIS 3647 or FIN 3647, LSBE candidate or approved Finance minor with 60 credits or grad student or college consent; credit will not be granted if already received for FMIS 4617

**FIN 4620. Portfolio Theory and Analysis.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Portfolio management in a modern portfolio theory (MPT) framework. Risk measurements, risk-return relationships, and portfolio models are developed. Topics include Markowitz portfolio theory, risk-return models, bond portfolio management, evaluating portfolio performance, and outperforming the market. prereq: Financial Markets major or minor; no grad credit; credit will not be granted if already received for FMIS 4620

**FIN 4624. Applied Portfolio Management.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Gives students in the financial markets program "hands on" learning experience by analyzing and managing a real-money investment fund. Students will be responsible for managing all aspects of the investment

fund. prereq: FMIS 4616 or FIN 4616, FMIS 4620 or FIN 4620, Financial Markets major or minor; no grad credit; credit will not be granted if already received for FMIS 4624

**FIN 4644. Portfolio Management.** (3 cr. ; A-F or Audit; Every Spring)  
Portfolio analysis in the mean-variance framework of Markowitz. Portfolio management strategies. The CAPM, APT, and other capital market theory implications. Portfolio performance evaluation. prereq: FMIS 3644 or FIN 3644, LSBE candidate or Finance Minor; credit will not be granted if already received for FMIS 4644

**FIN 4645. Financial Modeling and Valuation.** (3 cr. ; A-F or Audit; Every Fall)  
The objective of this course is to introduce students to financial modeling in Microsoft Excel. In particular, the course will focus on exploring the techniques and tools used to by industry professionals to produce valuations for businesses. The course will first explore commonly-used valuation approaches such as dividend discount models, discounted cash flow analysis, and valuation-by-comparables and then use these models to value publicly-traded companies and situations such as initial public offering or a corporate merger. pre-req: LSBE candidate or approved Finance minor, FMIS 3612 or FIN 3612; credit will not be granted if already received for FMIS 3645 or FMIS 4645, no grad credit

**FIN 4646. Financial Plan Development.** (3 cr. ; A-F or Audit; Every Spring)  
Financial planning is the process of managing resources to achieve personal financial goals. It involves the steps of determining current financial situations, developing financial goals, identifying alternative courses of actions, evaluation alternatives, creating financial action plans, and finally evaluating and revising plans. This course provides the systematic framework for implementing these activities. prereq: FMIS 3601 or FIN 3601, FMIS 3644 or FIN 3644, FMIS 3655 or FIN 3655, ACCT 2001 and 3401 and 4600, BLAW 3301 (can be taken concurrently); no grad credit; credit will not be granted if already received for FMIS 4646

**FIN 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FIN 5615. Derivative Securities.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Nature and functions of derivative security markets such as options, futures, options on futures, swaps, and financial engineering. Emphasizes their use as tools for risk reduction, portfolio management, and speculative medium for aggressive investor. pre-req: FIN 3644, MBA student or department consent

**FIN 5616. Security Analysis.** (3 cr. ; A-F or Audit; Every Fall)  
Introduction to theory, concepts, and practices of security analysis and investment practices. Common stock, fixed income securities, derivative securities, and mutual funds will be analyzed. Other topics include sector analysis,

financial statement analysis, ratio analysis, diversification, and hedging. pre-req: MBA student or instructor consent

**FIN 5617. Management of Financial Institutions.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Techniques for managing commercial banks and other financial institutions through asset/liability management. pre-req: FIN 3647, MBA student or instructor consent

**FIN 5620. Portfolio Theory and Analysis.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Portfolio management in a modern portfolio theory (MPT) framework. Risk measurements, risk-return relationships, and portfolio models are developed. Topics include Markowitz portfolio theory, risk-return models, bond portfolio management, evaluating portfolio performance, and outperforming the market. pre-req: MBA student or instructor consent

**FIN 5624. Applied Portfolio Management.** (3 cr. ; A-F or Audit; Every Fall)

Gives students in the financial markets program "hands on" learning experience by analyzing and managing a real-money investment fund. Students will be responsible for managing all aspects of the investment fund pre-req: FIN 4616, 4620, MBA student or instructor consent

**FIN 5644. Portfolio Management.** (3 cr. ; A-F or Audit; Every Spring)

Portfolio analysis in the mean-variance framework of Markowitz. Portfolio management strategies. The CAPM, APT, and other capital market theory implications. Portfolio performance evaluation. prereq: FIN 3644, MBA student or instructor consent

**FIN 5645. Financial Modeling and Valuation.** (3 cr. ; A-F or Audit; Every Fall)

The objective of this course is to introduce students to financial modeling in Microsoft Excel. In particular, the course will focus on exploring the techniques and tools used to by industry professionals to produce valuations for businesses. The course will first explore commonly-used valuation approaches such as dividend discount models, discounted cash flow analysis, and valuation-by-comparables and then use these models to value publicly-traded companies and situations such as initial public offering or a corporate merger. pre-req: FIN 3612, MBA student or instructor consent

**FIN 5646. Financial Plan Development.** (3 cr. ; A-F or Audit; Every Spring)

Financial planning is the process of managing resources to achieve personal financial goals. It involves the steps of determining current financial situations, developing financial goals, identifying alternative courses of actions, evaluation alternatives, creating financial action plans, and finally evaluating and revising plans. This course provides the systematic framework for implementing these activities pre-req: ACCT 2001, 3401, 4600, BLAW 4301 or 5301 can be taken concurrently, MBA student or instructor consent

**FIN 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

## Finance & Management Info (FMIS)

**FMIS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FMIS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FMIS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FMIS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FMIS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Fine Arts (FA)

**FA 1001. Introduction to Arts**

**Administration.** (1 cr. ; A-F or Audit; Every Fall & Spring)

First semester orientation into arts administration, including current trends, broad overview of topics in the field, and initial preparation for arts-specific management internships. pre-req: Arts Administration major or instructor consent

**FA 1102. Creating Art.** (FINE ARTS; 3 cr. ; A-F or Audit; Fall Odd Year)

Discussion/direct experience of settings/ways in which art (including aesthetic philosophy and other creative work) arises. prereq: Credit will not be granted if already received for 1101

**FA 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FA 2001. Education Programming and Community Impact for Arts Organizations.** (3 cr. ; A-F or Audit; Every Fall)

Educational Programming and Community Impact for Arts Organizations examines effective strategies for developing and administering educational programming, events, and community and school partnerships. Through case studies and creative exercises, learn how to leverage arts organizations' development, professional practice, educational programming and public outreach to demonstrate the impact of arts organizations on social change and community development. pre-req: Arts Administration major and FA 1001

**FA 2200. Observations in Arts Organizations.** (2 cr. ; A-F or Audit; Every Spring)

Observations in Arts Organizations is the preliminary experience in field work for Arts Administration majors. Through short-term placement in regional arts organizations, students observe the day-to-day operations and decision-making of arts organizations. pre-req:

Arts Administration major and/or consent, FA 1001

**FA 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FA 3001. Development for the Arts.** (3 cr. ; A-F or Audit; Every Fall)

Development for the Arts examines arts-specific development topics including donor development, grant writing, fundraising, event-based development strategy, and arts-specific development campaigns including donation of works of art. pre-req: Arts Administration major and FA 1001

**FA 3002. Managing Arts Organizations.** (3 cr. ; A-F or Audit; Every Spring)

Managing Arts Organizations examines the differences between non-profit management principles and those utilized in other industries, arts-specific functions and operational procedures including copyright and performing artist management protocol, dealing with artist management, budgeting, ticket sales and pricing, art collection management, season planning and promotion, working with unionized labor in facilities, physical space management, and application of development activities to planning and executing events. pre-req: Arts Administration major, FA 1001 MGTS 3401

**FA 3003. Seminar in Current Trends and Issues in Arts Administration.** (3 cr. ; A-F or Audit; Every Spring)

Seminar in Current Trends and Issues in Arts Administration examines societal and business trends that drive conversation, collaboration, development, artistic vision, and future planning in arts organizations. Topics covered in this course include but are not limited to: gender and race equity expressed through art, promotion of social justice in arts organizations through programming and collaboration, current trends in legal issues in art including copyright, digital distribution and historical gender bias. The topic and content of the course will change and adapt to relevant issues in the arts and its organizations. pre-req: Arts Administration major and FA 1001

**FA 3200. Internship I in Arts Organizations.** (6 cr. ; S-N or Audit; Every Fall)

Internship I in Arts Organizations is the first of two embedded internship courses for Arts Administration majors. Internship I provides a placement in an arts organization equaling 240 hours of work in the field experiences business management practices, organizational structure, planning and execution of arts organization events, and resource allocation. pre-req: Arts Administration major, FA 1001, 2001, 2200, 3001, 3002, 3003 and instructor consent

**FA 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FA 4200. Internship II/Externship in Arts Organizations.** (12 cr. ; S-N or Audit; Every Spring)

Internship II/Externship in Arts Organizations is the second of two embedded internship

courses for Arts Administration majors and the capstone program. Internship II/ Externship provides a placement in an arts organization equaling 480 hours of work in the field, experiencing business management practices, organisational structure, planning and execution of arts organization events, and resource allocation. Internship II/Externship is a full-time placement and may include placement in organization in other countries. pre-req: FA 3200 and instructor consent, no grad credit

**FA 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FA 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Foreign Studies (FORS)

**FORS 1000. ART 1002 Introduction to Art.** (3 cr. ; Student Option; Periodic Summer)  
Study abroad prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FORS 1001. ART 1002 Introduction to Art.** (3 cr. ; Student Option; Periodic Summer)  
Study abroad prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

## Foreign Studies (FST)

**FST 1001. Study Abroad UMD, Co-sponsored or Affiliate program.** (; 0-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
This course represents academic credit pursued at locations external to the University of Minnesota through the UMD Study Abroad Program or its affiliated programs. UMD Study Abroad programs and related coursework provide students the opportunity to increase their knowledge, cognitive complexity, self-realization, relational interdependence, humanitarianism, and build new life skills. Through Study Abroad programs students will prepare for their roles and responsibilities as global citizens. Visit the UMD Study Abroad office for more information about programs, guidance, and support. pre-req: Reserved for participants in Study Abroad program(s). Students require approval from the Study Abroad office to drop this course. Please contact your study abroad coordinator, <http://www.d.umn.edu/study-abroad/>

**FST 1002. Art 1002, Introduction to Art.** (; 1-20 cr. ; Student Option; Every Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 1003. Art 1009, Fundamentals of Drawing.** (; 1-20 cr. ; Student Option; Every Fall)  
Study abroad course prereq: Admitted to an approved Study Abroad program, required

consent from the International Education Office.

**FST 1004. Art 1405, Fundamentals of Ceramics.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 1005. Art 1605, Fundamentals of Photography.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 1006. DN 1101, Modern Dance Technique I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 1007. DN 1111, Jazz Dance Technique I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 1008. DN 1131, Ballet Technique I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 1009. ART 1009 Fundamentals of Drawing.** (1-20 cr. ; Student Option; Periodic Summer)  
Study abroad course. pre-req: Requires approval from International Programs and Services Office

## Foreign Studies (FST)

**FST 1009. Mu 1501, Concert Band.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 1010. Mu 1502, Symphonic Wind Ensemble.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1011. Mu 1503, Symphony Orchestra.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1012. Mu 1504, Chamber Orchestra.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1013. Mu 1505, Jazz Ensembles.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1014. Mu 1510, Concert Chorale.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1015. Mu 1511, University Singers.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1016. Mu 1512, Chamber Singers.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1017. Mu 1513, Vocal Jazz Ensemble.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1018. Th 1099, Production Practicum I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1019. Th 1111, Acting Fundamentals I.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admitted to an Study Abroad Program, required consent from the International Education Office.

**FST 1020. Th 1199, Performance Practicum I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1021. Art 1005, Freshman Seminar: Introduction to Art.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 1090. Chocolate in Trinidad - A Short Term Study Abroad Program.** (GLOBAL PER; 3 cr. ; A-F or Audit; Spring Odd Year)  
Production of chocolate from the starting raw materials collected from a cocoa tree plantation, sugar cane plantation, and milk from dairy farm. Follow progress from raw agricultural products to finished chocolate using the unit operation concepts of fermentation, air drying, roasting, grinding, winnowing, refining, conching, tempering, flavoring, and molding. Complete class having produced real chocolate from the basic raw materials. This class will also explore the impact and meaning that chocolate has had on cultures around the world. Historical perspectives will include readings about Olmec and Aztec civilizations, Colonization, Industrial revolution, Globalization and Commodification, and the environmental/labor focused Direct Trade production. Cultural perspectives will include how different groups of people have experienced chocolate from religious, medicinal, political, and gender/labor based perspectives. Technological perspectives will look at the various practices associated with raw material production (farming), trade and transportation, refining as a drink and as a luxury commodity, and onto mass production. Course will also explore the impact of current trends on the future of chocolate, including climate change, demographic shifts in raw material producers, and new consumer attitudes for socially responsible and sustainable consumption. pre-req: Instructor consent

**FORS 1100. International Education.** (1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 1101. International Education.** (1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course Admission to an approved study abroad program requires consent from the International Education office.

**FORS 1102. International Education.** (1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course. Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 1103. International Education.** (1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course. Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 1104. International Education.** (1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course. Admission to an approved study abroad program requires

consent from the International Education Office.

**FORS 1105. International Education.** (1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course. Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 1105. Study in England.** ( ; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved study abroad program, required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 1106. International Education.** (1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course. Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 1107. International Education.** ( ; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad course requires consent from the International Education Office.

**FORS 1108. International Education.** ( ; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 1109. International Education.** ( ; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 1110. Study in Australia.** ( ; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1115. International Exchange Programs.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1120. Study Abroad: Non-affiliate program.** ( ; 0 cr. [max 40 cr.]; Student Option; Every Fall, Spring & Summer)

This course represents academic credit pursued through a Study Abroad program which is not affiliated with the University of Minnesota. Neither the quality of the program nor academic credit may have been reviewed to meet UMD academic standards. Transfer of academic credit is not guaranteed. UMD is not responsible for the safety or quality of non-affiliated study abroad programs. Enrolled students are responsible for working with the non-affiliate provider directly, in addition to UMD Study Abroad office. prereq: This course represents academic credit pursued at locations external to the University of Minnesota through the UMD Study Abroad Program or its affiliated programs. UMD Study Abroad programs and related coursework provide students the opportunity to increase their knowledge, cognitive complexity, self-realization, relational interdependence, humanitarianism, and build new life skills. Through Study Abroad programs students will prepare for their roles and responsibilities as global citizens. Visit the UMD Study Abroad office for more information about programs, guidance, and support. pre-req: Reserved for participants in Study Abroad program(s). Students require approval from the Study Abroad office to drop this course. Please contact your study abroad coordinator, <http://www.d.umn.edu/study-abroad/>

**FST 1125. UMD Exchange in Mauritius.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1130. UMD Study in Sweden.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1135. UMD Exchange in Western Australia.** ( ; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1140. Study in New Zealand.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 1145. UMD Exchange Program in England.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 1190. Writ 1120, College Writing.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.



**FST 1200. Educ 1111, Dev Crit Thinking.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1201. Geog 2552, Introduction to Maps & Cartographic Methods.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1202. Ling 1811, Introduction to Language.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1203. Math 1024, Introduction**

**Contemporary Mathematics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1204. Math 1160, Finite Mathematics and Introduction Calculus.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1205. Math 1250, Precalculus Analysis.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1206. Math 1290, Calculus for Natural Sciences.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1207. Math 1296, Calculus I.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1208. Phil 1001, Problems of**

**Philosophy.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1209. Phil 1008, Critical Thinking.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1210. Phil 1018, Logic.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1211. Stat 1411, Introduction to**

**Statistics.** (; 1-20 cr. ; Student Option;

Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1212. Stat 2411, Statistical Methods.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1300. Amln 1103, Beginning Chippewa**

**I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1301. Amln 1104, Beginning Chippewa**

**II.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1302. Amln 2203, Intermediate**

**Chippewa I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1303. Amln 2204, Intermediate**

**Chippewa II.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1304. Comm 1000, Human**

**Communication Theory.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1305. Comm 1112, Public Speaking.**

(; 1-20 cr. ; Student Option; Every Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1306. Comm 1222, Interpersonal**

**Communication.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1307. CSD 1100, Phonetics.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1308. ASL 2001, American Sign**

**Language Studies I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1309. ASL 2002, American Sign**

**Language II.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1310. CS 1011, Introduction to**

**Computers and Software.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1312. CS 1121, Introduction to**

**Programming Visual BASIC.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1313. CS 1131, Introduction to**

**Programming in FORTRAN.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 1314. CS 1135, Introduction to**

**Programming in FORTRAN 77.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office

**FST 1315. CS 1211, Introduction to**

**Programming in C.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office

**FST 1316. CS 1511, Computer Science I.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office

**FST 1317. CS 1581, Honors: Computer**

**Science I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office

**FST 1318. CS 2121, Introduction to**

**Programming in Java.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office

**FST 1319. Fr 1101, Beginning French I.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1320. Fr 1102, Beginning French II.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1321. Fr 1201, Intermediate French I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1322. Fr 1202, Intermediate French II.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1323. Fr 2301, Advanced French.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1324. Ger 1101, Beginning German I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1325. Ger 1102, Beginning German II.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1326. Ger 1201, Intermediate German I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1327. Ger 1202, Intermediate German II.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1328. Ger 2301, Advanced German.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1329. Lang 1101, Beginning Foreign Language I.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1330. Lang 1102, Beginning Foreign Language II.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1331. Lang 1201, Intermediate Foreign Language I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1332. Lang 1202, Intermediate Foreign Language II.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1333. Phil 2011, Philosophy of Language.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1334. Russ 1101, Beginning Russian I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1335. Russ 1102, Beginning Russian II.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1336. Span 1101, Beginning Spanish I.** (; 1-20 cr. ; Student Option; Every Fall & Summer)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1337. Span 1102, Beginning Spanish II.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1338. Span 1201, Intermediate Spanish I.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1339. Span 1202, Intermediate Spanish II.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1340. Span 2301, Advanced Spanish.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1341. Ital 1101, Beginning Italian I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 1342. Ital 1102, Beginning Italian II.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 1343. Chin 1101, Chinese I: A Practical Introduction to Everyday Mandarin Chinese.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 1344. Chin 1102, Chinese II: A Practical Introduction to Everyday Mandarin Chinese.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 1399. CHIN 1399 Chinese Language in China.** (GLOBAL PER; 6 cr. [max 12 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Study Chinese language and culture in a classroom setting and on field trips. The program will be held in Beijing, Shanghai, and at the Ocean University of China in Qingdao, China. Emphasis will be on language, culture and history. prereq: Required consent from the International Education Office.

**FST 1400. Biol 1001, Biology and Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1401. Biol 1011, General Biology I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to a Study Abroad Program, required consent from the International Education Office.

**FST 1402. ChE 2001, Introduction to Environmental Engineering.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1403. Chem 1102, Aspects of Chemistry (w/lab).** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1404. Chem 1113, Introduction to General, Organic, and Biological Chemistry I.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1405. Chem 1151, General Chemistry.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1406. Chem 1161, Honors Course: General Chemistry I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1407. Chem 2172, General Chemistry.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course

**FST 1408. Geog 1414, Physical Geography.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1409. Geol 1110, Introductory Geology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1410. Geol 1130, Introduction to Environmental Science.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1411. Phys 1001, Introduction to Physics I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1412. Phys 1201, Mechanics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1500. Ast 1040, Introductory Astronomy.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1501. Biol 2763, Biology of Women.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1502. ES 2803, Issues in Global Ecology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1503. ChE 1011, Introduction to Chemical Engineering.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 1504. MU 1504 Cross-Cultural Performance Experience in Panama.** (; 1-4 cr. ; Student Option; Periodic Spring)  
Study abroad prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FST)

**FST 1504. Chem 1102, Aspects of Chemistry.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1507. Geol 2610, Oceanography.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1508. Hlth 1470, Human Nutrition.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1509. Phys 1011, Ideas in Physics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1510. Ast 1051, Freshman Seminar: New Solar System.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required

consent from the International Education Office.

**FST 1511. Geol 1042, Natural Disasters and Civilization.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 1512. Geol 1610, Oceanography.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 1513. Geol 2320, Legends of the Flood.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 1515. ES 2803, Issues in Global Ecology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 1600. Anth 1604, Cultural Anthropology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1601. Anth 1612, Introduction to Archaeology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1602. Comm 2929, Intercultural Communication.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1603. Econ 1022, Principles of Economics: Macro.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1604. Econ 1023, Principles of Economics: Micro.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1605. Geog 1304, Human Geography.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1606. Geog 2313, Economic Geography.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1607. Pol 1011, American Government and Politics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1608. Pol 1500, Introduction to Comparative Politics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1609. Psy 1003, General Psychology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1610. Psy 2021, Developmental Psychology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1611. Soc 1101, Introduction to Sociology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1700. AmIn 1120, American Indians in the 20th Century.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1701. Anth 1602, Prehistoric Cultures.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1702. Writ 1506, Literacy, Technology and Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1703. CSt 1004, From Classical Antiquity to Medieval Culture.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1704. Cst 1020, Landscapes, Environments and U.S. Culture.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1705. CSt 1030, Frontier Heritage in Canada & U.S..** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1706. CSt 1201, American Working Class and Culture: The Struggle for Control.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1707. Educ 1101, Education in Modern Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1708. Hist 1207, Dawn of Modern Europe.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1709. Hist 1208, Europe in the Modern Age.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1710. Hist 1304, U.S. History Part I: 1607-1877.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1711. Hist 1305, U.S. History Part II: 1865-Present.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1712. Hist 2245, Science and Society: 1500-Present.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1713. Hist 2265, Russia in the 20th Century.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1715. Hist 2357, Women in American History.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1716. Hist 2515, Precolonial Africa.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1717. PE 2001, Sport Ethics and Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1718. Phil 1003, Ethics and Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1719. Phil 1007, Philosophy and World Religions.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1720. Pol 1610, Politics and Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1721. WS 1000, Introduction to Women's Studies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1722. Phil 1001, Introduction to Philosophy.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 1800. Acct 2005, Survey of Accounting.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1801. BLaw 2001, The Legal Environment.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1802. Comm 1500, Media and Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1803. Comm 2101, Foundations of Mass Communications.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1804. CSD 2230, Human Communication Disorders.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1805. CSt 1040, American Immigrant Heritage.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1806. CSt 1101, Introduction to Cultural Studies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1807. Econ 1003, Economics and Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to a Study Abroad Program, required consent from the International Education Office.

**FST 1808. Educ 1100, Human Diversity.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1809. Educ 1201, Managing Planet Earth.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required

consent from the International Education Office.

**FST 1810. FMIS 1601, Consumer Finance.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1811. Geog 1202, World Regional Geography.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1812. Geog 2306, Environmental Conservation.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to a Study Abroad Program, required consent from the International Education Office.

**FST 1813. Ger 2402, Germany Today.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1814. Hlth 1100, Health and Wellness: Strategies for Life.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1815. IntS 1066, An Introduction to Britain.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1816. IntS 1070, An Introduction to Scandinavia.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1817. Phil 2021, Science and Pseudo-Science.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1818. Phil 2250 Feminist Issues in Philosophy.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1819. Pol 1050, International Relations.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1820. Pol 1200, Introduction to Public Policy.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1821. Psy 2023, Marriages and Family Worldwide.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1822. Psy 2223, Gender in Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1823. SBE 1101, The Business Environment.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1824. Soc 1201, Sociology of the Family.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1825. Soc 1301, Introduction to Criminology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1826. Span 2540, Latino Literatures and Cultures.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1827. SW 1210, Global Issues.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1828. SW 1619, Race, Class and Gender in the U.S..** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1829. SpEd 1357, Individuals with Disabilities in Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1830. WS 2101, Women, Race and Class.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1831. Phil 1003, Ethics and Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 1832. LSBE 1101, The Business Environment.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 1900. Study Liberal Arts in Galway Ireland.** (1-20 cr. ; Student Option; Periodic Spring)  
Study abroad prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 1900. Amln 1106, American Indian Prose, Poetry and Oratory.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 1901. Study in Segovia Spain.** (1-20 cr. ; Student Option; Periodic Spring)  
Study abroad prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 1901. Amln 2105, Survey of American Indian Arts.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 1902. Study in Bibao Spain.** (1-20 cr. ; Student Option; Periodic Spring)  
Study abroad prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 1902. Art 1001, Art Today.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 1903. Study Science and Engineering in Galway Ireland.** (1-20 cr. ; Student Option; Periodic Spring)  
Study abroad prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 1903. Art 2814, Creating Across Cultures.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1904. Art 1900, Visual Literacy.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1905. Arth 1303, History of World Art I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1906. Arth 1304, History of World Art II.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1907. Arth 2305, Classical Themes in Art History.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1908. Arth 2390, American Art of the 20th Century.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1909. Arth 2815, Women Artists in History.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1910. CSt 1010, Romanticism and Revolution.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1911. CSt 1022, The Bible as Literature.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1912. DN 1001, Introduction to the World of Dance.** (FINE ARTS,GLOBAL PER; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1914. Engl 1101, Literature Appreciation.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1915. Engl 1507, Time and Place.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1916. Engl 1535, King Arthur in History, Literature, and Art.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1918. Engl 1582, Introduction to World Literature.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1919. Engl 1585, Australian and New Zealand Literature.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1920. Engl 1666, Tales of Terror.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1921. Engl 1805, Satire and Humor.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, consent required from the International Education Office.

**FST 1922. Engl 1907, Introduction to Literature.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1923. Engl 2571, Contemporary Literature.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1925. Fr 2315, French Cinema.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1926. Mu 1001, Introduction to Music.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1927. Mu 1003, Beethoven to the Beatles.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1928. Mu 1005, Jazz Studies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1929. Mu 2001, Ethnic and Folk Music of the World.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1930. Mu 2003, Survey of American Music.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1931. Mu 2005, African Roots of American Music.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1932. Mu 2007, The Power of Music.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1933. Phil 1021, Classical Mythology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1934. Th 1001, Introduction to Theatre Arts.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1935. Th 1051, Introduction to Film.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1936. Th 1071, Musical Theatre History.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1937. Th 2851, Film History.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1938. Ecology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 1939. Chem 1105, From the Industrial Revolution to Green Chemistry.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 1940. Writ 1006, Journal and Memoir Writing.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required

consent from the International Education Office.

**FST 1941. Introduction to the European Union.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 1942. Biology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program, requires consent from the International Education Office.

**FST 1943. Introduction to Marine Biology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program, requires consent from the International Education Office.

**FST 1944. PE 1620 Aikido.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 1945. Art 1814 Creating Across Cultures.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 1946. World History 600 - 1900 CE.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 1947. FA 1102 Creating Art.** (; 1-20 cr. ; Student Option; Periodic Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 1948. Chin 1103 Beginning Chinese III.** (; 0 cr. ; A-F or Audit; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 1950. Principles and Business of Tourism Management.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)



**FST 1951. Oceanography.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 1952. Personal Defense.** (; 1 cr. ; Student Option; Periodic Fall)  
Study abroad prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 1953. Study in Worcester.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad University of Worcester

**FST 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**FST 2001. Special Topics: (Various Titles to be Assigned).** (; 1-15 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2002. Art 1400, Ceramics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2003. Photography and Present Historic Sites.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2004. Art 1010, Drawing I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2005. Understanding British Cinema.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2006. New Testament.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2007. Women in Islam.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2008. Natural History of the English Countryside.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2009. Practical Studies, Games.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2010. Popular Music.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2011. Introduction to Psychology of Human Behavior.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2012. Contemporary Issues in Dance.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2013. Span 2301, Advanced Spanish.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2014. IntS 1191, International Study.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2015. From Elvis to Madonna.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2016. Fashion Illustration-Introduction to Figure Drawing.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2017. Art 1100, Painting.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2018. Poetry I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required

consent from the International Education Office.

**FST 2019. Literary Periodisation.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2020. Celebrating Annual Cycle: Composition European Culture.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2021. Soc 2311, Criminological Theory.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2022. Understanding Modern Ireland.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2023. Introduction to the Literature of the Hebrew Bible.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2024. Introduction to Communication.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 2025. HIST 2025 History in Greece.** (3 cr. ; A-F or Audit; Summer Even Year)  
Taught on site in Greece. Examine the history of ancient Greece and how the image of Greece affected Western Europe through the Renaissance and Enlightenment.  
prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 2025. Australia Media Cultures.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2027. International Business Seminar.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admitted to an approved study abroad program, required consent from the International Education Office.

**FST 2028. Persuasion in British Life.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2029. Experimental Music I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 2030. HIST 2030: China An Ancient Civilization.** (3 cr. ; Student Option; Periodic Summer)  
Taught on site in China. This course is an introduction to Chinese culture for students who are interested in but have little knowledge of ancient Chinese history. It will introduce Confucianism, Buddhism, Daoism, and other schools of thought. It will also introduce topics such as gender relations, Chinese medicine, food, and the martial arts. It will prepare students for other courses in Chinese history. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 2030. Performance.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2031. Gender Equality and Swedish Welfare State.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 2033. Acct 2002, Principles of Management Accounting.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 2034. Econ 2030, Statistics: Methods, Analysis.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved Study Abroad Program, required consent from the International Education Office

**FST 2035. International Volunteer Experience.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2036. The Making of Australia.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2037. Australian Media.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2038. Art 2907, Typography.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2039. Art 2911, Graphic Design I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2040. Art 1301, Printmaking I Lithography & Silkscreen.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2042. Introduction to Management.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2043. Sociocultural Theory with Application.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2044. Beverages I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2045. Introduction to Communication and Culture.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2046. Australia's Terrestrial Environment.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2047. Crime and Deviance.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2048. Contemporary Australian Writing.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2049. Family Process.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2050. Biol 2201, Genetics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2053. World History.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to a Study Abroad Program, required consent from the International Education Office

**FST 2054. Studio Art I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2055. Ecological Systems.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2056. Biology of Marine Animals.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2057. Marine Environment.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education office.

**FST 2058. British Cinema Representation & Identity.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2059. Art, Music, Culture in Florence.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required

consent from the International Education Office.

**FST 2060. Chem 2107, Introductory Environ Chemistry.** ( ; 1-20 cr. ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2061. Introduction to Cognitive/Biological Psychology.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2064. Biol 2802, Ecology Laboratory.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2067. Art History/Theory.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2069. FMIS 1201, Intro Business Information Systems.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2070. Art 1500, Jewelry and Metals.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2071. Introduction to Fashion Design I.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2072. Literature & Culture: (Post ) Modernism.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2073. The Abbey Theatre: A History of Irish Drama.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2074. Anglo-Irish Literature in the 20th Century.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2077. Hlth 2030, Applied Human Anatomy.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2079. Introduction to Ngai Tahu.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2080. Introduction to Education.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2081. Design Studio I.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2082. Geol 2110, Earth History.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2083. Geol 2120, Earth's Dynamic Interior.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2084. Geol 2300, Basic Mineralogy & Petrology.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2085. Cultural Studies 211-Post Modern Transitions.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2086. Cultural Narratives III.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2087. Art 1125, Watercolor I.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required

consent from the International Education Office.

**FST 2088. Acct 2001, Principles of Financial Accounting.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2089. Health and Human Development.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2090. Australian Flora.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2091. Communication Research.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2092. Undergraduate Media Relations.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2093. Public Relations Practice.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2094. Health Information and Communication.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2095. Spanish Regional Folk Dance.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2098. ChE 2011, Design of Engineering Experiments.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2099. Art 1600, Photography I.** ( ; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required

consent from the International Education Office.

**FST 2100. Introduction to Natural Therapies.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2101. Dances of Latin America.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2102. Understanding Culture.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad prereq: Admission to an approved Study Abroad program, required consent from the International Education Office

**FST 2103. Intro to Peace Studies.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2104. Communication and Culture.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2105. International Mass**

**Communication.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2106. Amln 2115, Ojibwe History and**

**Culture.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2107. Soc 2111, Sociological Theory.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2108. Art 1012, 3-D Design.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2109. Math 1005, College Algebra.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required

consent from the International Education Office.

**FST 2110. Introduction to Martial Arts.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2112. Aspects of Medieval English**

**Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2113. Social Welfare/Democr Citiz.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2114. Animal Biology.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2115. CommB Compar Brit/Amer Media.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2116. Aspects of Irish Folklore.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2118. Indigenous Australia.**

(; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2119. Educ 1000, Human Development.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2120. Educational Practicum.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2121. Introduction to Studio Practice**

**I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 2122. Cell Biology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2123. Art 1510, Weaving and Fibers**

**I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2124. Australia - Land and Nation.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2125. ES 1001, Introductory Seminar to**

**Environmental Studies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2126. Mu 1541, Chamber Music.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2127. Tin Whistle.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2128. French Review.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2129. An Intro to Irish History for**

**Visiting Students.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2131. Italian Style.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2132. Art 1011, 2-D Design.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2133. Social Change 211.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2134. Introduction to Microbiology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2135. Art 1300, Printmaking I: Intaglio, Relief.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2136. Art 1200, Sculpture I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2139. Environmental Planning.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2140. Introduction to Counseling.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2141. Human Behaviour I.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2142. Neuroscience.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2144. Australian Colonial Visions.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2145. Legal Framework 100.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2146. Hlth 2040, Principles of Human Physiology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2147. Gender, Culture and Representation.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admitted to an approved study abroad program, required consent from the International Education Office.

**FST 2148. Contemporary Crime Problems.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admitted to an approved study abroad program, required consent from the International Education Office.

**FST 2149. Inventing Americas: Introduction to American Studies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admitted to an approved study abroad program, required consent from the International Education Office.

**FST 2150. Human Rights.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admitted to an approved study abroad program, required consent from the International Education Office.

**FST 2151. Youth and Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admitted to an approved study abroad program, required consent from the International Education Office.

**FST 2152. Fall Culture, Identity, Difference.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admitted to an approved study abroad program, required consent from the International Education Office.

**FST 2153. Spring Culture, Identity, Difference.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admitted to an approved study abroad program, required consent from the International Education Office.

**FST 2154. Women, Family and Work.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved Study Abroad program, required consent from the International Education Office.

**FST 2155. Studies in Applied Sociology Youth Subculture.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2156. Microbiology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2157. Soc 2001, Sociological Perspective.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2158. Sociology of Development.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2160. British Drama Now.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2161. Theatre in London.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2162. Organizational Behavior.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2163. Corporate and Commercial Banking.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2164. Getting of Wisdom: Literary Youth and Maturity.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2165. Writing Non-Fictional Forms.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2166. Studies in Applied Sociology Catholic Church in Modern Ireland.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2167. Social Sciences in Australia.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2168. Introduction to American Studies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2170. Television Cultures.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2171. FTV: News, Current Affairs and Actuality.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2172. Introduction to Computing II.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2173. Introduction to Tropical Marine Biology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2174. Marine Biology Laboratory.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2175. Edinburgh Experience.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2176. Polish Society and Politics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2177. Indigenous Australia Sport 201.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2178. Rec 1202, Outdoor Skills II.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2179. Women in Film.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2180. Film and Television History of Screen Language.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2181. Anatomy and Physiology I.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2182. Approaches to Sociology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2184. Introduction to Archaeology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2185. The Australian Writing and Culture.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2186. Australian Writing And Culture.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2187. New Zealand Literature I.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2188. Inventing Kiwi Culture.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2189. Three American Revolutions.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2190. Biol 1012, General Biology II.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2191. Econ 2030, Applied Statistics for Business and Economics.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2192. Films of Neil Jordan.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2193. History of Independent Finland.**

(; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

## Foreign Studies (FORS)

**FORS 2195. ART 2595 Art, History and Visual Culture in Turkey.** (3 cr. ; Student Option; Periodic Summer)

Study abroad prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

## Foreign Studies (FST)

**FST 2196. Irish Folklore I.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2197. Dreamtime to Dust.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2198. Political and Economic History of Europe in the 20th Century.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2199. Introduction to Film Studies II.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

## Foreign Studies (FORS)

**FORS 2200. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 2200. Aboriginal Aus-Post Colonial Experience.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

## Foreign Studies (FORS)

**FORS 2201. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 2201. Educational Assessment.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Educational Office

**Foreign Studies (FORS)**

**FORS 2202. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office

**FORS 2203. International Education.** (1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course. Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 2203. Hiking, Biking, Rafting.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 2204. International Education.** (; 0.5-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 2204. Topics in Australian Literacy Cultures.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 2205. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 2205. Finance.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 2206. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 2206. Gender Issues in the Contemporary Context.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 2207. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 2208. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 2208. USA Today: Society, Culture, Identity.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 2209. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 2209. Australian Modern: Making Histories.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2210. European 20th Century Music.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2211. Jour 2001, Reporting and Writing I.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2212. Biol 2101, Cell Biology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2213. Creative Writing I.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2214. Literature, Culture, History.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2215. Management Statistics.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2219. Culture and Civilization of Australia.** (; 1-20 cr. ; Student Option; Every Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2220. Regional History-Australia.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2221. What is Communication.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2222. Academic Presentations.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2223. Psychology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2224. Analytical Chemistry.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2225. Chem 1114, Introduction to General, Organic, Biological Chemistry.** (1-20 cr. ; Student Option; Every Fall & Spring)



Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2226. Chem 1152, General Chemistry II.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2227. Pol 2700, Methodology and Analysis.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2228. Czech Film.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2229. Great Books I.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2230. Introduction to Screenwriting.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2231. Literary Studies 212: Narrative and Culture.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2233. Music and Computers.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2234. Australian History - The Twentieth Century.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2235. Intro to Philosophy of History Herodotus to Foucault.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2237. International Study Tour Fiji, Australia, New Zealand.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2238. Studies of Outcast Children & Youth 1850-1914.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2239. Introduction to Tourism.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2240. General Mathematics.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2241. Rec 1201, Outdoor Skills I.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2242. Concepts in Biology.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2243. Contemp Maori Art.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2244. Hyperpower: The United States.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2245. CS 1521, Computer Science II.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2246. CS 2511, Software Analysis and Design.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2247. CS 2521, Computer Organization& Architecture.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2248. Exploring New Zealand History: Aotearoa.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2249. Chinese History and Social Institutions I.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2250. Flowering Plants.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2251. Fame and Celebrity.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2252. Intro to Empire: British and America Since 1815.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2254. Evolution, Biodiversity and Environment.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2256. PEP 2000, Foundations of Physical Education.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2257. Introduction to British Civilization.** (1-20 cr. ; A-F or Audit; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2258. The Family in British Society 1800-1950.** (1-20 cr. ; A-F or Audit; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2259. Physical Education and Health in the Schools.** (1-20 cr. ; A-F or Audit; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2260. International Business.** (1-20 cr. ; A-F or Audit; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2261. Sociology and Future Societies.** (1-20 cr. ; A-F or Audit; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2262. British History/History of Scotland.** (1-15 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2263. Reading Literature II: Worlds in Conflict.** (1-15 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2264. Contemporary Drama.** (1-15 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2265. Drama Into Film.** (; 1-15 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2266. Creative Writing Development.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2267. American Music in the 20th Century.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2268. Topics in Entrepreneurship.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2269. Rural Development: Global Perspective.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2271. Modern China History Seminar.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2272. Cultural Anth: Magic, Religion and Witchcraft.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2273. Hist 1603, Modern Latin America.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2274. Child Care Policy.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2275. Social Analysis in Society I.** (; 1-20 cr. ; Student Option; Every Fall)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2276. Native Peoples of South America 16th- 20th Century.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2277. FMIS 2201, Information Technology in Business.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2278. Exploring Culture: Introduction to Anthropology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2280. Introduction to Calculus.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2281. International Folk Dance.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2282. Te Raranga Kete: Flax Weaving.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2284. Barcelona: The Cosmopolitan City.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2285. Mediterranean Ecosystems.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2286. Mediterranean Environ: Exploitation, Pollution, Policy.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2287. Genes and Genomes.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2288. Biology of Australian Flora and Fauna.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study a abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2289. Great 20thC Artists of Catalan.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2291. Beyond Utopia: City and Urban Europe/USA.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required

consent from the International Education Office.

**FST 2292. History of Dev of Irish Identity.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2293. Culture and Lifestyle.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

## Foreign Studies (FORS)

**FORS 2295. ARTH 2595 Art, History and Visual Culture in Turkey.** (3 cr. ; Student Option; Periodic Summer)  
Study abroad prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

## Foreign Studies (FST)

**FST 2296. Media, Culture and Society.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2297. Human Bodies, Culture and Society.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2298. Forensics.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2299. New Zealand Music.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved Study Abroad Program. Required consent from International Education Office.

**FST 2300. Dance as a Leisure Activity.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2302. 20th Century World Affairs.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 2303. International Law.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required

consent from the International Education Office.

**FST 2304. Gender, Power and Politics in Australia.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2305. Introduction to Forensic Science.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2306. Physical Activity and Health.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2307. Instructing in Sports and Leisure Setting.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2308. Love, Sex and Truth.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2309. Shooting the Mob.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2310. Screen Studies - The Moving Image.** (; 1-20 cr. ; Student Option; Fall Odd, Spring Even Year)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2311. Th 2851, Film History.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2312. Locating the Global Society.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2313. Relationship Communication.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2314. Art 1013, 2-D Digital Design.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2315. Ethnography and Anthropological Theory.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2316. Visual Computing.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2317. 20th Century Art and Theory.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2318. Swedish History and Heritage.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2319. Swedish Film.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2320. Studies in Socio-Cultural Understanding.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2321. Current Trends in Italian Cuisine.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2322. The Wines of Italy.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2323. Culture and Style in Italy.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2324. Japan from Prehistory to Present.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2325. An Introduction to Literature and Screen Studies.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2326. Russian Language Camp.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2327. Art History.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2328. Aesthetics.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2329. Photographic Practices.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2330. Art 1013, 2D Digital Design.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2331. Britain and the World 1776.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2332. The Mafia-Culture and Politics.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 2333. The Contemporary United States.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2334. Travel Journal & Creative Writing.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required

consent from the International Education Office.

**FST 2335. Czech Music.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required admission from the International Education Office

**FST 2336. Comparative Social Policy.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2337. Sexuality and Ethics.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2338. Teaching-Learning Process: Innovative Approaches.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2339. European Media.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2340. History of India to the 17th Century.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2341. Video Production I.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2342. Geol 2312 Petrology.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2343. Psychology Across Culture.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2344. Phys 2012 General Physics II.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required

consent from the International Education Office.

**FST 2345. Art 2400 Ceramics I.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2346. Aesthetics of Design.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2347. CAD for Interior.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2348. Introduction to Interior Design.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2349. Introduction to Art History.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2350. Art 1012 3-D Design.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2351. ES 2001 Ecosystems I.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2352. ES 2002 Ecosystems II.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2353. Educational Studies.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2354. Non-Western Instruments-Gamelan Ensemble.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2355. PEP 1600, Teaching Fitness and Weight Training.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2356. Biol 2101, Cell Biology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2357. Thinking About Society, Technology and Culture.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2358. Wine Studies I.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2359. Adventure Programming.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2360. ECE 1315 Digital System Design.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2361. Intercultural Understanding and Competence.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2362. Chem 2522, Organic Chemistry II.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course. Required consent from the International Education Office.

**FST 2363. Australian Dance.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2364. Chem 2521, Organic Chemistry I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2365. Digital Technology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2366. Computing Experience.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2367. Sports and Entertainment in Greece and Rome.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2368. Ancient History I.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2369. Introduction to Technology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2370. Ensemble in Turkey.** (; 1 cr. ; A-F or Audit; Every Spring & Summer)  
Study abroad course prereq: This course will fulfill one of the following course requirements for student participants: Mu 1511 University Singers (LEIP 10), Mu 1503 Symphoney Orchestra (LEIP 10), Mu 4511 University Singers, or Mu 4503 Symphony Orchestra. Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2371. Human and Other Mammals: Structure and Function.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2372. Social Policy and New Zealand.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2373. Behavioral and Evolutionary Ecology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2374. Family Life in Japan.** (; 1-20 cr. ; Student Option; Every Fall)  
Study abroad course. prereq: Admission to an approved study abroad program. Required

consent from the International Education Office.

**FST 2375. Social Problems and Social Life.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2376. Crime and Social Life.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2377. Professional Medical Internship.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2378. Language and Society.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2379. Practicum in Sports C.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2380. History of Persons with Disabilities.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2381. Seminar in English Debate.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2382. The English Language- British/ American Culture.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2383. Seminar in Japanese Koto Music.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2384. Seminar in Philosophy of Language.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required

consent from the International Education Office.

**FST 2385. Advanced Communication Practice II.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2386. Japanese Economy.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2387. Japanese Culture and Education.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2388. Elementary Japanese I A.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2389. Elementary Japanese I B.** (; 0 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2390. Elementary Japanese I C.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2391. Elementary Japanese II A.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2392. Elementary Japanese II B.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2393. Elementary Japanese II C.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2394. Global Perspectives in the Classroom.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2395. Art 2905, Design Technology I.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2396. Contemporary Issues in Plural Societies.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2397. Issues in Australian History.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2398. Clothing and Society.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2399. Graphics and Animation Technologies.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 2400. Community and Journalism.** (GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Study Abroad. Examines the role of journalism in defining communities. Exposure to various concepts of community and the role journalism has in defining these communities on both a local and global scale. Analyze a specific case study of one community journalism entity, and explore the ramifications of technology on the transformation of community. Course may be offered as a short-term study abroad program. pre-req: department consent

**FORS 2401. BIO 2401 Evolution in England.** (NAT SCI; 4 cr. ; A-F or Audit; Every Summer)

Study abroad course taught in England. Evolutionary Biology is a cornerstone of modern science, and since its introduction by Charles Darwin over 150 years ago it has produced a dramatic paradigm shift in how humans view themselves and all life on this planet. We will explore the history of evolutionary theory from both an "internalist" perspective and an "externalist" perspective. We will review scientific evidence for evolution and will particularly focus upon the explosion of insights provided by Molecular Biology

in the past 20 years. Past and current social implications will be discussed as well as modern evolutionary challenges like drug-resistant infectious diseases, genetic modification of crops, and dwindling biodiversity. The course will be taught onsite at locations relevant to the history of evolution and examined in the cultural context of Regency and Victorian England in which the theory was first formed. This course is for non-majors and cannot be used towards the Biology B.A. electives. pre-req: high school biology course, instructor consent

## Foreign Studies (FST)

**FST 2401. Chem 2242, Analytical Chemistry Applied to the Environment in Eastern Europe (Poland).** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Program.

**FST 2402. American History X: Contemporary Debates.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2403. Cultures and Creativity.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2404. Introduction to Fashion Design.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2405. Design in Context 192.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2406. Sculpture Beginning.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2407. Sociology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2408. Inter-American Relations.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2409. Italian Vegetarian Cooking.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2410. Italian Language.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2411. Understanding Environmental Issues.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2412. Biology of Women.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2413. Introduction to Computers.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2414. Natural History of the Earth.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2415. Leadership.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2416. Concept to Customer.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2417. Fashion Promotion.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2418. Fashion in Context.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2419. History of Western Art.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required

consent from the International Education Office.

**FST 2420. Environmental Education.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2421. The Evolution and Diversity of Life.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course requires consent from the International Education Office.

**FST 2422. Microbiology: Form, Function, and Metabolism.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course requires consent from the International Education Office.

**FST 2423. Biol 2801, Ecology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course requires consent from the International Education Office.

**FST 2424. The Cold War: An International History.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program. Required consent from the International Business Office.

**FST 2425. Functional Animal Behavior.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2426. Art 2100 Painting I.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2427. Aotearoa/ New Zealand Screen.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2428. Conflicts and Crises in the Middle East.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2429. Ethics of War and Terrorism.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2430. Italian Cuisine.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2431. Italian Gardens: Renaissance to Baroque.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2432. Policy Issues: International Perspective.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course requires consent from the International Education Office.

**FST 2433. Comparative Government of Central and Eastern Europe.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2434. Fashion 1980-Now.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2435. Introduction to the World's Biomes.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2436. Biological Systems.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2437. Tuscany and Its Wines.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2438. Intercultural Business Communication.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2439. Management, People and Organizations.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2440. Introduction to Politics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2441. Styles and Genres of Journalism.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2442. Dance Performance II.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2443. Dance Styles I.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2444. Peace Education.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course requires consent from the International Education Office.

**FST 2445. Electronic Commerce Overview.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2446. History and Culture of East Central Europe.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2447. German Speaking Europe and Its Culture.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course requires consent from the International Education Office.

**FST 2448. Reading and Writing about History.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2449. Documents and Methodology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2450. Britain and India.** (; 1-20 cr. ; Student Option; Every Fall & Spring)



Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2451. Social and Developmental Psychology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2452. Education, Swedish Society and Education.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2453. Mauritius History.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2454. Science Communications 101.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2455. Public Relations and Applied Communication.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2456. Communication in Aotearoa/New Zealand.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2457. Art Criticism Seminar.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2458. Engr 2110 Introduction to Material Science for Engineers.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2459. Engr 2016 Mechanics of Materials.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2460. Popular Culture and Media Theory.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2461. Irish Participation in the America's Civil War (1861-1865).** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required permission from the International Education Office.

**FST 2462. Northern Ireland.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 2463. The British Empire, 1880-1945.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2464. Introduction to the EU.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2465. Mu 2105 Composition I.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2466. Indigenous Australian Sport.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2467. Global Communication: Transnational and National I, Intermediate Course.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2468. Ast 2040 The Solar System.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2469. Arab Media and Communication.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2470. Wine and Culture I: The Wines of Italy.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2471. The Food of Italy.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2472. Introduction to Intercultural Communication.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2473. Engr 2026, Dynamics.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2474. Fashion in Film.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2475. Art 2500 Jewelry and Metals.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2476. Art 2600 Photography I.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2477. Calendars Throughout History.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2478. The Creative Industries.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2479. English as a Global Language.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2480. Outdoor Pursuits- Aquatics.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2481. Stress: Work, Technology and Life.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2482. Introduction to Digital Media.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2483. Politics of Terrorism.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2484. Basic Seamanship.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2485. Student Leadership**

**Development.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2486. Gender Communications.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2487. Body Language and**

**Communications.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2488. Communication and Democracy in Australia.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2489. Jour 2400, Journalism and**

**Community.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2490. Comparative Politics of the**

**Middle East.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2491. British Political System.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2492. Introduction to Food Science.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2493. Market Research.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2494. Principles of Marketing.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 2495. Purchasing.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2496. Relationships: Sociology and Everyday Life.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2498. New Media Technologies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2499. Language, Media, Power.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program, requires consent from the International Education Office.

**FST 2500. Maori Art and Design Studio I - Toi Atea.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program, requires consent from the International Education Office.

**FST 2501. Quantitative Analysis.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2502. Quantitative Analysis Laboratory.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2503. Game Studies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2504. Indigenous peoples and the right to land and water.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2506. Central European Literature.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2507. Teaching practice for exchange students in Swedish Schools.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2508. Geography of the Cities of the World.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2509. The Cold War: Politics, Security and Culture.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2510. Natural History of the**

**Countryside.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2511. Forms of Nonfiction Writing.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2512. The History of Italian Theater: La Commedia Dell'Arte, Goldoni, Pirandello.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2513. Regional Geography: The Pacific Islands.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2514. Post-Industrial Business in Milan: The Case of Fashion.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2515. CHEM 2542 Organic Chemistry II.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2516. CHEM 2545 Organic Chemistry II Lab.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2517. Art in Argentina.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2518. Intercultural Communication.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2520. Social Dance.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2521. Painting Techniques.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2522. European Affairs and Media.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2523. Prague Art and Architecture.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2524. Central and East European Film Seminar.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2525. Animal Physiology and Development.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2526. Good Administration.** (; 1-20 cr. ; Student Option; Periodic Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2527. Natural Hazards.** (; 1-20 cr. ; Student Option; Periodic Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2528. Writing and Audience.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2529. Public International Law.** (; 1-20 cr. ; Student Option; Periodic Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2535. Orientation in Academic Studies for International Students.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2536. Business Communication.** (; 1-20 cr. ; Student Option; Periodic Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2537. Presence of the Past.** (; 0 cr. ; A-F or Audit; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2538. ECE 2006 Electrical Circuit Analysis.** (; 1-20 cr. ; Student Option; Periodic Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2539. CS 2991 Independent Study.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2540. Contemporary French Cinema.** (; 1-20 cr. ; Student Option; Periodic Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2541. Religion in Korean Society.** (; 1-20 cr. ; Student Option; Periodic Summer)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2542. T: Education in Ireland.** (; 1-20 cr. ; No Grade Associated; Periodic Summer)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2543. Xian Field Study.** (; 3 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2544. Biophysics and Quantitative Biology.** (; 3 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2545. Managerial Skills for International Business.** (; 3 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2546. Celtic Myth and Legend.** (; 3 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2547. Contemporary Irish Drama.** (; 3 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2548. Business Accounting.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2551. Creative Writing Poetry.** (; 1-20 cr. ; Student Option; Periodic Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2552. Human Issues in Literature.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2553. Social Problems in Global Perspective.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2554. ARTH 2300 City As a Work of Art.** (; 3 cr. ; Student Option; Periodic Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2555. Thai Culinary Art Theory and Practice.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2556. Contemporary Issues and Social Psychology.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 2595. FA 2595 Experiencing Italy through Art, Music and Art History.** (; 1-20 cr. ; Student Option; Periodic Spring & Summer)  
Study abroad prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FORS 2892. Independent International Study Art History.** (GLOBAL PER; 3-6 cr. ; Student Option; Periodic Summer)  
Independent study abroad course designed for students to explore visual culture and to learn how culture, faith, politics, and power impacts art and architecture. Students will keep a daily journal documenting observations and responding to required scholarly readings. A final research-based project will be due after the completion of the program. prereq: Requires approval from the International Programs and Services Office.

**FORS 2893. ARTH 2892 Independent International Study.** (1-20 cr. ; Student Option; Periodic Summer)  
Study Abroad pre-req: Admission to an approved study abroad program requires consent from the International Programs and Services Office.

### Foreign Studies (FST)

**FST 2929. Orientation to Foreign Studies.** (; 2 cr. ; S-N or Audit; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 2996. Fitness and Lifestyle Management.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Foreign Studies (FORS)

**FORS 3000. AAAS 3000 Kenyan Experience.** (6 cr. ; A-F or Audit; Every Summer)  
This course provides a critical study of Kenyan cultures and education. Taught on site in Kenyan, the course will richly enhance students' understanding of the social, economic, and political challenges influencing contemporary Kenya, from colonization to globalization. It will draw on education, folklores, women's lives, literature, ecoactivism, and ecocriticism in its attempt to promote diversity, global perspectives, and sustainability. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 3001. Introduction to Biological Anthropology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3001. Special Topics: (Various Titles to be Assigned).** (; 1-15 cr. ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3002. Geog 3370, Geographies of Development.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3002. Econ 3410, International Economy and Finance.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required

consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3003. Geog 3334, Urban Geography.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3003. FMIS 3649, International Finance.** (; 1-20 cr. ; Student Option; Every Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3004. Positive Psychology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3004. Geol 3110, Environmental Geology.** (; 1-20 cr. ; Student Option; Every Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3005. Leadership and Teamwork.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3005. IntB 3201, International Business.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3006. Hist 3235, History and Soccer.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Taught on site in England. Over the past two centuries "soccer" has developed from an informal and regionally variable pastime into

the single most popular sport on earth. This phenomenon is incomprehensible without the specific social, cultural, and geographic considerations of nineteenth and twentieth century Britain and its colonies. The sport will be used as a lens through which to examine the social and cultural aspects of the Industrial Revolution and the British Empire, focusing on the central question: "How did historical forces facilitate the rise and spread of the 'World's Game'?" Covers the techniques of historical methodology and source analysis, and the general narrative of the Industrial Revolution and British Empire (including colonial perspectives), as well as the internal history of the game itself. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3006. MgtS 3781, International Marketing.** (; 1-20 cr. [max 1 cr.] ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3007. Anth 3635 Peoples and Cultures of Europe.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3007. Phil 3421, Oriental Philosophies.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3008. The Archaeology of Medieval Church.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3008. WS 3000 International Perspective on Feminism.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3009. The Development of the Castle in Medieval Europe.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3009. IntS 3166, Study in England Evaluation.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3010. Selling Dubai- An Emirate Emerges from Sand and Sea.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3010. IntS 3167, Study in Sweden Evaluation.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3011. Hist 3320 American Popular Culture: 1940 to Present.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3011. CSt 3020, Science and Civilization.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3012. ME 3111 Fluid Mechanics.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3012. Poetry Choices, British Periods.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3013. Fitness and Lifestyle Management.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3013. Exploration of British Environmental History.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3014. Masters of Italian Cinema: Fellini.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3014. FA 3700, English Architecture.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3015. The Venice Film Festival.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3015. FA 3710, Shakespeare's Dramatic Art.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3016. Ger 3048, German Culture & Civilization Study Abroad IV.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3016. History of British Politics: Revolution Today.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3017. ELED 4600, Student Teaching in Belize.** (; 6 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3017. War and Society.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3018. EDSE 4600, Student Teaching in Belize.** (; 6 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3018. Hist 3256, Making of Modern Britain.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3019. Aegean and Ancient Greek Art and Archaeology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3019. Religion and the Rise of Atheism, Theological Responses.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3020. Erasmus Literature 1790 to Present.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3020. Phil 3325, Environmental Ethics.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3021. Medieval Travelers.** (; 1-20 cr. ; No Grade Associated; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3021. Psy 3021, Experimental Design and Methods.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3022. Theories of Self.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3022. Psy 3621, Cognition.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3023. Cross-Culture Psychology Culture Shock.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3023. British Women in the 20th Century.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3024. Spanish for Business.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3024. ArtH 3370, European Art, 1900-1945.** (1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall & Spring)  
Study Abroad Course. Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3025. Spanish Business Area Study.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3025. Art 3095 T: Northern Lights -The Visual Arts and Art Education in Sweden, Estonia and Finland.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3026. Economy of the European Union.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3026. CSD 3000, Deafness in Society: A Historical, Cultural and Educational Perspective.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3027. Global Identity.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3027. Anth 3695, Special Topics: Archaeology of Great Britain.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3028. National Resource Learning: Skills Practicum.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3028. ArH 3330, Renaissance Painting and Sculpture.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3029. National Resource Learning: Environmental Ethics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3029. IntS 3191, International Study.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3030. Psy 3991, Projects in Psychology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course. Required consent from the International Education Office.

**FORS 3031. National Resources Learning, Group Leadership.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3031. Econ 3031, History of Economic Thought.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3032. History of Mass Media and Communication Theory.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3032. Psy 3061, Physiological Psychology.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3033. Comm 3700, Interpersonal Influence.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3033. Italian Language.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3034. Jour 3700, Media Law and Ethics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3034. Psychology A.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3035. Sociology, History of Italian Mafia.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3035. HPER 3000, Organization and Administration of Health, Physical Education, and Recreation.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3036. Global Studies: World Geography, the Human Mosaic.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3036. Econ 3036, Radical Economics.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3037. Introduction to Aboriginal People and Society.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3037. Psy 3201, Social Psychology.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)



Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3038. Cross-Cultural Rhetoric.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3038. The Rise of Modern Science, Historical Biblical Criticism, Theological Response.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3039. History of Communication.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3039. Philosophy of Religion.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3040. Information and Communication Policy.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3040. GER 3040, Culture of Germany.** (; 4 cr. ; A-F or Audit; Every Spring & Summer)  
Taught on site in Germany. Study of German culture, both contemporary and past as it informs the present, on site in Germany. Conducted entirely in German, and all language skills will be inculcated and improved. Format will include seminar, discussions, field trips, and small group projects. prereq: GER 1202 or equivalent, admitted to an approved study abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3041. Information Science.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3041. CSt 3715, Popular Culture.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3042. Science, Technology and the Media.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

### Foreign Studies (FST)

**FST 3042. Formation of the European Legal Tradition.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3043. Attic Tragedy.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FORS 3044. Work and Family in Transition.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program, requires consent from the International Education Office.

**FORS 3045. International Finance.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program, requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3045. Pol 3517, Western European Political Systems.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required

consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3046. Cultural Identity Through Art and Design.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program, requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3046. Art 3700, Drawing II.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to a Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3047. Independent Study Project.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program, requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3047. Hist 3243, Europe in Crisis in the 20th Century.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3048. International Studies Seminar.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program, requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3048. Hist 3244, History of the Holocaust.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3049. Criminal Profiling.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3049. An Introduction to British Imperial Expansion.** (; 1-20 cr. [max 1 cr.] ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3050. Forsensic Psychology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Aboard Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3050. Psy 3707, Organizational Psychology.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3051. Mexican Social Movements.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3051. Psy 3701, Personnel Psychology.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3052. Mexican Culture.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3052. Psy 3022, Applied Methods and Measurements.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3053. Political Economy.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3053. History of Autonomous Finland.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3054. International Business.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3054. Development of the European Union.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3055. Cross-Cultural Management.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3055. Politics of Modern Italy.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3056. Pol 3652 Modern Political Thought.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 3057. Introduction to Flamenco Dance.** (; 0.5-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3057. Lang 3095, Special Topics: Swedish and Scandinavian Studies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3058. Environmental Governance.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3058. IntS 3195, Swedish and American Society: A Comparison.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3059. Phil 3245 Aesthetics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3059. ECh 3950, Guided Observations in Diverse Settings: Birth-Age Eight.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3060. Pol 3080 Environment and Politics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3060. ChE 3111, Fluid Mechanics.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3061. Adolescent Behaviour.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3061. MgtS 3701, Principles of Marketing.** (; 1-20 cr. [max 1 cr.] ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3062. Psychology and Women.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3062. FMIS 3201, Management Information Systems.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3063. Monuments of Greece.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3063. MgtS 3401, Organizational Behavior.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3064. Japanese Society A.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3064. MgtS 3801, Human Resource Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3065. Mediterranean Politics and Culture.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3065. FMIS 3601, Corporation Finance.** (; 1-20 cr. [max 1 cr.] ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3066. Seminar in Japanese Studies B.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3066. MgtS 3711, Marketing Research.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3067. Th 3991 Independent Study in Theatre.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3067. FMIS 3141, Business Communications.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3068. Introduction to Latin American Tropical Dance.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires

consent from the International Education Office.

### Foreign Studies (FST)

**FST 3068. FMIS 3647, Financial Markets, Institutions.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3069. Theatre and Cultural Politics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3069. MgtS 3741, Fundamentals of Selling.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3070. Anth 3638 Peoples and Cultures of the Middle East.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3070. Finance Portfolio Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3071. MU 3995 English Music Musicians.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3071. Finance Decision Making.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3072. Greek and Roman Cinema and History.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3072. Finance Analysis.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3073. Fairy Tales in the Modern World.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3073. Facilities and Operations Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3074. Japanese Literature in the Movies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3074. HR Management Eval/Program.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3075. Language, Myth and Cultural Identities.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3075. Labour Markets.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3076. Japanese Culture A.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3076. Management of Workplace Conflict.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3077. European Tragedy from the Renaissance to the present day.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3077. Sales Management 330.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3078. Made in China.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3078. International Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3079. WS 3896 International Fieldwork in Women's Studies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3079. Entrepreneurship.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3079. WS 3896 International Fieldwork in Women's Studies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course

**FORS 3080. Explores, Missionaries & Traders: Travelers and World History, 1400-1850.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3080. FMIS 3301, Production and Operations Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3081. Scottish History - The Covenanters.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3081. HR Development and Knowledge Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3082. Politics, War and Economy in the Age of Globalization: A History of Globalization.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3082. Organization Theories II.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3083. Mediterranean, Black Sea Basin: A Global Crossroads.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3083. Purchasing and Supply Chain Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admission to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3084. Food and Wine Tourism.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3084. Industrial Organization and Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admission to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3085. Ecotourism: Costa Rica.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3085. Production Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admission to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3086. Ancient Mythologies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3086. Management Across Borders-Scand Perspec.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3087. Principles of Management.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3087. Scandinavian Marketing.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3088. Introduction to Population Studies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3088. Scandinavian Design Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3089. Imagining Place Through Literature and Travel: A Writing Workshop.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3089. Company Project Work.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3090. Japanese Literature B.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3090. Interpersonal Challenges in Multinational Organizations.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3091. Independent Study Abroad in Art.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3091. Span 3031, Spanish Lang Study Abroad I.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3092. Contemporary Australia.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3092. Span 3032, Spanish Lang Study Abroad II.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3093. Gentlemen of Italy, Most Willing Spirits: Comparing English and Italian Renaissance Literature.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3093. The Child in Nineteenth Century Literature.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3094. Masterpieces of Italian Literature in Translation.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3094. Historiography.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3095. 18th Century Literature: Satire.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3095. Span 3045, Span Culture & Civ Study Abroad I.** (; 0.5-20 cr. [max 40 cr.] ; Student Option; Periodic Fall, Spring & Summer)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3096. Geographies of Tourism, Planning and Development.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3096. Span 3046, Span Culture & Civ Study Abroad II.** (; 1-5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3097. The Great Age of Italian Cities.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3097. Span 3047, Span Culture & Civ Study Abroad III.** (; 1-5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3098. Italians in the Atlantic World.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3098. Span 3048, Span Culture & Civ Study Abroad IV.** (; 0.5-5 cr. [max 10 cr.] ; Student Option; Periodic Fall, Spring & Summer)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3099. Social and Developmental Psychology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 3100. Biological and Cognitive Psychology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3100. Economic Business Environment.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3101. Latin American Literature and Cinema.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3101. The Legal Business Environment.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3102. Media Culture and Diversity.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3102. European Business.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3103. Reasoning and Argument.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3103. Company Field Study.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3104. Politics and Power in Roman Architecture: Augustus to Mussolini.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 3105. Cross Cultural Communication.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3105. Management Communication in Latin America.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3106. Globalization, Business and Economy in Latin America.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3106. Amln 3106, Indian-White Relations.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3107. Visualizing China: Film, Media and Culture.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3107. Scandinavian Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3108. ECH 4600 Student Teaching in Belize.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3108. Acct 3110 Computer Applications in Accounting, 3201 Cost Accounting I.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3109. Renaissance Venice.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3109. Acct 3797, Internship in Accounting.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3110. Individual Differences.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3110. Pol 3456, International Security: Theory and Practice.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3111. Apocalyptic.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3111. Pol 3400, Contemporary Issues in World Politics.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3112. Marketing III.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3112. Pol 3402, American Foreign and Defense Policy.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3113. Topics in Argentine History.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3113. Pol 3451, Theories of International Relations.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3114. Pol 3510, Russia and Eastern European Politics.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3115. Public Law.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3116. Knowledge Management Information Security.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3116. IntS WEN EuroTour.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3117. International Law.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3117. IntS WEN Music and Culture.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3118. International Organizations and Interregional Relations.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires



consent from the International Education Office.

### Foreign Studies (FST)

**FST 3118. IntS WEN Science, Invention and Discovery.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3119. World Ethnography - The Nordic Countries.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3119. IntS WEN Europe in the 19th Century.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3120. Political Economy Project Work.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3120. IntS WEN EuroSpring Preparation.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3121. Anthropology of Central Europe: Change and Continuity in the Czech Republic.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3121. Econ 3022, Macroeconomics Analysis.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3122. Swedish Politics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3122. Econ 3023, Microeconomics Analysis.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3123. Ritual in the Modern World.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3123. MIS Total Quality.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3124. Management Communication.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3124. Development Economics.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3125. HIST 3095 T: Studies in Social History: The US Civil War.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 3126. Manufacturing Processes.**

(; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3126. Introduction to Indigenous Australians 101.** (; 1-20 cr. [max 1 cr.] ; Student Option; Every Fall & Spring)

Study Abroad Course prereq: Admission to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3127. Social and Cultural Diversity.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3127. Aboriginal Land and Native Title 101.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3128. CE 3425 Engineering Geology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3128. Indigenous Australian Spirituality 101.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

### Foreign Studies (FORS)

**FORS 3129. Cognitive Psychology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3129. Aboriginal Studies.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3130. SOC 3831 Organizations and Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3130. Adolescent Development and Adjustment.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admission to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3131. International Student Teaching.** (GLOBAL PER; 1-20 cr. ; S-N only; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3131. Nationalism & Ethnic Conflict.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admission to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3132. Diplomacy and International Conflict.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3132. Drugs Across Cultures.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admission to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3133. Human Rights in Social Perspective.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3133. Australian Society.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3134. Strategic and Operational Marketing.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3134. Geog 3362, Geographic Aspects of Outdoor Recreation.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3135. International Environmental Law.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3135. Art 3600, Photography II.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3136. ChE 3112, Heat and Mass Transfer.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3137. Maritime Anthropology.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3138. The Global Economy.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3138. Medical Anthropology.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3139. Going Places: Life, Literature and Travel.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study Abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3139. Spanish America Through its Writers.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3140. Comm 3400 Health Communication.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3140. Programs to Fight Poverty and Social Exclusion.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3141. Math 3280 Differential Equations with Linear Algebra.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3141. Psycho Sociological Problems Infancy-Childhood.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office

**Foreign Studies (FORS)**

**FORS 3142. A System View of Communications.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3142. CC 3150, Coaching Methods.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education office.

### Foreign Studies (FORS)

**FORS 3143. Fundamentals of Electro-robotics.** (; 1-20 cr. ; S-N or Audit; Periodic Fall)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3143. CC 3160, Psychological Aspects of Coaching.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3144. The European Union: History, Economics Politics and Economic Integration.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3144. PEP 3040 Exercise Physiology.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3145. Organizational Behavior.** (; 1-20 cr. ; Student Option; Periodic Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3145. Fr 3006, Language Study Abroad.** (; 1-5 cr. [max 10 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3146. Perspectives on Experiential Learning.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3146. Fr 3400, Culture and Civilization Study Abroad.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3147. Sociology of Race.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3147. Lang 3091, Directed Study.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3148. History of the Cosmost.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3148. CommB Marketing Communication.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3149. Australian History.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3149. IntS WEN Present Day Spain and International Relations.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3150. HLTH 3116 Principles of Epidemiology and Human Disease.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3150. West European Business & Marketing.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3151. Computer Based Marketing.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3152. French Written Comprehension.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3152. East European Business and Marketing.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3153. French Oral Comprehension.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3153. Math 3298, Calculus III.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3154. The Black Death and Its Aftermath.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3154. Specialist Studies:Re-Imagining the Canon.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3155. Sport Marketing.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3155. Development of Irish Script/ Durrow-Kells.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3156. Human Resource Management.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3156. History of Irish Thought.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required

consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3157. Marketing in Central and Eastern Europe.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3157. Geog 3334, Urban & Regional Planning.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3158. POL 3600 Political Concepts.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3158. Protected Area Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3159. STAT 3411 Engineering Statistics.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3159. Geol 3540, Geological Field Methods.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3160. Industrial Marketing.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires

consent from the International Education Office.

### Foreign Studies (FST)

**FST 3160. Study in Greece: Art, Archaeology, History and Mythology.** (; 1-20 cr. ; Student Option; Periodic Summer)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education office.

### Foreign Studies (FORS)

**FORS 3161. Mechatronics.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3161. Psy 3691, Sensation and Perception.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3162. International Humanitarian and Development Intervention.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3162. Business Ethics.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3163. Business Administration.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3163. Psy 3601, Psychology of Personal Development.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3164. Fundamentals of Marketing I.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Admission to an approved study abroad program requires consent from the International Education Office. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3164. Psy 3111, Theories of Personality.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3165. Basic Organization Theory.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3165. Psychology (Cross-Cultural).** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3166. Fundamentals of Marketing II.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3166. Econ 3512, Managerial Economics.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3167. GEOG 3167 Cultural Geography of Iceland.** (3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Taught in Iceland this course explores the changing cultural & political geography of Iceland and its relationship to the complex processes of globalization, regional politics

and local economies. It examines the history of Iceland as a Viking settlement, a colony of Denmark, and an independent nation with a focus on the political and economic connection between Iceland and other places have influenced the country. Students will examine Iceland's position as part of the European Economic Community but not of the common currency or the European Union, contributed to the 2008 economic crisis and the responses to that crisis. Student will consider how geographic context, national culture and political economy impact the cultural geography of Iceland and is designed to give an intercultural experience with contemporary economic and political issues through a geographic perspective. Students will apply geographic theories of cultural difference, political economy, and resistance to develop an understanding of the multiple sites and scales of Icelandic identity, culture and politics. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3167. Studio Art II.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3168. Studio Art III.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3169. Healthcare Systems: US versus UK.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3169. Studio Art IV.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3170. Leadership in Ireland.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3170. Psy 3121, Abnormal Psychology.** (; 1-20 cr. [max 1 cr.] ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3171. IE 3115 Operations Research.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3171. Psy 3524, Basic Helping Skills.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course

**FST 3172. Australia's Terrestrial Environment.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3173. ACCT 3201 Cost Accounting.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3173. Environmental Effects.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3174. ACCT 3110 Accounting Information Systems.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3174. Hist 3462, History of Modern Japan.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3175. HLTH 3990 Holistic Health the Hawaiian Way.** (; 3 cr. ; Student Option; Periodic Summer)  
Study abroad course prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3175. Social Issues in Contemporary Poland.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3176. HIST 3095 T:City-State and the Italian Renaissance.** (; 1-20 cr. ; Student Option; Periodic Summer)  
Study abroad prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3176. Search for Self: Identity in Post War Polish Literature.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3177. HIST 3095 T:Holocaust From Origins to Memorialization.** (; 1-20 cr. ; Student Option; Periodic Summer)  
Study abroad course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3177. Dynamics of Breakthrough in Eastern Europe.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3178. History of Eastern & Central Europe 1871-Present.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3179. Nordic Art and Design in Norway and Sweden.** (3 cr. ; Student Option; Periodic Summer)  
Study abroad course prereq: Minimum 30 credits and 2.5 GPA. Admission to an approved study abroad program. Required consent from the International Education Office.

**Foreign Studies (FST)**

**FST 3179. Architectural Freehand Drawing.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3180. Women's Health and Policy: An EU and US Comparison - Study Abroad.** (3 cr. ; A-F or Audit; Summer Odd Year)  
A critical examination of women's healthcare and policy in the European Union and United States with an emphasis on reproductive rights, including pregnancy, birth, contraception and parenting policies. Includes discussion of the economics of women's healthcare and policy, real-world interdisciplinary problem-solving, and lectures from disciplinary experts. prereq: minimum 45 credits completed & instructor consent; also visit the UMD Study Abroad office

**Foreign Studies (FST)**

**FST 3180. Art 3950, Architecture Studio.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3181. Biological Psychology.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3182. Psy 3520, Introduction to Industrial/Organizational Psychology.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 3183. Anth 3632, Latin American Cultures.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3184. Marine Science.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3185. Catering for Children with Spec Educ Needs.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3186. Business and Politics in Asia-Pacific Region.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3187. Early Childhood Literacies.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3188. Individual Differences.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3189. Alcohol and Other Drugs.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3190. Spanish Language and Culture for Business and Study Abroad.** (COMM & LAN, GLOBAL PER; 6 cr. ; A-F or Audit; Periodic Summer)  
Study abroad program for students not majoring or minoring in Spanish Studies. Designed for students interested in business with little to no previous Spanish language. Month-long summer study abroad program in Salamanca, Spain. Study of Spanish language, Spanish for business purposes, Spanish business culture (in English), Spanish history and culture at the University of Salamanca. Home stay with a Salamanca family. Other than the language component, taught in English. pre-req: minimum 30 credits; admission to an approved study abroad program requires consent from the International Programs and Services Office.

**Foreign Studies (FST)**

**FST 3190. Introduction to Irish History.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**Foreign Studies (FORS)**

**FORS 3191. Independent International Study Music.** (GLOBAL PER; 3 cr. ; Student Option; Periodic Summer)  
Independent study abroad course in music history. Explores the development of music and opera with an emphasis on the cultural, literary, religious and socio-political contexts. pre-req: Requires approval from the International Programs and Services Office.

### Foreign Studies (FST)

**FST 3191. Hist 3333, From Homer to Alexander: Archiac & Classical Greece.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3192. Indigenous Australian Culture.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3193. Indigenous Australian Oral History.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3194. PEP 3500, Facilities Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3195. Modern New Zealand 1914 to the Present.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3196. Health and Exercise Organizations.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3197. Internship in Language, Culture and Business - Study Abroad.** (GLOBAL PER; 6 cr. ; A-F or Audit; Periodic Summer)  
Study abroad program and internship for students not majoring or minoring in Spanish Studies. Designed for students interested in business with little to no previous Spanish language. Month long summer study abroad and internship program in Salamanca, Spain. Study of Spanish language, an internship in health or science. Spanish history and

culture at the University of Salamanca. Home stay with a Salamanca family. Other than the language component, taught in English. pre-req: minimum 30 credits; admission to an approved study abroad program requires consent from the International Programs and Services Office.

### Foreign Studies (FST)

**FST 3197. Engl 3333, Children's Literature: Texts & Contexts.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3198. Psy 3371, Child and Adolescent Psychology.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3199. Educational Psychology.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3200. Exploring Sustainability & Culture - Study Abroad.** (GLOBAL PER; 1-6 cr. ; Student Option; Periodic Spring & Summer)  
Taught on site at selected country. Introduces students to fieldwork based experiences in sustainability and community engaged scholarship. Course generally involves travel, extensive outside of the classroom work, and a service learning component with post project reflection. pre-req: instructor consent; admission to an approved study abroad program requires consent from the International Programs and Services Office.

### Foreign Studies (FST)

**FST 3200. Field Studies and New Zealand Geology.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3201. Soc 3322, Law and Society.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3202. Educ 3412, the Computer in Education.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3203. Learning in Studies in Society & the Environ.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3204. Women in Britain.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3205. Phil 3291, Current Social & Political Philosophy.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required from the International Education Office.

**FST 3206. Design Studio II.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3207. Government-Business Relations.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3208. Ger 3031, German Language Study Abroad I.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3209. Ger 3032, German Language Study Abroad II.** (; 1-5 cr. [max 10 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3210. Ger 3045, German Culture & Civ Study Abroad I.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3211. INTB 3211 International Business Down Under.** (GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Summer)  
Study Abroad course. The course is designed to expose the students to as many aspects as possible of the Australian business and its environment so that they can learn how important it is to understand national



differences, similarities, and implications for successful conduct of international business, as well as how doing business internationally is different from operating in the US. For that purpose, this course provides a broad yet refined view of Australian business, culture, and other infrastructure by bringing the faculty members of the host university and local guest speakers to the class sessions, by taking field trips to companies and industries, by promoting interactions with local businesses and executives, and by various class activities such as reflections on field trips, projects, and presentations on what students have learned and experienced. pre-req: LSBE candidate or minimum 60 credits from other colleges with a minimum GPA of 2.6 and instructor consent and requires approval from International Programs and Services Office

## Foreign Studies (FST)

**FST 3211. Ger 3046, German Culture & Civ Study Abroad II.** (; 1-20 cr. [max 40 cr.] ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3212. Ger 3047, German Culture & Civ Study Abroad III.** (; 1-5 cr. [max 10 cr.] ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3213. Resource Evaluation and Planning.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3214. Mesoamerican History and Culture.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3215. Britain in the 20th Century.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3216. A Literary & Historical Guide to London.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3217. Art 3200, Sculpture II.** (; 1-20 cr. ; Student Option; Every Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required

consent from the International Education Office.

**FST 3218. Psy 3020, Statistical Methods.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3219. Comparative Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3220. Training and Skills Development.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program required consent from the International Education Office.

**FST 3221. Global Tourism Systems.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3222. Retail Marketing and Distribution.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admission to an approved Study Abroad Program. Required consent from the International Education Office.

**FST 3223. Engl 3223, Shakespeare.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3224. Comm 3505, Media Communications.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admission to an approved Study Abroad Program. Required consent from the International Education Office.

**FST 3225. Agency and Consultancy Management and Training.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3226. British Broadcasting Today.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program. Required consent from the International Education Office.

**FST 3227. International Trade.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3228. History of Spain.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3229. Sports Promotion.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3230. Geol 3210, Geomorphology.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3231. Cultures in Contact: Italia; Contemp Italian Cultures & Society.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3232. Language, Technology and Education.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3233. ChE 3211, Chemical Engineering Laboratory.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3234. Hist 3239, Europe in the Age of Renaissance Reformation.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3235. Art 3100, Painting II.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3236. Icelandic Geology & the New Society.** (; 3 cr. ; Student Option; Periodic Summer)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3237. Stress Management.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required

consent from the International Education Office.

**FST 3238. Writ 3110, Advanced Writing: Arts & Letters.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3239. Jour 3700, Media Law and Ethics.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3240. Economics (Asian Development).** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 3241. MU 3997 Turkish American Wind Band.** (; 1-4 cr. ; Student Option; Periodic Spring)  
Study abroad prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

## Foreign Studies (FST)

**FST 3241. Mu 3997 Field Study in MU.** (; 1-4 cr. ; Student Option; Periodic Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 3242. MU 3997 University Singers in Denmark and Sweden.** (; 1-4 cr. ; Student Option; Periodic Spring)  
Study abroad prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

## Foreign Studies (FST)

**FST 3242. Phil 3242, Values and Technology.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3243. Australian Indigenous Societies Prior to Invasion.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3244. Soc 3901, Social Change and Social Policy.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3245. Hist 3095, Spec topic: Hist of Modern Germany.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3246. Literature in Teaching.** (1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3247. Engl 3115, Writing Fiction.** (1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3248. DN 3401, Dance Composition.** (1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3249. Creative Writing and Performance III.** (1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3250. IntS WEN Understanding Britain in the European Context.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq Admitted to an approved study abroad program, required consent from the International Education Office.

**FST 3251. Theories of Leisure Management.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3252. Theatre Production Management.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3253. Contemporary Poetry.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad program, required

consent from the International Education Office.

**FST 3254. Italian Regional Food.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3256. Built Environment of Florence.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3257. Swedish Politics and Society.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3258. European Market Integration.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3259. Ger 3400, Culture & Civilization Study Abroad.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3260. European Economic Policies.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3261. Hist 3240, Early Modern England 1485-1689.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3262. Vertebrate Animals.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3263. CommB International Mass Communication.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3264. Using Computers in Education.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3265. Swedish Society and the School System.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3266. Learning from an Organizational Perspective.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3267. Ecology.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3268. Comparative Cultures of East Asia.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 3269. Nutritional Science.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3270. Sweden's Political and Social System.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3271. Aquatic Invertebrates.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3272. Engl 3121, Writing Poetry.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3273. Art 3933, Graphic Design III.**

(1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3274. Psy 3611, Learning and Behavior.**

(1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3275. Coastal Environments.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3276. Stat 3611, Intro to Probability & Statistics.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Educational Office.

**FST 3277. French Internship.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3278. Fr 3031, French Language Study Abroad I.** (1-20 cr. [max 40 cr.] ; Student Option; Periodic Fall)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3279. Fr 3032, French Language Study Abroad II.** (1-20 cr. [max 40 cr.] ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved study abroad program, required consent from the International Education Office.

**FST 3280. Fr 3045, French Culture & Study Abroad I.** (1-5 cr. [max 10 cr.] ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3281. Fr 3047, French Culture & Study Abroad III.** (1-5 cr. [max 10 cr.] ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3282. IntS IE, International Trade.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3283. IntS IE, International Marketing.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3284. Economics II.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3285. Roman Britain.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3286. History of Tuscany.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3287. Social Change 311.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3288. Cell Biology 202.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3289. Invertebrate Animals 201.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 3290. Spanish Language and Culture for Health and Science - Study Abroad.** (GLOBAL PER; 6 cr. ; A-F or Audit; Periodic Summer)

Study abroad program for students not majoring or minoring in Spanish Studies. Designed for students interested in health and science with little to no previous Spanish language. Month-long summer study abroad program in Salamanca, Spain. Study of Spanish language, Spanish for business purposes, Spanish business culture (in English), Spanish history and culture at the University of Salamanca. Home stay with a Salamanca family. Other than the language component, taught in English. pre-req: minimum 30 credits; admission to an approved study abroad program requires consent from the International Programs and Services Office.

## Foreign Studies (FST)

**FST 3290. Art 3922, Graphic Design II.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3291. Cultural Narratives 112.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3292. Sustainable Production & Consumption.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3293. The World of Work.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3294. Art in Central Europe.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3295. Ecology of Natural & Cultural Landscapes.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3296. Pol 3610, Political Economy: An Introduction.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3297. Internship in Language, Culture, Health and Science - Study Abroad.** (GLOBAL PER; 6 cr. ; A-F or Audit; Periodic Summer)

Study abroad program and internship for students not majoring or minoring in Spanish Studies. Designed for students interested in health and science with little to no previous Spanish language. Month-long summer study abroad and internship program in Salamanca, Spain. Study of Spanish language, an internship in health or science. Spanish history and culture at the University of Salamanca. Home stay with a Salamanca family. Other than the language component, taught in English. pre-req: minimum 30 credits; admission to an approved study abroad program requires consent from the International Programs and Services Office.

### Foreign Studies (FST)

**FST 3297. CIT 212, Implications of Modernity.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3298. CIT 311, Modernity and Postmodernity.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3299. CIT 312, Disciplining Postmodernity.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3300. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3300. Amln 3300, Projects in American Indian Studies.** (; 1-18 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3301. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3301. Hlth 3500, Environmental Health.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3302. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3302. Fall Drugs, Crime and Society.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admitted to an approved study abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3303. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office

### Foreign Studies (FST)

**FST 3303. Historical and Philosophical Aspects of Punishment.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course Prereq-Admitted to an approved study abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3304. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3304. Criminological Perspectives of Violence.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course Prereq-Admitted to an approved study abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3305. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the Office of International Education.

### Foreign Studies (FST)

**FST 3305. Spring Drugs, Crime and Society.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admitted to an approved study abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3306. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program requires

consent from the International Education Office.

### Foreign Studies (FST)

**FST 3306. Fall Introduction to Anthropology.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admitted to an approved study abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3307. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

### Foreign Studies (FST)

**FST 3307. Spring Introduction to Anthropology.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course Prereq-Admitted to an approved study abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3308. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office

### Foreign Studies (FST)

**FST 3308. Representations of Women in Popular Culture.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

### Foreign Studies (FORS)

**FORS 3309. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office

### Foreign Studies (FST)

**FST 3309. Electronic Commerce: Marketing Channels Decisions.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3310. Math 3299, Intermediate Analysis.**

(1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3311. Art 3810, Art in Elementary Education.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3312. 20th Century British Fiction.**

(1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office. ad course. Prereq-

### Foreign Studies (FORS)

**FORS 3313. HIST 3313 Global Surf Culture - Study Abroad.** (4 cr. ; A-F or Audit; Every Summer)

Taught abroad. Surfing is one of the world's most popular cultural phenomena. Students will explore the intersections of surfing, war, and tourism, addressing how a pastime commonly associated with mindless pleasure has in fact been implicated in some of the major global developments of the last two-hundred years. These include empire-building and the "civilizing mission" in nineteenth- and early-twentieth-century Hawaii's, modernization and economic development in the so-called Third World, the growth of international tourism following the Second World War, political mass movements and the anti-apartheid struggle, American foreign relations and Cold War cultural diplomacy, and the surf industry and corporate globalization. As a class taught in another country, the course will also cover the history of U.S. foreign policy in that region. And it has an experiential component: to develop an appreciation for the subject and for why millions of people have planned their lives around the sport, students will learn to surf. The course will thus combine academic instruction with outdoor education. pre-req: instructor consent, ability to swim; also visit the UMD Study Abroad office

### Foreign Studies (FST)

**FST 3313. Fr 3046, Fr Cult, Study Abr II.** (1-5 cr. [max 10 cr.]; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3314. Fr 3048, French Culture and Study Abroad IV.** (1-5 cr. [max 10 cr.]; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3315. Finance Group C Bank Lending.**

(1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3316. Marketing Group B Sports Marketing.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3317. FMIS 3228, Electronic Commerce.**

(1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3318. MIS Group B Web Design**

**Applications.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3319. Field Based e-Business Project.**

(1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3320. Engl 3564, American Literature**

**II.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3321. Writ 3130, Advanced Writing:**

**Engineering.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3322. Ger 3406, German Literature**

**Romantics (1800) to Modern Era (1965).**

(1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3323. IntS WEN Government and**

**Politics of Western Europe.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3324. Ger 3405, German Literature until**

**1832.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3325. Creative Writing.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3326. Soc 3324, Sociology of Criminal Law.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3327. Soc 3960, Sociology of Sport.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3328. Mu 3601, Elementary School Music Teaching.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3329. Image of Italy in British and American Writers.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3330. Swedish Politics.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3331. Christianity and Politics in the Modern World II.** (1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3332. Sociology of Communication.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3333. Indigenous Australia.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3334. Australia: Land and Nation.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3335. Writ 3121, Advanced Business and Organizational Writing.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3336. European Union Economies.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3337. Pathophysiology and Pharmacology.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3338. The Frontier and American Literature.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3339. Cultures, Identities, Texts III.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3340. Comm 3200, Interpersonal Communication Theory.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3341. Comm 3211, Communication and Technology in the Information Age.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3342. Communication and Organizational Relationships.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3343. Media Studies 210 The Australian Media.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3344. Span 3044, Spanish Civilization and Culture.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3345. Psy 3081, History and Systems of Psychology.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3346. European Travel and Tourism.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3347. CS 3121, Interactive Multimedia Technology.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3348. CS 3211, Database System Concepts.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3349. Journalism 3401, Broadcast News Writing.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3350. Fine Arts Study - Palermo, Italy.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3351. Journalism - Television News.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3352. Organizational Psychology Across Cultures.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3353. Crime in International Context.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3354. Psy 3996, Preprofessional Field Placement.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3355. ArtH3360 European Art in an Age of Revolution.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3356. Professional Communication Theory & Management.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3357. Public Relations Practice I.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3358. FMIS 3612, Managerial Finance.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3359. FMIS 3644, Investment Fundamentals.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3360. Grassroots Development Internship.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3361. Case Studies in International Development.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3362. Applied Field Methods.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3363. Directed Research.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3364. Hlst 3505, Colloquium for Majors.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3365. Community Health Practicum.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3366. Australia and the Southwest Pacific.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3367. Engl 3563, American Literature I.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3368. Engl 3906, Methods of Literary Study.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3369. New Literatures in English I.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3370. Society, Culture and the Environment.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3371. Blaw 2001, The Legal Environment.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3372. Span 3042, Hispanic American Civilization and Culture.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3373. MgtS 3397, LSBE Internship.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3374. Sexology.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3375. Work and Organizational Psychology.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3376. CC 3116, Care and Prevention of Sport Injuries.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3377. The Psychology of Advertising and Media.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3378. Psychology of Sport.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3379. Contemporary Australian Literature.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3380. The Love Story in the Cinema.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3381. Hist 3385, American Foreign Relations II.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3382. Anza Neighbors.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3383. Art 3400, Ceramics II.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3384. Aquaculture.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3385. HPER 3200, Research and Evaluation in Health Science.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3386. ChE 3231, Properties of Engineering Materials.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3387. Environmental Impact Studies and Assessment.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3388. Introduction to International Business Law.** (1-20 cr. ; Student Option; Periodic Fall & Spring)



Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3389. Logistics.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3390. Summer Intensive Language Program.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3391. Intensive French Session.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3392. ECE 3235, Electronics II.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3393. Soc 3945, Social Stratification.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3394. The World Since 1945 an Australian Perspective.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3395. CST 3010, Popular Culture in the 1960's.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

## Foreign Studies (FORS)

**FORS 3396. International Field Work.** (GLOBAL PER; 4 cr. ; A-F only; Periodic Summer)  
This course will introduce students to the methods used in Public History in an international setting. Public History is defined as the interaction of the non-academic public and the fields of Museum Studies, Historic Preservation, Cultural Resource Management, Heritage Tourism, and Popular History. Examples of projects to be completed during the course are: Interpretive Plan for a historic district, historic survey of a neighborhood, archival research, artifact cataloging and analysis at a local museum, pedestrian survey of a historic site, archaeological excavation/evaluation of a historic site, feasibility study for a local museum, and designing an interpretive display for a historic resource. pre-req: instructor consent; admission to an approved study abroad program requires consent from the International Programs and Services Office

## Foreign Studies (FST)

**FST 3396. Marketing Group B Retail Marketing.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

## Foreign Studies (FORS)

**FORS 3397. International Internship.** (GLOBAL PER; 3 cr. [max 9 cr.]; A-F only; Periodic Summer)  
This international internship is a specialized class where students enrich their education through experiential learning at a cultural/heritage institution or site approved by the Museum Studies Program. pre-req: MST 1100 or 1200 and instructor consent; admission to an approved study abroad program requires consent from the International Programs and Services Office

## Foreign Studies (FST)

**FST 3397. Ecology of Natural and Cultural Landscapes.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3398. Marketing Group B International Logistics.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3399. Forest Meteorology/Hydrology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3400. Spanish Civilization and Culture.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3401. Soc 3336, Crime and the Media.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3402. War and Peace in World History.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3403. Computer Modelling in Finance.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3404. International Trade and Banking 305.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3405. Business Oriented Database Methodology and Web Design BI.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3406. Literary Studies: Worlds of Fantasy.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3407. Gender and Education.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3408. Introduction to Modern Political Thought (16th -18th centuries).** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3409. Historical Projection of Three Cultures: Christians, Moors and Jews in Medieval Spain (8th-15th).** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3410. History of Slavery in Latin America.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3411. Cultural Anthropology of the Mediterranean.** (1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 3412. German 3048, German Culture and Civilization Study Abroad IV.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3413. International Communication.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3414. Public Relations and Applied Communication.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3415. Corporate Finance.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3416. Pol 3457, Understanding Terrorism and the Terrorist Threat to America.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3417. International Human Rights Law.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3418. International Human Rights II.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3419. Art 3500, Jewelry and Metals II.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3420. FMIS 3397, LSBE Internship.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3421. Econ of Spain and the European Union.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3422. Spanish-English Translation.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3423. CC 3110, Sport Science for Coaches.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3424. Making Australia: The Struggle for a Nation 1850-1901.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3425. Hist 3245, Early Modern England 1485-1689: Honors.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3426. Che 3241, Principle of Particle Technology.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3427. HRMgtGroupB Human Resource Mgmt II.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3428. Pol 3570, Third World Development.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3429. Directed Research-Ecology.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3430. Wildlife Ecology.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3431. Techniques of Wildlife Management.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3432. Physical Chemistry.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3433. Environmental Science.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3434. Environmental Policy, Socioeconomic Values.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3435. Hist 3463, History of Modern China.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3436. Peruvian Art, History and Culture.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3437. War and Peace in Bosnia.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3438. Math 3280, Differential Equations with Linear Algebra.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3439. Hist 3726, Modern Middle East: 18th Century-Present.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3440. Introduction to Studio Practice II.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3441. Peoples of the Pacific.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3442. Math 3355, Discrete Mathematics.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3443. Human Res Mgmt: Theory and Application.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3444. Project Management.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3445. Media Law.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3446. European Media & European Audiences.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3447. Personality and Individual Differences.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3448. Cross Cultural Psychology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3449. Group Facilitation.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3450. Psy 3215, Human Sexuality.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3451. ECE 3151, Control Systems.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3452. ArtH 3331, European Architecture.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3453. ECE 3445, Electromagnetic Fields.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3454. History Seminar: Modern Ireland.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3455. Britain Transformed.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3456. Civil Wars, 1500-2000.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3457. Chem 3322, Biochemistry.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3458. Chem 3324, Biochemistry Laboratory.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3459. Soc 3306, Deviance, Welfare and Justic.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3460. The Bible and its Interpretation.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3461. Econ 3150, Development Economics.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3462. Business Analysis and Valuation.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office  
prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 3463. Understanding Enviromental Issues.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3464. Tourism Economics.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3465. Operations Research.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3466. Violence in New Zealand.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3467. Psychology and Maori Development.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3468. ME 3111, Fluid Mechanics.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3469. Industrial Operations.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3470. British Life and Culture.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3471. Ling 3102, Introduction to Syntax.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3472. Ling 3591, Independent Study in Linguistics.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3473. Germany and Europe.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3475. Western Australian History Since 1829.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3476. An Introduction to British Imperial Expansion II.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3477. Youth, Music and Culture.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3478. Art 3030, Art in Technologies I.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3479. Pol 3221, Public Administration and Policy Analysis.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3480. ESAT 3300, Human Biomechanics.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abraod course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3481. Screen, Spirituality and Culture.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3482. Popular Fiction and Mass Culture.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3483. CSt 3050, Utopian Images.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3484. Australia: Dreamtime to Dust.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3485. Natural History of Norway.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3486. Education in Natural Landscapes.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3487. Medical Microbiology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3488. Introductory Computing for Teachers.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3489. Painting Live Model/Still Life.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3490. Culture and Civilization of Australia.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3491. Population Health-Health Issues & Determinants.** (1-20.1 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3492. Hlth 3202, Drug Education.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3493. Hlth 3101, Community Health.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3494. Movement Science.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3495. Physiotherapy Practice.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3496. Comm 3116, Professional Communication.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

## Foreign Studies (FORS)

**FORS 3497. International Internship.** (GLOBAL PER; 3 cr. [max 9 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Supervised opportunity to pursue public history under auspices of museums, historical

societies, commemorative commissions. Written and oral presentation of completed project. The internship will be conducted at an international location. pre-req: minimum 60 credits, admission of an approved study abroad program requires consent from the International Programs and Services Office.

## Foreign Studies (FST)

**FST 3497. Gender at Work.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3498. Oceania: Australia, New Zealand & the Pacific.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3499. Intro to Forest Protection in Finland.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3500. Tropical Forestry.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3501. Field Courses in Winter Ecology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3502. Ecology of East Africa.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3503. Sustainable Baltic Region.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3504. The Baltic Sea Environment.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

## Foreign Studies (FORS)

**FORS 3505. AAAS 3005 Roots and Rebellion: Study Abroad in Jamaica.** (3 cr. ; A-F or Audit; Periodic Summer)  
This three week study abroad course draws on history, literature, cultural studies, and music to explore Jamaican resistance to colonialism and slavery. Students will explore Jamaican culture first hand by visiting cultural heritage sites that attest to the Jamaican experiences of oppression, resistance, and rebellion. Presentations by local community leaders and heritage professionals will bring the history

and culture of Jamaica alive for students. pre-req: consent of the International Programs and Services office

## Foreign Studies (FST)

**FST 3505. Regional Geography and Pacific Islands Region.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3506. Introductory Individual and Social Psychology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3507. Psychological Measurement.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3508. HPER 3100, Risk Management.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3509. EnEd 3310, Outdoor Leadership.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3510. Contemp China: People's Rep, Hong Kong, Taiwan.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

## Foreign Studies (FORS)

**FORS 3511. Choral Ensemble in Germany.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 3511. Independent Study in Pharmacy.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3513. Geol 3100, Earth's Climate and Environ: Past and Future.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3514. Writ 3100, Advanced Writing: Lang and Lit.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3515. Encounters in Aotearoa: Maori and Pakeha.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3516. Chinese History and Social Institutions II.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3517. Introduction to Methods and Theories of History.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3518. Phil 3281, Ethical Theory.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3520. Pol 3197, Nongovernmental Internship.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3521. Hlth 3118, Women's Health Issues.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3522. Historical Cultural Geography of Ireland.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3523. Geography of Spain.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3524. Marine Biology and Monitoring.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3525. Applied Freshwater Ecology.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3527. The Dead Sea Scrolls.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3528. Leadership in Sport and Leisure.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3529. The British Gothic Novel.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3530. Psy 3527, Psychology and Social Responsibility.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3531. Scottish Culture Colloquium.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3532. Historiography II.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3533. Intro to Methods and Theories of History II.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3534. Sports Culture: "You'll Never Walk Alone".** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3535. Case Studies in Empire: India and Africa 1857-1964.** (1-20 cr. ; A-F or Audit; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3536. Deviancy, Identity and Childhood in 20thC Britain.** (1-20 cr. ; A-F or Audit; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3537. Nineteenth Century Australian Literature.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3538. Introduction to Theatre History.** (1-15 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3539. Motivational Psychology.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3540. Field Study.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3541. Art History I.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3542. Chinese Literature.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3543. Art Studio Course.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3544. Marketing Strategy.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3545. Design Management.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3546. European Marketing & Strategy.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3547. History of Modern Poland.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3548. History of Colonial Latin America.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3549. Field Research Project-Geography.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3550. Flamenco: It's History and Culture.** (1-20 cr. ; Student Option; Every Fall)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3551. Exploration of Brit Environ Hist II.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3552. Social Work Practice Contexts.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3553. Child Care and Protection Practice.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3554. Ger 3591, Independent Study.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3555. Family and Child Welfare I.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3556. Human Growth and Development.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3557. Soc Policy, Soc Exclusion and Anti-Oppressive Practice.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3558. Social Work Settings I.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3559. Psy 3211, Group Dynamics.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3560. History of Post-War France.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3561. History Seminar: Themes in Irish History.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3562. History of the Irish Famine.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required

consent from the International Education Office.

**FST 3563. Modern Paris-French Revolution to Present.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3564. Population and Community Dynamics.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3565. Biol 3701, Animal Diversity.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3566. Biol 3994, Undergraduate Research.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3567. Biol 3863, Ecosystems Ecology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3568. Biol 3684, Ecosystems Ecology Lab.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 3569. Conservation Biology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3570. Topic in the Anthorpolgy of Australia.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3571. Human Rights Movement.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3572. Australia Art History, Contemporary Art & Society.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3573. Australian Cinema-Representation and Identity.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office. prereq: Admission to an approved study abroad program, required consent from the International Education Office

## Foreign Studies (FORS)

**FORS 3574. WS 3896 International Fieldwork in Women's Studies.** (; 1-6 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Travel abroad with an instructor. Live with local families and learn about local women's lives through field work involving community visits, presentations by grassroots women, community-service work, reading, and follow-up writing and discussion. Repeatable once, in two different geographical areas. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 3574. WS 3896 International Fieldwork in Women's Studies.** (3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)  
The focus will be on the impact of free trade and globalization on the lives of individual Mexicans. In particular the effects on women and indigenous communities will be examined. Individual research projects. Prereq-Required consent of the International Education Office.

## Foreign Studies (FORS)

**FORS 3575. Jews & Poles: Entangled Lives, Cultures and Memories in the 20th Century Poland - Study Abroad.** (GLOBAL PER; 4 cr. ; A-F only; Periodic Summer)  
Study aboard in Poland. This course focuses on the history, experience and memory of Jewish life in Poland. One of the focuses of the course will be the experience of discrimination and the history of the Holocaust in Poland. However, the course will also examine the ways in which both Poles and Jews contributed to and engaged in a rich cultural, social and economic life in communities across the region and, in some cases, continued to do so today. The course will consider the history and legacies of the co-existence, interdependence, entangle between Poles, Jews, and other minority populations in this diverse geographic space. We will also explore the contentious contemporary debates over the politics of commemoration of Holocaust sites and Jewish life in Poland today. Pre-req: minimum 30 credits, instructor consent; also visit the UMD Study Abroad office.

## Foreign Studies (FST)

**FST 3575. Reinventing****Berlin: Cinema, History and more 1895-2005.**

(1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3576. The Idea of Latin America.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3577. Britain and Ireland from Cromwell to DeValera.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3578. Vulcanology: Taking the Pulse of Etna.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3579. Italian Literature: Sicilian Writers.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3580. The Emergence of Modern Europe, 1598-1789.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3581. International Business****Environment.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3582. Contemp French Phil: Multiple Dimensions of Difference.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3583. Paris Collage: History, Culture, Architecture.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3584. Catalan Cultural Studies.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3585. Social Life/ Med & Early Modern Italy.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3586. Mu 3991, Independent Study.**

(1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3587. Mu 3201, Music History I.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3588. Mu 3202, Music History II.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3589. Integration of Swedish Music Education.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3590. Regional Geography.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**Foreign Studies (FORS)****FORS 3591. Hlth 3991 Independent Study.** (; 1-20 cr. ; Student Option; Periodic Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)****FST 3591. The Mediterranean Environment.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**Foreign Studies (FORS)****FORS 3592. Pharmacology.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FST)****FST 3592. European Business Environment.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**Foreign Studies (FORS)****FORS 3593. Regional Australian Society and Environment.** (; 1-20 cr. ; Student Option; Periodic Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires

consent from the International Education Office.

**Foreign Studies (FST)****FST 3593. Retail Marketing.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**Foreign Studies (FORS)****FORS 3594. Exchange in United Kingdom.**

(; 1-30 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**Foreign Studies (FST)****FST 3594. Services Marketing.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3595. Interactive/Internet Marketing.**

(1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3596. Advertising Communication and Creativity.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3597. Management Across Borders- A Scandinavian Perspective.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3598. European Management.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3599. English Language Teaching Asst Program.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3600. Communicating the Past: History and Film.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3601. Psychology-Abilities.** (1-20 cr. ; Student Option; Every Fall & Spring)



Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3602. Psychology - Human Factors.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3603. American Culture and Society.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3604. Business and Politics in the Asia Pacific Region.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

## Foreign Studies (FORS)

**FORS 3605. The Irish Landscape in Science and Literature.** (GLOBAL PER; 4 cr. ; A-F or Audit; Periodic Summer)

Study abroad in Ireland. This course focuses on the natural, cultural, and literary history of Ireland, with a particular emphasis on the intersection of science and the humanities. The last Ice Age left its marks on the Irish landscape, and, human communities over millennia have left their imprints as well. The stages of human settlement over time have adapted to postglacial climate change and associated changes of flora and fauna. The evolving landscape and coastlines and the archaeological record of human history from the paleolithic period to modern times make the Irish landscape a fascinating field stie. Moreover, the Irish literary tradition from the ancient oral cultural to the beginning of literacy in the early Middle Ages has a long, rich, often locally-based heritage of nature writing. The assigned literature will connect postglacial history and climate change to the natural systems and environments and to the history of human adaptation over time. Students will visit important geographic and cultural sites and learn how cultural evolution remains a powerful presence in modern Ireland. pre-req: WRIT 1120 or equivalent, GEOL 1110 or GEOL 1610 or GEOG 1414, instructor consent

## Foreign Studies (FST)

**FST 3605. Race and Ethnicity.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

## Foreign Studies (FORS)

**FORS 3605. The Irish Landscape in Science and Literature.** (GLOBAL PER; 4 cr. ; A-F or Audit; Periodic Summer)  
Study abroad in Ireland. This course focuses on the natural, cultural, and literary history of Ireland, with a particular emphasis on the intersection of science and the humanities.

The last Ice Age left its marks on the Irish landscape, and, human communities over millennia have left their imprints as well. The stages of human settlement over time have adapted to postglacial climate change and associated changes of flora and fauna. The evolving landscape and coastlines and the archaeological record of human history from the paleolithic period to modern times make the Irish landscape a fascinating field stie. Moreover, the Irish literary tradition from the ancient oral cultural to the beginning of literacy in the early Middle Ages has a long, rich, often locally-based heritage of nature writing. The assigned literature will connect postglacial history and climate change to the natural systems and environments and to the history of human adaptation over time. Students will visit important geographic and cultural sites and learn how cultural evolution remains a powerful presence in modern Ireland. pre-req: WRIT 1120 or equivalent, GEOL 1110 or GEOL 1610 or GEOG 1414, instructor consent

## Foreign Studies (FST)

**FST 3606. Anthropology in a Globalising World.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3607. Ethnicity.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3608. Exploring the Past.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3609. Kinship and the Family in Cross Cultural Perspective.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3610. Relationship Marketing.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3611. Examining the Self.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3612. From Stonehenge.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3613. Great Minds of the Renaissance.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3614. History of London.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3615. International Marketing.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3616. Promised Lands: U.S. Romantic Nationalism and Intl Hegemony.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3617. The Venice Film Festival.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3618. Intro to Communication and Cultural Studies.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3619. Television Cultures.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3620. Geohazards.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3621. Gender Issues in Psychology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3622. Forensic Psychology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3623. Psychology and the Internet.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3624. Medieval Literature: An Intro.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3625. Fr 3045, French Culture and Civilization Study Abroad I.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3626. Fr 3046, French Culture and Civilization Study Abroad II.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3627. Fr 3047, French Culture and Civilization Study Abroad III.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3628. Fr 3048, French Culture and Civilization Study Abroad IV.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3629. Fr 3031, French Language Study Abroad I.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3630. Fr 3032, French Language Study Abroad II.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3631. Art 3625, Photography II: Digital.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3632. ArtH 3320, Ancient Art.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3633. Painting & Sculpture in Italy - 13th and 15th Century.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3634. Irish Historical Tales.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3635. Football Cultures and Identities.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3636. Symbolic Anthropology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3637. Feminism and Anthropology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3638. Aspects of Irish Folklore.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3639. Arab Society.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3640. Anth 3636, Anthropology of India.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3641. Swedish Literature.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3642. Culture and Emotion.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3643. Rec 3327, Large Event Management.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3644. Revolutionary Ideas in the XVII Century.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3645. Jazz in Europe.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3646. Visualism and Anthropology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3647. Anthropology of Media.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3648. Eating Disorders.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3649. Photographic Practices II.** (0 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3650. History of 20th Century Design.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3651. Visual Travel Journals.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3652. Marketing the Arts.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3653. New Zealand Histories: 1200 to the Present.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3654. Twentieth Century World History.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3655. The Practice of Teaching.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3656. International Mediascapes.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3657. Media Audiences.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3658. Australian Studies.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3659. Span 3042, Hispanic American Civilization and Culture.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3660. Organisational Behaviour.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3661. Australian Perspective: Maps, Dreams, History.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3662. Australian Studies: Cultures & Identities.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3663. Engineering Project Management.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3664. Sociology and Globalization.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3665. Art Analysis I: What is Modern Art?** (1-20 cr. ; S-N only; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3666. Lang 3091, Directed Study.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3667. Popular Music and Identity.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad CoAdmission to an approved study abroad program, required consent from the International Education Office

**FST 3668. Victorian Sexualities.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3669. American Postmodernism.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admission to an approved study abroad program, required consent from the International Education Office

**FST 3670. Psychology.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3671. Sweden's Social and Economic Geography.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3672. Introduction to Anglo-Irish Literature.** (1-20 cr. ; No Grade Associated; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3673. Introduction to Aboriginal Australia.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3674. Cultural Analysis with Field Work.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3675. Introduction to Aboriginal Studies.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3676. Australian Studies.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3677. Introduction to Indigenous Studies.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3678. Defining Australia.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3679. Australian Society and Culture.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3680. Australian Studies III.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3681. Heritage Studies III.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3682. Australia and Asia.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3683. An Introduction to Contemporary Northern Irish Society.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3684. The Social Structure of Modern Ireland.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3685. Maori Society.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3686. Traditional Aboriginal Society.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3687. Australian Perspective.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3688. Introduction to Japanese Society.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3689. British Archaeology-Techniques & Chronology.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3690. Colloquium in British Culture & Society.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3691. Australia Today.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3692. Australia: Interpreting the Past.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3693. Aboriginal Land Tenure & Sacred Sites.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3694. Understanding Contemporary Irish Society.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3695. Australian Society & Culture for International Students.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3696. Aboriginal Encounters: Conflict and Accommodation.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3697. Australia and Intercultural Studies.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3698. Perspectives on Australia.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3699. Austrian Civilization.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

**FST 3700. Italian Life and Culture.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office

## Foreign Studies (FORS)

**FORS 3701. ART 3700 Drawing II.** (3 cr. ; Student Option; Periodic Summer)  
Study abroad prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 3701. Peruvian Cultural Anthropology.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 3702. ART 3700 Drawing II.** (3 cr. ; Student Option; Periodic Summer)  
Study abroad prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 3702. Issues in Development Work.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3703. Cultures and Societies of South Asia.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3704. The Peopling of Polynesia.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3705. Cultures of Cities.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3706. Mediterranean**

**Anthropology: Cultural and Social.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3707. Australian Culture in the Int'l Perspective.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3708. Intro Trad & Contemp Maori Soc.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3709. The Contemp Pac: Soc in Change.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3710. Introduction to East Asia.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3711. Intro to Australian Indigenous Studies.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study Abroad Course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3712. The Essential Australia.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad program. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3713. Music in You.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3714. Independent Study.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3715. Intermediate Strategic Decisions.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3716. International Economics-Orebro.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3717. Arth 3340, Broque and Rococo Art.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3718. IE 3105, Human Factors.** (1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3719. Elderly in the Modern Society.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3720. Anthropology: Cultural Contexts of Crime.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3721. Social Work in an Intercultural Perspective.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3722. Engineering Mathematics.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3723. Consumer Behavior.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3724. Advertising Theory and Practice.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3725. E-Marketing Strategies.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3726. Sociology of the Family: Changes and Challenges.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3727. Econ 3402, Global Economic Issues.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3728. Culture, Ethnicity, and Psychology.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3729. Community Psychology in Aotearoa.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3730. Geol 3420, Sedimentology and Stratigraphy.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3731. War and Religion.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3732. City of Florence-History of Italian Art from Antiquity to the Baroque.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3733. Engineering Mathematics I.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3734. Industrial Britain.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3735. EIED 3331 Children's Literature and Integrated Creative Arts.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3736. Multiliteracies: Designs for Learning.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 3737. Principles of Environmental Planning.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3738. Globalization: Power, Networks and Identity in the New World Order.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3739. PEP 3126 Elementary School Physical Education.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3740. Masters of Architecture.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3741. Museums and Galleries of London: The Cultures of Display.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required

consent from the International Education Office.

**FST 3742. Geog 3401, Weather and Climate.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3743. Advertising Creative: Introduction.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3744. Applied Media Communication.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3745. Personal and Professional Development.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3746. Jour 3001, Report and Writing II.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3747. Programs Aimed to Fight Poverty and Social Exclusion in the EU.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3748. Understanding the European Economy.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3749. Psy 3215 Topics in Human Sexuality.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3750. Advanced Physical Chemistry.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3751. Historical Methodologies.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3752. Archaeozoology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3753. Sports Management.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3754. Quantitative Analysis.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3755. Maori Society and Culture.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad Course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3756. Argentine History-Modern Argentina: Politics, Culture, Society.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3757. Nationalism and Genocide in 20th Century Europe.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3758. Writ 3220 Visual Rhetoric and Culture.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3759. Psychoanalysis and Existential Psychology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3760. Fr 3302, Advanced French Composition and Conversation.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FORS 3761. BIOL 3761 Marine Biology in New Zealand.** (4 cr. ; Student Option; Periodic Summer)

Study abroad in New Zealand. Introduction to the marine environment by visiting International marine lab and conducting both laboratory and field research. Topics include ecology, animal physiology, animal behavior, ichthyology and fisheries biology. Lectures will precede daily field trips where students will make in situ measurements and/or bring specimens back to the laboratory for study. pre-req: Admission to an approved study abroad program requires consent from the International Programs and Services Office.

## Foreign Studies (FST)

**FST 3761. Mktg 3781, International Marketing.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3762. Food and Nutrition Systems.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3763. Re-Thinking Women, Sex and Gender.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3764. Comparative Economic Systems.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3765. Architecture, Painting in Barcelona.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad course. Required consent from the International Education Office.

**FST 3766. Spanish Art.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad course. Required consent from the International Education Office.

**FST 3767. Soc 3821, Sociology of Community.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3768. Politics, Politicians, and the Media.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3769. Welfare Policy in Sweden.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3770. Sociocultural Theory with Applications.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3771. Cultural Analysis Field Work.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3772. The Law of Sustainable Development.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3773. ECh 3006, Early School Years.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3774. The Learning of Primary Mathematics.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3775. The Child and the Family in the Community.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3776. Comm 3215, Conflict Management.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3777. Study Abroad: In-country.** (1-20 cr. ; Student Option; Every Fall)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3778. Contemporary Social Theory.** (1-20 cr. ; Student Option; Every Fall)

## Foreign Studies (FORS)

Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3779. History of Art.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3780. Mediterranean Societies.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3781. The City, Families and Lifestyle in Renaissance Florence.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3782. The Spain of Franco.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3783. Aspects of Film Theory.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3784. Australian People: Indigenous, Anthropological Perspectives.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3785. Environmental Analysis.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3786. Applied Agroforestry.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3787. New Zealand History and Geography.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3788. Services Marketing III.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3789. Life Drawing.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3790. Landscape Painting.** (1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3791. WS 3400, Women and Film.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3792. Eco-Recreation Interpretation.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3793. Biol 3601, Plant Diversity.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3794. Marine Invertebrates.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3795. Vertebrate Biology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3796. Marketing and Audience Research.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3797. American Media.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad course. Required consent from the International Education Office.

**FST 3798. Comm 3510, Ethics in Human Communications.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3799. Psy 3999, Directed Instruction.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required

consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 3800. COMM 3800/GEOG 3800 Grassroots Activism in India.** (4 cr. ; A-F or Audit; Periodic Summer)  
Taught in Bangalore, India where students will examine the process of social change in Bangalore and witness firsthand how disempowered groups such as tribal communities and religious minorities are advocating for their social and economic rights. Bangalore has grown tremendously in the last 10 years, as the city has become the center of India's technology economy; however, the benefits of this growth have not been equally distributed. Students will examine the causes of disenfranchisement (including gender, caste, and colonialism) as well as how city has changed as a result of globalization and the liberalization of the Indian economy. This course has three goals: (1) Students understand the notions of community employment as theorized by scholars such as Paulo Freire, M.K. Gandhi, R.J. Ambedkar, as well as more contemporary Indian thinkers; (2) Students visit and learn about the cultural and historical forces that have shaped India, and (3) Students interact firsthand with activists and disenfranchised communities involved in struggles for human rights/empowerment. prereq: Minimum 2.5 GPA, minimum 30 credits, instructor consent. Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 3800. Special Art Project.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 3801. ARTH 3150 Contemporary Global Exhibitions.** (3 cr. ; A-F or Audit; Periodic Summer)  
Study abroad course. This class will examine the transformation of art worlds and urban spaces by the development of contemporary global exhibitions, such as various Art Biennales now held around the globe, Art Basel, Documenta, and the Sculpture Projects Munster. In particular, we will examine how such exhibitions, as well as globalization in general, have transformed the way art is created, distributed, and received. pre-req: Admission to an approved study abroad program requires consent from the International Programs and Services Office.

## Foreign Studies (FST)

**FST 3801. Geographical Information Systems.** (1-20 cr. ; Student Option; Every Fall & Spring)



Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3802. Management.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3803. Pol 3511, Politics of South Asia.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3804. Economics of Leisure and Tourism.** ( ; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad program. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3805. Renaissance to Revolution, Scotland 1513-1689.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3806. Australian Historical Studies.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3807. Educ 3412, The Computer in Education.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3808. Financial Markets.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3809. Contemporary Austrian Culture.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3810. Interpersonal Practice.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3811. Science and Forestry.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 3812. Nordic Art & Design in Sweden and Denmark.** (GLOBAL PER; 3 cr. [max 20 cr.] ; Student Option; Periodic Summer)  
In this study abroad trip to Sweden and Denmark, students will explore a variety of artistic styles, media, practices, traditions, and innovations in Nordic Art from medieval to contemporary times. pre-req: minimum 30 credits, overall GPA of 2.5 or higher. Requires approval from the International Programs and Services Office.

## Foreign Studies (FST)

**FST 3812. Natural Energy Resources.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3813. Ger 3302, Advanced Composition and Conversation.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3814. Ger 3403, German Poetry and Theater.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3815. Democratization in the World.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3816. PE 3495, History and Culture World's Game.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3817. Interior Design.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3818. Ethical Tolerance in Amsterdam.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3819. Art 3715, Figure Drawing.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3820. Language, Society, and Identity in Europe.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3821. Internship.** (1-20 cr. ; Student Option; Every Fall)  
Study abroad course. Prereq-Admission to an approved study abroad course. Required consent from the International Education Office.

**FST 3822. Comm 3116, Professional Communication.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3823. Popular Culture and Media Theory.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3824. Television: Medium, Narrativie and Audience.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3825. Ethnicity, Racism and Communication.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3826. Australia: An Introductory History.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3827. Historical Projection of Three Cultures.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3828. Environmental Impact and Social Development.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3829. Introduction to Marine Biology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course Prereq-Admission to an approved study abroad program. Required

consent from the International Education Office.

**FST 3830. Introduction to Tropical Ecology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3831. Global Urbanization.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3832. Sport Marketing II.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3833. Corporate Culture.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3834. Environmental History of Australia.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3835. Soc 3701, Social Psychology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3836. Anth 3628, Women in Cross-Cultural Perspective.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3837. Aquatic Ecology.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3838. Aquatic Ecology Lab.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3839. Intercultural Communication.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3840. Relationship Communication.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3841. Humanities: Classical-Medieval.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3842. Mktg 3741, Fundamentals of Selling.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3843. French Civilization.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3844. Understanding Healthcare in Europe.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3845. Selected Topics in International Politics.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3846. Introduction to Culture and Society.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3847. Criminology and Criminal Justice.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3848. Global Studies.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3849. Phonetics II.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3850. Rhythm and Intonation II.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required

consent from the International Education Office.

**FST 3851. Phonetics I.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3852. Rhythm and Intonation I.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3853. Literary and Cultural Studies.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3854. Honors Study in Greece: Classical Foundations of Western Culture.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3855. The Roman Empire.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3856. History and Politics of Modern Italy.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3857. Introduction to Poetry.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3858. Social Communication.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3859. Individuals and Identities.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3860. Fashion Marketing.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3861. Fashion Show Production.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3862. Business Communication.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3863. London Experience in Literature.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3864. 1st World War.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3865. Soc 3156, Qualitative Research Methods and Analysis.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3866. Soc 3328 Delinquency and Juvenile Justice.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3867. Soc 3342, Law Enforcement Administration.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3868. Soc 3363, Correctional Agency Administration.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3869. Sport and Leisure Industry in Aoteroa/New Zealand.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad course requires consent from the International Education Office.

**FST 3870. From Revolutionary Soldaderas to Frida Kahlo: Gender, Sexuality, Politics, and the Arts in Mexico.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3871. Th 3871, Playwriting.** (1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall & Spring)  
Study Abroad Course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3872. Writing Irish, Writing Scottish.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3873. Great Works of Italian Literature.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3874. Biol 3703, Animal Physiology.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3875. Pol 3403, American Foreign Policy.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3876. Sociology of Mental Health.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3877. Sociology of Religion.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3878. History of London.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3879. Mental Health in a Global Context.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3880. Italian Culture.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3881. Communication in Support of Third World Development.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3882. Social Scientific Foundations of Communication.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3883. Comm 2202, Introduction to Organizational Communication.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3884. Comm 3203, Communication and Social Environment of the Internet.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3885. Comm 3605, Public Relations.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3886. Sweden and the Swedish Way of Life.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3887. Cross-Cultural Psychology: At Home and Abroad in Italy and Greece.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3888. Family, Gender, and Sexuality in Contemporary Australia.** (1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3889. Language, Culture and Society of Costa Rica.** (1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 3890. SPAN 3890 Language and Culture in Peru - Study Abroad.** (GLOBAL PER; 6 cr. ; A-F only; Periodic Summer)

May term summer study abroad program in Lima, Peru. Study of Spanish language, literature, art history, and culture. Home stay with a family in Lima. Taught in Spanish. prereq: completion of SPAN 1202 or higher and instructor consent; admission to an approved study abroad program requires consent from the Study Abroad Office

## Foreign Studies (FST)

**FST 3890. Directed Research.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3891. Natural Resource Management.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3892. Economic and Ethical Issues in Sustainable Development.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3893. Tropical Ecology and Sustainable Development.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3894. SPAN 3894 Language and Culture in Spain - Study Abroad.** (GLOBAL PER; 6 cr. ; Student Option; Periodic Summer) Month long summer study abroad program in Salamanca, Spain. Study of Spanish language, literature, art history and culture at the University of Salamanca. Home stay with a Salamanca family. Taught in Spanish. prereq: instructor consent & completion of SPAN 1202 or higher; admission to an approved study abroad program requires consent from the International Programs and Services Office

**FST 3895. The Fatal Shore: Aborigines, Immigrants, and Convict Society.** (1-20 cr. ; Student Option; Every Fall & Spring) study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3896. Child Social Development.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3897. Mental Health in a Global Context.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required

consent from the International Education Office.

**FST 3898. Health and Clinical Psychology.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3899. Antisocial Behavior.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3900. Creative Leadership Skills.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3904. International Law.** (1-20 cr. ; Student Option; Every Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3905. Spanish and English Voices of the Civil War in Literature, Film, and Drama.** (1-20 cr. ; Student Option; Every Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3906. Plant Physiology.** (1-20 cr. ; Student Option; Every Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad course requires consent from the International Education Office.

**FST 3907. Discrimination and Racism: from an anthropological perspective.** (1-20 cr. ; Student Option; Every Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3909. The European City.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad course. Required consent from the International Education Office.

**FST 3910. Contemporary Italian Cooking.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3911. Biochemistry, Separation of Methods and Analytical Techniques.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required

consent from the International Education Office.

**FST 3912. Postcolonial Studies I.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3913. Advanced Creative Writing: Travel Writing.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3914. Political and Social Change in Argentina and Latin America.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3915. Comparative History of Argentina and Latin America.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3916. Geohazards.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3917. Culture Shock-Cross Cultural Psychology.** (1-20 cr. ; Student Option; Every Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3918. Psychology and Women.** (1-20 cr. ; Student Option; Every Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3919. Advertising, Branding and Identity.com.** (1-20 cr. ; Student Option; Periodic Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3921. Sociology of Health and Illness.** (1-20 cr. ; Student Option; Every Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3922. Human Rights.** (1-20 cr. ; Student Option; Every Fall & Spring) Study abroad course. Prereq-Admission to an approved study abroad program. Required

consent from the International Education Office.

**FST 3923. European Economic Community.** (1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3924. History of England 20th Century.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3925. Civilization of London.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3926. Writing About Florence.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3927. Food as Sex, Gender, History, and Style: Anthropology and the Origins of Cuisine.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3928. Ethnography of Industrial Life.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3929. Conventions, Festivals and Events Management.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3930. Positive Psychology.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3931. Work Psychology: The Swedish Research Contribution.** (1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3932. Adolescent Behavior.** (1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. Prereq-Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3933. Psychological Aspects of Leadership and Risk Management.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3934. Psychology and Women.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3935. Game Studies.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3936. International History Since the End of the 19th Century.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3937. 19th and 20th Century Europe.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3938. 19th and 20th Century Britain.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3939. African History.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3940. International Communications.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3941. Global Communication I.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3942. Attitudes, Persuasion, Leadership and Conformity.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3943. Gender Communication.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3944. Communication Training and Consultancy.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3945. Screen and Media Studies.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3946. Education, A Comparative View.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3947. Writ 3160, Upper Division Advanced Writing.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Admission to an approved study abroad program. Required consent from the International Education Office. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3948. Organization and Leadership.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3949. Approaches to Development.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3950. Modernity and Social Relations.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3951. Sociology of Culture.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3952. Culture and Interpersonal Interaction.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3953. Culture, Identity and Social****Conflict.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3954. From Arbours to Mausoleums: English Gardens and their Buildings, 1500-2000.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3955. Psy 3381, Adult Development and****Aging.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3956. Visual Merchandising.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course prereq: Admission to an approved study abroad course requires consent from the International Education Office.

**FST 3957. Personality and Emotional****Intelligence.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3958. Work Psychology: the Swedish****Research Contribution.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3959. Psy 3231, Psychology of Drug****Use.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3960. Econ 3311 Money and Banking.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3961. Europe Since 1945.**

(; 1-20 cr. ; Student Option; Every Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3962. Eastern Christianity.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3963. Survey of Ancient Greek History.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3964. New Literatures (By Research).**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3965. Cultural Tourism.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3966. Immunology II.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3967. Pathology I.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3968. The Archaeology of the Medieval****Irish Church.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3969. The Development of the Castle in****Medieval Europe.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3970. Warfare in the 20th Century.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3971. Visual Learning.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3972. Te Ara Pou-Leadership.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3973. Business Negotiations in Central****and Eastern Europe.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3974. Tropical Ecology.**

(; 1-20 cr. ; Student Option; Periodic Fall &amp; Spring)

Study abroad course. prereq: Admission to an approved study abroad course. Required consent from the International Education Office.

**FST 3975. Introduction to Business Law.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3976. Business Issues in Arab World.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3977. Hitler, Nazim and the Second****World War.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 3978. European Cultures.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3979. Religion, Society and Politics in****the Arab World.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3980. Kin, Class, and Caste.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3981. Geog 3762, Geography of Europe.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course prereq: Admission to an approved study abroad course requires consent from the International Education Office.

**FST 3982. Tourism Impacts.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3983. Australian Studies.**

(; 1-20 cr. ; Student Option; Every Fall &amp; Spring)

Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3984. Architecture and Painting in Madrid.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3985. Global and Local Sustainable Living.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3986. Applications and Practices of Sustainable Living Internship.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3987. Environmental Education.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3988. Introduction to Applied Ecology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3989. Training For Adventure Sports.** (; 0-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3990. Mountaineering.** (; 0-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3991. Sport Facility and Planning.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3992. Concepts of Sport & Leisure.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3993. Comm 3210 Group Communication.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3994. Pol 3457, Understanding Terrorism and the Terrorist Threat to**

**America.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 3995. Anth 3622 Prehistoric Archaeology: Old World.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3996. Organizational Behavior.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3997. Contemporary Spain: History, Politics and Society.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3998. Sex, Lies, Ninjas and the Man Who Built the Great Wall: Story of China's First Emperor.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Foreign Studies (FORS)

**FORS 4000. Northern Ireland: Cultural Immersion Experience.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FORS 4001. EDUC 4301 Education System in South Korea.** (; 3 cr. ; Student Option; Periodic Summer)  
Study abroad course prereq: No grad credit. Admission to an approved study abroad program. Required consent from the International Education Office.

## Foreign Studies (FST)

**FST 4001. Special Topics: (Various Titles to be Assigned).** (; 1-15 cr. ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 4002. INTB 4495 International Business Down Under.** (3 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study abroad prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 4002. Special Topics: (Various Titles to be Assigned).** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4003. Acct 4505, International Accounting.** (; 1-20 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4004. Art 4892, Independent International Study.** (; 1-20 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4005. Biol 4801, Evolution.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4006. COMM 4949, Intercultural Hawaiian Experience.** (4 cr. [max 12 cr.] ; S-N or Audit; Every Spring)  
Taught on site in Hawaii. Practice of intercultural communication at culturally diverse sites. Students will immerse themselves in Non-European/American cultures and participate in intercultural communication with members of those cultures. Offered at various sites within the U.S. and internationally. prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office; no grad credit

**FST 4007. Th 4801, History of Theatre I.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4008. Th 4802, History of Theatre II.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4009. Anth 4628, Language and Culture.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)



Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4010. EdSe 4501, Educational Psychology.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4011. Soc 4862, Technology and Society.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office; no Grad School credit

**FST 4012. IE 4801, International Engineering Report.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4013. IE 4803, Simulation of Swedish.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4014. IE 4812, Computer Integrated Manufacturing.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4015. IE 4823, Project Management and Swedish Industrial Design Project.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4016. IE 4827, Manufacturing Systems Project.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4017. IE 4870, Advanced Manufacturing Processes.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4018. Anth 4697, Anthropology Internship.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4019. Soc 4991, Independent Study in Sociology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4020. Educ 4234, Science, Technology and Society.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4021. IntS 4891, Independent Study.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4022. MgtS 4731, Consumer Behavior.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4023. MgtS 4421, Managing Change.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4024. MgtS 4831, Compensation Systems.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4025. MgtS 4841, Training and Development.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4026. MgtS 4481, Strategic Management.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4027. MgtS 4711, Business to Business Marketing.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4028. MgtS 4721, Advertising and Marketing Comm.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4029. MgtS 4781, Marketing Management and Strategies.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4030. ECh 4600, Student Teaching in Early Childhood/Primary.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 4031. PHYS 4031 Thermal and Statistical Physics.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 4031. MgtS 4472, Entrepreneurship.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4032. Econ 4991, Independent Study.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4033. MgtS 4411, Organizational Studies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4034. MgtS 4431, Leadership.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4035. Comm 4399, Directed Projects in Communication.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4036. Math 4326, Linear Algebra.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4038. Mgmt A or B International Management.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4039. ChE 4621, Particle Technology.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4040. EIED 4600, Student Teaching.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4041. EIED 4650, Student Teaching Individual Subjects:K-8.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4042. Soc 4949, Race and Ethnic Relations.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4043. International Management.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4044. Comm 4397, Internship in Communication.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4045. FMIS 4617, Mgmt of Financial Institution.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4046. ArtH 4491, Directed Study 19-20 Cent European Art.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4047. Span 4011, Hispanic American Prose.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4048. Span 4022, Medieval and Golden Age Spain.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4049. Psy 4500, Health Psychology.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4050. EdSe 4600, Student Teaching.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4051. Art 4700, Drawing III.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4052. Art 4950, Architecture Capstone/Portfolio.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4053. Aboriginal Education.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4054. Novel in Transition I.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4055. Novel in Transition II.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4056. Art 4910, Senior Design Studio.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4057. Comm 4200, Communication in Organization.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4058. Chem 4641, Physical Chemistry I.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4059. Chem 4643, Physical Chemistry Laboratory I.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4060. UMD Intercultural Practicum in Hawaii.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4061. ChE 4111, Separations.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4062. Soc 4382, Victimology.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4063. Art 4972, Professional Practices.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4064. International Study Studio Art.** (GLOBAL PER; 3 cr. ; Student Option; Periodic Fall)

Independent study abroad course designed for students to create visual journals and sharing research projects in art and design in the country they visit. Prior to the program students will choose one topic to research and make a presentation to the group while abroad. All students are welcome. pre-req: Requires approval from the International Programs and Services Office.

**FST 4065. Span 4004, Spanish Conversation.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4066. Conservation Biology.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4067. Soc 4911, Alcoholism and Other Addictions.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4068. Engr 4292, Literature Into Film.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4069. EdSe 4212, Teaching Adolescent Literature.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to a Study Abroad program, required consent from the International Education Office.

**FST 4070. Comm 4505, Media Theory and Research.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4071. Soc 4925, Sociology of Rape.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved Study Abroad program, required consent from the International Education Office

**FST 4072. The Child and Contemporary Culture.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4073. Soc 4947, Sociology of Women.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4074. EdSe 4100, Human Diversity.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4075. Education & Democracy: A Comparative View.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 4076. Span 4018, Hispanic America from Within.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad prereq: Admission to an approved Study Abroad program, required consent from the International Education Office

**FST 4077. Span 4090, Aspects of the Hispanic World.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4078. International Development: Critical Perspective: Theory and Practice.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4079. Anth 4696, Field Research in Archaeology.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4080. Arth 4901, History of Graphic Design.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4081. Econ 4610, Industrial Organization.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4082. Art 4600, Photography III.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4084. Art 4976, Publication Services.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4085. Ethnographic Field School in Ecuador.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4086. Educ 4991, Independent Study.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4087. Art 4691, Individual Study in Photography.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to a Study Abroad Program, required consent from the International Education Office.

**FST 4088. Writing Medieval & Early Modern London.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4089. FMIS 4615 Derivative Securities.** (; 1-20 cr. ; Student Option; Periodic Spring)  
Study abroad course. prereq: Admission to an approved Study Abroad program, required consent from the International Education Office

**FST 4090. Business German.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4091. Seminar in German Language and Literature.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4092. Soc 4323, Women and Justice.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4093. Soc 4935, Conflict and Violence.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4094. CS 4531, Software Engineering.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4095. CS 4611, Database Management Systems.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4096. Computer Graphic Media Technology.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4097. Digital Compression or Image and Sound.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4098. Agent Systems.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4099. Software Metrics.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

## Foreign Studies (FORS)

**FORS 4100. HLTH 4100 History of Health in Italy.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Summer)  
Taught on site in Italy. Investigating the foundations of public and community health using primary historical sites in the area now unified as Italy. Analyze the impact of social and cultural factors on community health from early civilizations through the Renaissance, with emphasis of effects of the Black Death. Examine the role of arts used to convey health information for non-literate populations. Relate to aspects of preventative health care and promoting healthy communities in the present. Study Abroad prereq: Minimum 30 credits, no grad credit; admitted to an approved study abroad program, required consent from the International Education Office.

## Foreign Studies (FST)

**FST 4100. Mobility.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4101. Mu 4512, Chamber Singers.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4102. ME 4175, Machine Design.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to approved study abroad program, required consent from the International Education Office

**FST 4103. Industrial Design.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to approved study abroad program, required consent from the International Education Office

**FST 4104. Product Development.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to approved study abroad program, required consent from the International Education Office

**FST 4105. Cross-Cultural Perspective on Work.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to approved study abroad program, required consent from the International Education Office

**FST 4106. MSID Country Analysis.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to approved study abroad program, required consent from the International Education Office

**FST 4107. ChE 4613, Air Pollution Control.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4108. MgtS 4461, Business and Society.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4109. Scientific Programming.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4110. Math 4820, Applied Mathematics: Numerical Methods.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4111. Math 4240, Applied Mathematics: Operational Methods.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4112. Math 4230, Applied Mathematics: Complex Variables.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4113. Geog 4451, The Geography of Soils.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4114. ODEs and Calculus of Variations.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4115. FMIS 4644, Portfolio Management.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4116. Traditional Irish Music I.** (; 1-20 cr. ; Student Option; Periodic Fall)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4118. Art 4812, Senior Seminar.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4119. Requirements Engineering.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4120. History of Japanese Modernisation Since 1868.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4121. Span 4013, Hispanic American Poetry & Drama.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4122. Econ 4777, Environmental Economics.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4123. Chem 4342, Molecular Biology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4124. Chem 4364, Molecular Biol Laboratory.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4125. Chem 4341, Biochemistry.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4126. Chem 4363, Biochemistry Laboratory.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4127. Art 4400, Ceramics III.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4128. ME Technical Elective.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4129. Ger 4404, Contemporary Germany.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4130. Numerical Methods II.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4131. Soc 4950, International Migration to the U.S..** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4133. CS 4521, Algorithms and Data Structures.** (; 1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4134. CS 4411, Data Comm and Network Technology.** (; 1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4135. Applied Field Methods.** (; 1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4136. Leisure, Sport and the Law.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4137. Plant and Animal Physiology.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4138. Advanced Immunology.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4139. Biol 4891, Animal Behavior.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4140. Flowering Plants.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4141. ECE 4321, Computer Networks.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4142. Soc 4597, Internship.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4143. ESAT 4700, Research in Exercise Physiology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4144. Renaissance Drama.** (; 1-15 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4145. Value Creating Proc, HR Dev & Knowledge Mgmt.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4146. Pol 4191, Independent Study.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4147. The Irish Short Story.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4148. Tuscany and It's Environment.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4149. Renaissance Prostitution.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4150. Biol 4767, Comparative Anatomy of Vertebrates.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4151. CS 4821, Computer Security.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4152. Connectivity Software Technologies.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4153. Econ 4355, Half-Time Internship.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4154. International Business Strategy.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4155. MgtS 4474, International Management.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 4156. Mu 4392, Classical Guitar.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required

consent from the International Education Office.

**FST 4157. Traditional Irish Music II.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4158. International Health: Global Perspectives.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4159. European Perspective: Hlth, Sco, Econ & Pol Impacts of Health Promotion.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4160. Geol 4335, Physical Volcanology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4161. Th 4801, History of the Theatre I.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4162. Ethnographic Field School.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4163. Introduction to Tourism Management.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4164. Molecular Genetics.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4165. Anth 4640, Medical Anthropology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4166. Feature Writing.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required

consent from the International Education Office.

**FST 4167. Design Process.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4168. Biol 4503, General Microbiology offered in Wroclaw, Poland.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course prereq: Admission to an approved Study Abroad Program. Required consent from the International Education Office.

**FST 4169. Genetics.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course prereq: Admission to an approved Study Abroad Program. Required consent from the International Education Office.

**FST 4170. System Design and CFD Simulation.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study Abroad Course prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4171. The Welfare State in a Period of Challenge and Change.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4172. Advanced Macroeconomics.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4173. Independent International Study Studio Art.** (GLOBAL PER; 1-3 cr. ; Student Option; Every Fall, Spring & Summer)  
Independent study course taken abroad; students will create visual journals and share research projects in art and design in the country they visit. Prior to the program students will choose one topic to research and make a presentation to the group while abroad. All students are welcome. pre-req: Requires approval from the International Programs and Services Office.

**FST 4174. Mktg4721, Advertising and Marketing Communication.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4175. Mktg 4731, Consumer Behavior.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4176. Geol 4240, Physical Hydrogeology.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4177. Chem 4434 Inorganic Chemistry.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4178. Chem 4435, Inorganic Chemistry Laboratory.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad course. Required consent from the International Education Office.

**FST 4179. Biol 4501 General Microbiology.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4180. Robust Electronic.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4181. Design and Analysis of Algorithms.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4182. Programming Language Design Concepts.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4183. Foundations of Computer Science.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4184. Artificial and Machine Intelligence.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4185. Programming Languages.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4186. Web Applications Development.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4187. Jour 4800 Perspectives on International News Reporting and Editing.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4188. Supervised Teaching Internship Seminar.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4189. ME 4135, Robotics and Controls.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4190. ME 4145, CAD/CAM.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4191. IE 4235, Manufacturing Systems Integration.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4192. Jour 4001, Specialized Reporting and Writing.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4193. Art 4908, Interactive Design I.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4194. Art 4973, Interdisciplinary Team Project.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4195. Art 4905, Design Technology II.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4196. Management Concepts.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course. Required consent from the International Education Office.

**FST 4197. ArH 4620, History of Photography.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4198. Geog 4394, Gender, Space and Culture.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 4199. Modern Scottish Literature.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4200. Inventing the Modern.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4201. Soc 4860, Environmental Sociology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4202. Cervantes.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4203. Selected Topics in Cultural Anthropology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4204. Advanced Historical Studies.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4205. International Human Resource Management.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4206. Political Economy.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4207. Written Translation from English.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4208. One Hundred Years of Narrative Prose 1870-1970.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4209. Greek Mythology in 20th Century French Literature Oral.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4210. Translation from English.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4211. Greek Mythology in 20th Century French Literature Writing.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4212. Soc 4981, Social Movements, Protest and Change.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4213. Spanish Intensive Conversation.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4214. Principles of Advertising.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4215. Soc 4340 Minorities, Crime and Justice in the United States.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4216. IntB 4495, International Business in India.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course. Required consent from the International Education Office.

**FST 4217. ME 4495 Sustainable Energy Systems.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course requires consent from the International Education Office.

**FST 4218. ME 4112 Heat and Mass Transfer.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course requires consent from the International Education Office.

**FST 4219. ME 4175 Machine Design.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course requires consent from the International Education Office.

**FST 4220. Peace and Development in a Global World.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4221. Art 4040, Introduction to Digital Filmmaking.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4222. Intercultural Competence in Health and Care.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4223. Basic Fermented Beverage Technology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4224. Snow and Ice.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4225. INTB 4201, Chinese Business and Economics.** (3 cr. ; A-F or Audit; Every Summer)  
Taught on site in China. Introduction to Chinese business and economy. Provides



fundamental knowledge of Chinese business and economy, provides students with understanding of social, cultural, economic and political environments of doing business in China through lectures, readings, hand-on project and travel to China. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4226. Plant Growth and Development.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4227. Education Tour: England and the United Kingdom.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4228. Automation.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4229. Snow and Ice.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4230. Material Selection and Eco Design.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4231. Econ 4410, International Economics.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4232. Global Perspectives on Education.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4233. Anth 4621 Myth and Sacred Symbols.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4234. Global Cities.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires

consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 4235. Hlth 4996, Internship in Health Education.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

## Foreign Studies (FST)

**FST 4236. Writ 4260, Visual Rhetoric and Culture.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 4237. Space and Place in World Rhetoric.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4238. Econ 4935 Urban/Regional Economics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4239. Mgmts 4483 Cooperative Strategy and Strategic Alliances.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4240. Engl 4375 Drama.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office. No grad school credit.

**FST 4241. ES 4001 Independent Study.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4243. EDUC 4993 Teaching in Korea.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4244. International Perspectives on Teaching and Practicum.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study Abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4245. SPAN 4017 Hispanic American Cinema and Culture.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4246. Internship: Australia/New Zealand.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4247. EDSE 4100 Teaching in a Diverse Society.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4248. International Service Learning.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4249. Comparative Education Systems.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4250. Organizational Culture and Leadership Dynamics.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4251. Contemporary Britain.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4252. HCM 4595 T: Families and Healthcare Businesses in Thailand.** (1-20 cr. ; A-F only; Periodic Fall & Spring)  
Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4253. ChE 4613 Air Pollution Control.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4254. SPAN 4020 Cinema and Culture of Spain.** (; 1-20 cr. ; Student Option; Periodic Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FORS)****FORS 4255. Independent Study Studio Art in Italy.** (FINE ARTS,GLOBAL PER; 3 cr. [max 20 cr.] ; Student Option; Periodic Summer)

Delivered on site in Italy. A hands-on independent study studio course that explores time-based art such as video art, sound art, animation, and performance art. Students will make art on site that is informed by their study of Early Modern Italian art, the landscape, and Italian rituals and celebrations. pre-req: Requires approval from the International Programs and Services Office.

**Foreign Studies (FST)****FST 4255. Independent Study in Studio Art.** (GLOBAL PER; 3 cr. ; Student Option; Periodic Fall, Spring & Summer)

Independent studio course taken abroad; students will learn about a variety of artistic styles, media, practices, and traditions. Students will create work that builds upon their experiences abroad. pre-req: Requires approval from the International Programs and Services Office.

**FST 4256. HCM 4595 Health Care in the Netherlands and France.** (; 1-20 cr. ; Student Option; Periodic Summer)

Study abroad prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office. No graduate credit

**FST 4257. MKTG 4781 Marketing Management and Strategy.** (1-20 cr. ; Student Option; Periodic Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4258. Intb 4495 Business Dynamics in Korea and Japan.** (; 1-20 cr. ; Student Option; Periodic Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4260. Translation from English to Spanish.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4261. Biology 4802 Evolution.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires

consent from the International Education Office.

**FST 4262. MKTG 4741 Developing and Marketing New Products.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4263. CRIM 4360 Global Perspectives Crime Law and Justice.** (; 1-20 cr. ; Student Option; Periodic Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4264. ECON 4213 Mathematical Economics.** (; 1-20 cr. ; Student Option; Periodic Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 4265. International Financial Market, Institutions.** (; 3 cr. ; Student Option; Periodic Fall)

Study abroad prereq: No grad credit. Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 4266. INTB 4495 Peru's Food Movement: The Links to Health, Development and Branding.** (GLOBAL PER; 3 cr. ; Student Option; Periodic Spring & Summer)

Study abroad prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office. No graduate credit

**FST 4267. Sustainable Design & Construction.** (4 cr. ; Student Option; Every Fall)

Study Abroad

**FST 4295. INTB 4211 Innovation in Ireland (GLOBAL PER).** (GLOBAL PER; 3 cr. ; A-F only; Every Summer)

Taught on site in Ireland. Explore Irish innovation on multiple levels (individual, organizational, and regional) concentrating on how Ireland has created a culture of innovation and the consequences of this innovation on its people from its earliest history to today. prereq: Minimum 2.8 GPA, minimum 60 credits, admission to an approved study abroad program by the International Education Office.

**Foreign Studies (FORS)****FORS 4300. FORS 4300 - ENGL 4300 TH 4300 Shakespeare in England.** (GLOBAL PER; 4 cr. ; A-F only; Every Summer)

This short-term study abroad course will explore Shakespeare's theatre world in London and his birthplace in Stratford-upon-Avon, allowing students to experience, first-hand, how Shakespeare's plays were shaped by his environment in his own day, and how they were modified, adapted, and marketed over the

next four centuries. By attending performances at modern reconstructions of the Globe and Blackfriars, students will see how Shakespeare wrote his plays to capitalize on the strengths (and minimize the limitations) of the physical theatre. Students will also tour the areas where Shakespeare lived and worked, such as Southwark and Blackfriars, and visit historic landmarks, such as The Tower, Westminster Abbey, and the Inns of Court, that figure prominently in his plays. A side-trip to Stratford-upon-Avon will help students better understand his upbringing-they will visit his birthplace and grammar school-and also see where he returned to retire early, live extravagantly, and die. Stratford-upon-Avon is also the home of the Royal Shakespeare Company, the world-famous acting troupe devoted to promoting Shakespeare's works. A principal focus of this course is to consider why Shakespeare is more popular today than he has ever been. Seeing Shakespeare performed by a range of actors (A-list to amateur), in a variety of theatres (West End to fringe), in a range of dramatic styles (period performance to avant-garde) will bring to life how Shakespeare is transformed from the page to the stage, how his works have been suited to changing tastes across the centuries, and why, despite the challenges posed by the language and subject matter of his plays, he continues to have a commanding presence in theatres and classrooms across the world. pre-req: instructor consent; also visit the UMD Study Abroad office

**FORS 4333. New Zealand Youth Power.** (GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Summer)

Through a short-term study abroad program in New Zealand, this course will provide students with an international perspective on community-engaged strategies to address social justice issues, youth development, and human rights through culturally responsive practice with indigenous and diverse communities. through site visits and seminars with local experts in several cities and communities in New Zealand, students will learn approaches used by organizations engaged in collaborative work with indigenous youth to empower and promote social change through community development, macro practice, and advocacy. pre-req: minimum 30 credits, GPA of 2.5 or higher, instructor consent; no grad credit

**Foreign Studies (FST)****FST 4365. ME 4365 Global Sustainability Experience in Design & Manufacture.** (; 1-20 cr. ; Student Option; Periodic Summer)

Study abroad prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**Foreign Studies (FORS)****FORS 4400. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office

**FORS 4401. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office

**FORS 4402. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 4403. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 4404. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad course requires consent from the International Education Office

**FORS 4405. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office

**FORS 4406. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office

**FORS 4407. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office

**FORS 4408. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office

**FORS 4409. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office

## Foreign Studies (FST)

**FST 4523. ChE 4613 Air Pollution Control.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires

consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 4700. ART 4700 Drawing III.** (1-20 cr. ; Student Option; Periodic Summer)

Study abroad course. pre-req: Requires approval from International Programs and Services Office

**FORS 4800. ENED 4800 North Karelia: Outdoor Education and National Parks of Eastern Finland.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Summer)

This is a Study Abroad Program in the country of Finland in the Karelia region. Karelia is a magnificent area of lakes and forests in Eastern Finland. You will learn how outdoor education is used to teach about the protected natural areas in the Karelia district, particularly Finnish Wilderness Areas. You will learn basic natural history such as plants, trees, birds, and wildlife. You will explore how the Finnish "Everyman's Right" applies to sustainable use and management of Protected Nature Areas. From your experiences in Finland you will compare cross-cultural nature experiences in Finnish and U.S. protected areas, particularly those in Minnesota such as the Boundary Waters Canoe Area Wilderness (BWCAW), which is very similar to the Finnish Karelia Region. pre-req: minimum GPA 2.5, minimum 30 credits and approval from the International Programs and Services office

## Foreign Studies (FST)

**FST 4801. IE 4801, International Engineering Report.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study abroad course. prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 4802. ENED 4805 Environmental Sustainability, Education and Culture in Cuba.** (3 cr. ; A-F or Audit; Spring Odd Year)

Courses will be a short-term study abroad to Cuba with a focus on ecological sustainability, education, health and culture. Over the past two decades, Cuba has turned toward sustainable agricultural and environmental sustainability against the backdrop of scarce fossil fuel resources, they learned how to produce nearly 100% of their fruits and vegetables by organic means while building a more cohesive community. These efforts build upon the longer-term success of the Cuban literacy and health care campaign which, have been exported to the poorest communities around the world. In preparation for travel to Cuba, students will be given background readings prior to departure; the week prior to departure we will hold 3 face-to-face meetings to discuss Cuba's history, education, health and environmental sustainability. While in Cuba, students will engage in an in-dept

study by visiting multiple sites of relevance and importance. Site may include: the Cuban Literacy Museum, organic farms, Museum of the Revolution, artists community, Latin American Medical School, an eco biosphere reserve and meet with Cuban citizens, leaders, workers and scholars. pre-req: Admission to an approved study abroad program requires consent from the International Education Office; no grad credit

## Foreign Studies (FST)

**FST 4839. GEOL 4839/Biol 4839 Coral Reef Field Study - San Salvador Bahamas.** (GLOBAL PER; 1-20 cr. ; Student Option; Periodic Spring)

Study abroad course for winter term prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 4917. Research Abroad Practicum - Study Abroad.** (GLOBAL PER; 6 cr. ; A-F only; Periodic Summer)

Study Abroad. This course provides credit for six-week directed research abroad part of the Undergraduate Research Study Abroad (URSA) program. Students enrolled in the course, will be working with UMD faculty and an URSA advisor to conduct on-site research in their chosen field. Students will also take part in weekly meetings with local faculty, weekly meetings with the UM faculty advisor, attend cultural seminars and excursions and provide weekly updates on their research. pre-req: UST 4916, instructor consent. Students will be approved only after the application and interview process and the subsequent successful completion of UST 4916. No grad credit.

**FORS 4944. ART 4944 Graphic Design IV.** (3 cr. ; A-F or Audit; Periodic Summer)

Study Abroad course. Continuation of theory and practice of graphic design. Research-based development of design systems in multiple media. prereq: 3933, Graphic Design major or GDM BFA major or instructor consent and requires approval from International Programs and Services Office; laptop required; digital instruction presented only on a Mac platform; no grad credit

## Foreign Studies (FST)

**FST 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**FST 5002. Psy 5501, Counseling Theories and Skills.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 5003. Educ 5804, Programs for Young Children: Global Perspective.** (; 1-20 cr. [max 1 cr.] ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 5009. Engl 5821, History of English Language.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 5010. Biol 5121, Plant Biochemistry and Molecular Biology.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 5011. Biol 5833, Stream Ecology.** (; 1-20 cr. [max 30 cr.]; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 5012. Biol, 5861, Lake Ecology.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 5013. ArtH 5391, Directed Study Renaissance and Baroque.** (; 1-15 cr. ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 5014. Math 5280, Partial Differential Equations.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 5021. Engl 5591, Independent Study.** (; 1-20 cr. [max 1 cr.]; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 5022. Writ 5220, Document Design and Graphics.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5023. Writ 5230, Web Design and Digital Culture.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5024. ArtH 5191, Directed Study Ancient/Medieval Art.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 5025. Biol 5601, Plant Physiology.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 5026. Biol 5602, Plant Physiology Lab.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad program, required consent from the International Education Office.

**FST 5027. Engl 5122, Advanced Writing of Poetry.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5028. Art 5902, Graphic Design Theory & Criticism.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 5029. Art 5991, Independent Work in Graphic Design.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 5031. Engl 5566, Irish Literary Revival.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admitted to an approved Study Abroad Program, required consent from the International Education Office.

**FST 5033. Jour 5197, Journalism Internship.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 5034. Psy 5155, Forensic Psychology.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5035. Math 5900, Team Modeling Project.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Study Office

**FST 5036. Ling 5802, Applied Linguistics.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5037. CS 5541, Artificial Intelligence.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5038. CS 5631, Operating Systems.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5039. Writ 5197, Internship in Writing.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5040. Engl 5040, Chaucer.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5041. ArtH 5591, Directed Study in American Art.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5042. Stat 5511, Regression Analysis.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5043. Art 5016, 2-D Digital Studio II.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5044. Art 5030, Art in Technologies II.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5045. Art 5916, Type Lab.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5046. Art 5991, Independent Study in Graphic Design.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5047. Geol 5095, Legends of the Flood.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5048. Geog 5446, Water Processes and Management.** (; 1-20 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5049. Educ 5340, Interacting with Diverse Families.** (; 1-20.1 cr. ; Student Option; Every Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5050. CS 5721, Computer Graphics.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5051. CS 5621, Computer Architecture.** (; 1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5052. CS 5651, Computer Networks.** (; 1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5053. CS 5551, User Interface Design.** (; 1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5054. CS 5641, Compiler Design.** (; 1-20 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5055. Biol 5811, Plant Autecology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5056. Biol 5831, Plant Pop and Community Ecology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5057. Biol 5862, Advanced Lake Ecology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5058. Biol 5865, Conservation Biology.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program, required consent from the International Education Office

**FST 5059. Math 5371, Abstract Algebra I.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 5060. Art 5030, Art in Technologies II.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 5061. Geol 5200, Geological Field Studies.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office.

**FST 5062. Folk Song and Dance in Britain.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program, required consent from the International Education Office. No Graduate School Credit.

**FST 5063. MicB 5555 Molecular Pathogenesis: Current Concepts.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 5064. Biol 5240 Ecological Genetics.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 5065. Biol 5401 Coevolution of Plants, Animals and Microbes.** (; 1-20 cr. ; Student Option; Every Fall, Spring & Summer)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 5066. Engl 5444, Childhood in Literature, History and Culture.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course. Required consent from the International Education Office.

**FST 5068. Scotland and Empire.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office. No Grad School cr

**FST 5069. Global Engagement in Puerto Vallarta, Mexico.** (; 3 cr. ; Student Option; Every Fall & Spring)  
Study abroad program. Puerto Vallarta Global Service Learning program. prereq: Required consent from the International Education Office.

**FST 5070. Geol 5200, Geological Field Study (in Poland).** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 5071. Art 5909, Interactive Design.** (; 1-20 cr. ; Student Option; Every Fall)  
Study abroad course. prereq: Admission to an approved study abroad program. Required

consent from the International Education Office.

**FST 5072. Voice.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad course. Required consent from the International Education Office. (No Grad School cr)

**FST 5073. Opera Coaching.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office. (No Grad School cr)

**FST 5074. Hlth 5341, Death Education.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office. No Grad School cr.

**FST 5075. SW 5091, Independent Study.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office. No Grad School cr

**FST 5076. Stat 5411, Analysis of Variance.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 5077. Engl 5562, Victorian Literature.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 5078. Engl 5561, English Romanticism.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 5079. Engl 5222, Shakespeare.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)  
Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 5080. Art 5795 Intermedia Studio Problems.** (; 1-20 cr. ; Student Option; Every Fall & Spring)  
Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 5081. CSD 5195, T: Service-Learning in Mexico.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course. prereq: Admission to an approved study abroad program. Required consent from the International Education Office.

**FST 5082. CSD 5195 Special Topics: Second China International Conference for Speech Therapy.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 5083. MATH 5280 Partial Differential Equations.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 5085. Engl 5541 Restoration and 18th Century Literature.** (; 1-20 cr. ; Student Option; Periodic Fall & Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 5086. Natural Language Processing.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study Abroad Course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 5087. Engl 5533 Studies in British Literature Before 1800.** (; 5 cr. ; Student Option; Periodic Spring)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FST 5088. PHYS 5052.** (; 1-20 cr. ; Student Option; Periodic Fall)

Study abroad course prereq: Admission to an approved study abroad course. Required consent from the International Education Office.

## Foreign Studies (FORS)

**FORS 5201. MU 5201 Advanced Music History.** (GLOBAL PER; 1-20 cr. ; Student Option; Periodic Summer)  
Study Abroad pre-req: Requires approval from International Programs and Services Office

**FORS 5202. MU 5201 Adv Music History.** (1-20 cr. ; Student Option; Periodic Summer)  
Study Abroad pre-req: Admission to an approved study abroad program requires consent from the International Programs and Services Office

**FORS 5333. New Zealand Engaging and Empowering Maori Youth in Community Change.** (GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Summer)

Through a short-term study abroad program in New Zealand, this course will provide students with an international perspective on community-engaged strategies to address

social justice issues, youth development, and human rights through culturally responsive practice with indigenous and diverse communities. through site visits and seminars with local experts in several cities and communities in New Zealand, students will learn approaches used by organizations engaged in collaborative work with indigenous youth to empower and promote social change through community development, macro practice, and advocacy. pre-req: graduate student, GPA of 2.5 or higher, instructor consent;

**FORS 5500. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 5501. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 5502. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 5503. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 5504. International Education.** (; 1-20 cr. ; Student Option; Periodic Fall, Spring & Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 5591. Hlth 5991 Independent Study.** (; 1-20 cr. ; Student Option; Periodic Summer)  
Admission to an approved study abroad program requires consent from the International Education Office. prereq: Admission to an approved study abroad program requires consent from the International Education Office.

**FORS 5990. HLTH 5100 History of Health in Italy.** (GLOBAL PER; 1-20 cr. ; Student Option; Periodic Summer)

Study abroad course prereq: Admission to an approved study abroad program requires consent from the International Education Office.

## Foreign Studies (FST)

**FST 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

## French (FR)

**FR 1101. Beginning French I.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Fall & Summer)  
Conversation and communicative course for students with little or no previous study of French. Emphasis on oral and aural skills; some grammar. Taught in French and English. prereq: Little or no prior formal study of this language, or instructor consent

**FR 1102. Beginning French II.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Spring & Summer)

Conversation and communicative course for students with limited previous study of French. Emphasis on oral and aural skills; some grammar. Taught in French and English. prereq: 1-2 yrs high school French or 1101 or instructor consent

**FR 1201. Intermediate French I.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Fall)  
Consolidation and enrichment of previously acquired abilities speaking and understanding French, set within introduction to written French and survey of contemporary culture of French-speaking societies. Emphasis on oral, aural, and reading skills; vocabulary building; some writing. Taught in French. prereq: 3-4 yrs high school French or 1102 or instructor consent

**FR 1202. Intermediate French II.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Spring)  
Consolidation and enrichment of previously acquired abilities speaking and understanding French, set within introduction to written French and survey of contemporary culture of French-speaking societies. Emphasis on oral, aural, and reading skills; vocabulary building; some writing. Taught in French. prereq: 4 years high school french or 1201 or instructor consent

**FR 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## French (FREN)

**FREN 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## French (FR)

**FR 2315. French Cinema.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Spring)  
Images of human diversity in French cinema. Films with English subtitles; class discussion in English.

**FR 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## French (FREN)

**FREN 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**French (FR)**

**FR 3302. Advanced French Composition and Conversation.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Spring)

Refines students' skills in oral and written expression after they have completed the French language sequence. Individualized work on points of syntax and semantics, set in a contemporary context, using a variety of texts and resources. prereq: 1202 or 2301 with grade of C or higher or instructor consent

**FR 3305. French Cuisine: Exploring French Culture Through Food.** (GLOBAL PER,HUMANITIES; 4 cr. ; A-F or Audit; Every Fall)

Taught in French. Aspects of French culture through its expression in cuisine. Students will learn to decipher the many expressions of culture around the preparation and service of food at the table, kitchen, and restaurant. prereq: 1202 or 2301 with grade of C or higher; or instructor consent

**FR 3310. Survey: Essays, Short Stories, Poetry in the French Language.** (4 cr. ; A-F or Audit; Spring Even Year)

Selected works in three genres, written in the French language from the 15th Century to the present: essays, short stories, poetry. prereq: 1202 or 2301 with C or higher; or instructor consent

**FR 3550. The History of Paris: Evolution and Revolution.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall)

This course, taught in English with readings in French for French majors, examines themes, topics and episodes related to the cultural history of Paris and the French language through selected readings in literature, sociology, architecture and sustainability studies. Students will use the evolution of Paris and the development of the French language as entry points into a deeper exploration of French identity, including analysis of important contemporary issues related to gender, class, and sustainability. Students will study the ways in which French history has consisted of binary oppositions: Paris-Provinces, Parisian French-Local Patois, Order-Revolution, etc. Additionally, students will explore the traces of French history around Paris, from the names of streets to the monuments in the squares and parks, to the sites of power within the city.

**FR 3591. Independent Study.** (1-4 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)

Students develop and carry out reading and research programs in consultation with the instructor. prereq: 2301 with C or better, instructor consent

**FR 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**French (FREN)**

**FREN 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**French (FR)**

**FR 4018. Studies in Francophone Cultures and Literature.** (GLOBAL PER,HUMANITIES; 4 cr. ; A-F or Audit; Spring Even Year)

Studies literature and film from francophone (i.e. the French-speaking world) such as Maghreb, Sub-Saharan Africa, French Indochina, Canada, and the French West Indies. Focuses on politics and aesthetics in relation to colonization, diaspora, cultural identities and metissage (cultural, linguistic and ethnic blending or hybridity) as well as the creation of new existential and political spaces. Taught in French. prereq: 1202 or 2301 with grade of C or better; or instructor consent; no grad credit

**FR 4095. Special Topics (Various Titles to be Assigned).** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Various topics in the language, history, literature, and culture of France and/or Francophone countries. prereq: 1202 or 2301 with a C or better; or instructor consent; no grad credit

**FR 4412. Contemporary French Culture and Society.** (GLOBAL PER,HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Study of contemporary social, cultural, and political issues in France and other Francophone regions. Conducted in French. prereq: 1202 or 2301 with grade of C or higher; or instructor consent; no grad credit

**FR 4492. Modern French Literature (19th-21st century).** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Literary works from the 19th through the 21st century studied within their historical, political, and social contexts. Taught in French. prereq: 1202 or 2301 with C or better; or instructor consent; no grad credit

**FR 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**French (FREN)**

**FREN 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**French (FR)**

**FR 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**French (FREN)**

**FREN 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GC (GC)**

**GC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**GC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GEO (GEO)**

**GEO 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GEO 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GEO 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GEO 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GEO 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GOEG (GOEG)**

**GOEG 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GOEG 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GOEG 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GOEG 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GOEG 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**General Engineering (GE)**

**GE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )



Non Direct Equivalent

**GE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## General Science (GSCI)

**GSCI 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GSCI 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GSCI 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GSCI 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GSCI 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Geographic Information Science (GIS)

**GIS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GIS 2552. Mapping Our World.** (LOGIC & QR; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
This course starts with the definition of what a map is and considers maps as tools for communication. Students are led to explore the effects of scale, projection, cartographic symbolization and generalization on the mapping process and resulting digital databases. Students are introduced to spatial data models, types of spatial data and representation, and study alternative or non-tradition map representations provided by GIS and Remote Sensing. The course includes hands-on map activities; map reading/interpretation, map use, and map production where students will use their laptops to create online web mapping services.

**GIS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GIS 3563. Geographic Information Science I: Theory and Analysis.** (4 cr. ; A-F only; Every Fall & Spring)  
GIS 3563 emphasizes the concepts needed to use GIS effectively for acquiring, editing, querying, analyzing and visualizing spatial data. This course is an introduction to GIS and trains basic skills with industry standard GIS software in a wide variety of applications in both the natural and social sciences. The course covers basic data modeling, data manipulation, analytical methods and implications of geospatial technologies on society. prereq: credit will not be granted if already received for GEOG 3564 or 4563 and 4564 or GIS4565.

**GIS 3564. Geographic Information Science II: Applied GIS.** (4 cr. ; A-F or Audit; Every Fall & Spring)

GIS 3564 follows 3563 and provides more hands-on skills with industry standard GIS software in a wide variety of applications in both the natural and social sciences. It covers more advanced analytical methods for both raster and vector data. Lastly, the course questions ethics regarding geospatial information and introduces the code of ethics for GIS professionals. prereq: 3563; credit will not be granted if already received for GEOG 3564 or 4563 and 4564 or GIS4565.

**GIS 3580. Earth Imagery.** (4 cr. ; A-F only; Every Fall)

his course is a selective overview of the methods used for imaging the Earth and its atmosphere. The objective is to expose students to the common methods of Earth imaging and provide them with hands-on experiences in exploring these rich datasets. This course introduces aerial photographs, satellite imaging (active and passive forms), and Digital Elevation Models (DEMs). By the end of the course students will be able to comfortably analyze multispectral Earth imagery, handle a LiDAR point cloud, and create a variety of informative outputs from an image. prereq: 2552; credit will not be granted if already received for GEOG 3580

**GIS 3591. Independent Study in GIS.** (1-3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)  
For students interested in doing advanced work in selected fields of GIS. prereq: instructor consent

**GIS 3597. Internship in GIS.** (3-4 cr. [max 8 cr.] ; A-F only; Every Fall, Spring & Summer)  
Scheduled assignments with direct supervision in public agencies or relevant private firms. prereq: GIS major with minimum 60 credits and instructor consent

**GIS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GIS 4533. Distributed Geographic Information Services: Mobile and Web Based Solutions.** (4 cr. ; A-F only; Every Fall)  
There are currently over 1 million GIS users world-wide producing nearly 15,000 maps daily. The vast majority of these users utilize the internet and mobile devices to collect, manage, process and store the geospatial data necessary to create and distribute these maps. As such, GIS is shifting from a system where the focus lies almost entirely on the data itself, to a geographic information service where the focus lies on the distribution of spatial content to stakeholders and end users via the internet. The aim of this course is to expose students to the practical and theoretical applications of distributed geographic information services including web and mobile apps, virtual and physical servers, APIs, and scripting languages (Javascript, CSS, HTML5, SVG). Labs and a group semester project will focus on a distributed GIS for a stakeholder within the region. Software used will vary, but may

include ArcGIS Online, ArcGIS Pro, or open-source software. pre-req: GIS 3563 or instructor consent; credit will not be granted if already received for GIS 3533

**GIS 4565. Geographic Information Science Intensive: Theory, Analysis, and Applications.** (4 cr. ; A-F or Audit; Every Fall)

This course is an intensive introduction to GIS, effectively condensing both GIS 3563 and GIS 3564 into one semester. It is intended for students with excellent computer skills, the capacity to handle a heavy workload but not enough time to take both courses. The course covers the concepts needed to use GIS effectively for manipulating, querying, analyzing, and visualizing spatial data. It will also equip students with basic and advanced skills with industry standard GIS software, through a wide variety of hands-on applications in both the natural and social sciences. Students will have to create, manage, and complete their own GIS application throughout the semester. pre-req: grad student or department consent This course is equivalent to GIS 3563 and GIS 3564 combined, but 3563 and 3564 carry no graduate credit.

**GIS 4585. Applied Statistics in GIS.** (4 cr. ; A-F only; Spring Odd Year)

This course provides GIS students, or students in related fields or interested in spatial data analysis, with little to no previous statistical knowledge, with the basic skills needed to question and analyze data and reach valuable conclusions. Methods covered in this course are commonly used in various fields of social or environmental studies, in economy and management, in sciences and engineering: statistics are a lingua franca that is often a key element of interdisciplinary work. However, there will be an emphasis on the specificity of data that varies in space, and methods specific to spatial analysis will be introduced. The class focus more on application than on theory, through a game dynamic. We may use a variety of software, mostly ArcGIS, QGIS and MS Excel. prereq: 3563 and 3564 or 4565, STAT 1411 preferred; credit will not be granted if already received for GEOG 3585 or GIS 3585; no grad credit.

**GIS 4586. Geoprocessing with Python.** (4 cr. ; A-F or Audit; Every Spring)  
Python has become the main scripting language used for geoprocessing. In this class, building on previous GIS experience, students learn how to automate geoprocessing workflows with Python and how to turn their code into tools and add-ins for the main commercial and open-source GIS software systems. prereq: 3563 and 3564 or 4565 preferred

**GIS 4909. Professional Preparedness.** (1 cr. ; S-N only; Every Spring)

This course is intended for GIS seniors graduating in the spring or the following fall. This is a seminar/workshop course where a group of graduating students work together and under the guidance of their instructor to assess and self-reflect on where they stand as early career GIS professionals. Courses

activities include tests, discussion, construction of portfolios and mock job interviews. The course grade is satisfactory/non-satisfactory, based on participation. pre-req: GIS major, minimum 90 credits, no grad credit

**GIS 4910. Teaching Assistantship.** (1-2 cr. [max 8 cr.] ; S-N only; Periodic Fall, Spring & Summer)

Practical experience in teaching beginning courses in the department. Students serve as intern teachers assisting the instructor in administration of the course or tutors for the GIS program. pre-req: instructor consent

**GIS 4999. Honors Project in Geographic Information Science.** (1-4 cr. ; A-F only; Periodic Fall, Spring & Summer)

Advanced individual project in any area of Geographic Information Science demonstrating sound theoretical and research foundations and resulting in a written report or other expression of scholarly production. pre-req: instructor consent; no grad credit

**GIS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GIS 5533. Distributed Geographic Information Services: Mobile and Web Based Solutions.** (4 cr. ; A-F or Audit; Every Fall)

There are currently over 1 million GIS users worldwide producing nearly 15,000 maps daily. The vast majority of these users utilize the internet and mobile devices to collect, manage, process and store the geospatial data necessary to create and distribute these maps. As such, GIS is shifting from a system where the focus lies almost entirely on the data itself, to a geographic information service where the focus lies on the distribution of spatial context to stakeholders and end users via the internet. The aim of this course is to expose students to the practical and theoretical applications of distributed geographic information services including web and mobile apps, virtual and physical servers, APIs, and scripting languages (JavaScript CSS, HTML5, SVG). Labs and a group semester project will focus on distributed GIS for a stakeholder within the region. Software used will vary, but may include ArcGIS Online, ArcGIS Pro, or open-source software. pre-req: Grad student, GIS 3563 or 4565; credit will not be granted if already received for GIS 4533

**GIS 5571. Geographic Information Science in Urban Analysis.** (4 cr. ; A-F only; Spring Even Year)

This advanced course provides students with an opportunity to explore the many applications of geographic information systems in local government, transportation development, and sustainable community planning. Students learn how GIS can be used to effectively carry out urban and regional planning tasks and gain a basic understanding of GIS project planning and data management. Labs focus on land use planning, transportation development, green infrastructure, and population dynamics from across the globe, with a particular focus on the Duluth area. Software used will be

ESRI ArcGIS. prereq: 3563 and 3564 or 4565 (preferred) or instructor consent; credit will not be granted if already received for GEOG 5571

**GIS 5572. Environmental Application of GIS.** (4 cr. ; A-F only; Every Fall)

Explore GIS applications to the environmental issues such as natural hazards, forest management, contaminated sites, soil erosion, habitat assessment, and regional planning. Prereq: 3563 or 4565 or grad student or instructor consent; credit will not be granted if already received for GEOG 5572.

**GIS 5573. GIScience in Regional Sustainability Applications.** (; 4 cr. ; A-F only; Spring Even Year)

This course provides students with an opportunity to explore the many applications of geographic information science in environmental and societal sustainability, renewable energy, and community planning. This course is based on the idea that in order to successfully transition toward sustainability, a better understanding of coupled human and natural systems in critical, and that because of the unique challenges and conflicts present within northern Minnesota between human and natural systems, it is an ideal location to attempt to mitigate these challenges through the use of Geographic Information Science. Labs focus on current topics relevant to the region including energy use calculations, food deserts, LEED certification, water pollution, and transit planning. Software used will be ESRI ArcGIS. Prereq: 3563 and 3564 or 4565 (preferred) or instructor consent; credit will not be granted if already received for GEOG 5573

**GIS 5581. Digital Image Processing and Analysis.** (4 cr. ; A-F only; Spring Even Year)

This advanced remote sensing course focuses on theories and applications of digital image processing and provides students with knowledge and skills of advance digital image processing and a variety of analytical techniques. Topics include image display and visualization, methods for geometric and radiometric corrections, image enhancement, image classification, change detection, and Principal Component Analysis (PCA). prereq: 3580 or instructor consent; credit will not be granted if already received for GEOG 4580 or GEOG 5581

**GIS 5585. Applied Statistics in GIS - graduate level.** (4 cr. ; A-F or Audit; Spring Odd Year)

The aim of this course is to provide graduate students interested in spatial data analysis with skills needed to analyze spatial data. Many of the methods covered in this course are commonly used in various fields of social or environmental studies, in economy and management, in sciences and engineering; statistics are a lingua franca that is often a key element of interdisciplinary work. However, there will be an emphasis on the specificity of data that vary in space and on methods specific to spatial analysis. The class will focus on both theory and application, through a problem solving approach. We will use a variety of software, mostly ArcGIS, QGIS and MS Excel. pre-req: grad student, GIS 4565 or

GIS 3563; credit will not be granted if already received for GIS 4585

**GIS 5586. Geoprocessing with Python.** (4 cr. ; A-F or Audit; Every Spring)

Python has become the main scripting language used for geoprocessing. In this class, building on previous GIS experience, students learn how to automate geoprocessing workflows with Python and how to turn their code into tools and add-ins for the main commercial and open-source GIS software system. pre-req: Grad student, GIS 3563 or 4565; credit will not be granted if already received for GIS 4586

**GIS 5591. Independent Study.** (1-3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)

Independent study for graduate students interested in doing additional work in selected fields in GIS. prereq: graduate student and instructor consent

**GIS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Geography (GEOG)

**GEOG 1205. Our Globalizing World.**

(GLOBAL PER,SOC SCI; 3 cr. ; A-F or Audit; Every Fall & Spring)

This course analyzes the relationship between the environment, economic development, culture, and politics by examining human geography in the context of global regions. This course introduces core concepts in human geography such as space, place, and scale, and globalization, and applies those concepts to understand the diversity of our globalizing world. Topics from the impact of climate change, to colonialism, the geography of agriculture, urbanization, geopolitics, and ethnic and national identities are explored.

**GEOG 1414. The Physical Geography.** (NAT SCI,SUSTAIN; 4 cr. ; A-F only; Periodic Fall, Spring & Summer)

The environment is highly dynamic and is continually modified by human and environmental processes. This course examines these processes to better understand how the Earth's landscapes were formed and how they are currently being transformed. Specifically, students will understand the fundamental processes that govern the physical environment including Earth-sun relations, water resources, landforms, weather and climate, natural vegetation, and soils.

**GEOG 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GEOG 2305. Geography of Cultural Diversity.** (CDIVERSITY; 3 cr. ; A-F only; Periodic Spring)

This course utilizes social scientific approaches to cultural diversity in the United States to develop a critical understanding of the geography of our unequal society. We examine why humans spatially segregate themselves into racial, ethnic, and cultural groups, how meaning is constructed around these

differences, and how the politics of difference are expressed geographically. Credit will not be granted if already received for GEOG 2405

**GEOG 2306. Environmental Conservation.**

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

In order to adapt to and mitigate environmental challenges that are predicted to occur in the future, we must have a clear understanding of the physical, economic, societal, and political contexts that brought us to the present. This course examines the complexity of coupled social-ecological systems and the role that humans have played in changing the face of the Earth.

**GEOG 2313. Economic Geography.** (SOC SCI; 3 cr. ; A-F only; Every Fall)

Contemporary geographic pattern analysis of production, distribution, and consumption of goods and services. Development of geographic theories and models that attempt to explain spatial variations of economic activities such as agriculture, manufacturing, and trades and services.

**GEOG 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**GEOG 3334. Urban Geography.** (; 3 cr. ; A-F only; Every Fall)

As the world becomes more urbanized there seems to be less distinction between global problems and urban problems. Analysis of the relationship between urbanization and other aspects of our modern world such as economic globalization, increased levels of international migration, and warfare. Examine how global dilemmas can be seen in the national and international issues. Pay particular attention to the everyday struggles that occur in the households and neighborhoods of cities as people attempt to care for themselves and their families in this rapidly changing world. prereq: Minimum 30 credits or instructor consent

**GEOG 3335. Urban Planning.** (3 cr. ; A-F only; Every Spring)

Urban planning explores the purpose, practice, and theories of modern community planning for the promotion of social and economic well-being. The causes of urban problems, and the tools planners can use to solve them will be investigated. Special focus will be paid to citizen participation and how the voices of community members can be heard in the planning process. prereq: Minimum 30 credits

**GEOG 3370. Geographies of Development.** (3 cr. ; A-F only; Periodic Fall)

This class examines the global geography of wealth and poverty, i.e., why some places are very rich while others are very poor. The impacts of colonialism, the Cold War, globalization, overpopulation, and ecological and climate change are explained, and the prospects for a more just future are considered. prereq: Minimum 30 credits

**GEOG 3401. Weather and Climate.** (; 3 cr. ; A-F only; Every Spring)

Weather and climate are critical to both Earth systems and human societies, yet they are

frequently misunderstood. The goal of this course is to develop a scientific understanding of atmospheric processes and how they are responsible for weather events and climatic patterns. Atmospheric composition, structure, and motion are studied, along with precipitation processes, air masses, fronts, cyclonic storms, and the the distribution and classification of climates. prereq: 1414 or GEOL 1110 or 1130 or instructor consent

**GEOG 3411. Human Environment**

**Interactions.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course examines the interactions between humans and their physical environments. Topics covered include the physical components of the natural environment, human population growth and movement, natural resource use, and human impact upon vegetation, soil, water, landforms and climate. pre-req: Minimum 30 credits or instructor consent

**GEOG 3422. Natural Hazards.** (; 3 cr. ; A-F only; Every Spring)

Geography of natural hazards such as earthquakes, volcanoes, tornadoes, hurricanes, floods, and droughts; human-physical environment interrelationships under extreme geophysical conditions; causes, characteristics, and consequences of natural hazards; human adjustment to natural hazards. Prereq: 1414 or Geol 1110, or minimum 30 credits or instructor consent.

**GEOG 3461. Geography of Global**

**Resources.** (; 3 cr. ; A-F only; Every Spring)

Spatial distribution and uses of global natural resources addressed through models of resource management, focusing on energy, non-fuel minerals, population, food, and technology. Theoretical approach and political perspective applied to trade, international economic development, and environmental issues. prereq: Minimum 30 credits or instructor consent

**GEOG 3481. The Ecology of Cities.** (; 3 cr. ; A-F only; Every Spring)

By 2050, over three-quarters of the world's population will live in urban environments. To accommodate this transition, it is critical that we understand the relationship between nature and people within cities. This course will introduce the theoretical, practical, and policy-related aspects of urban systems, and the challenges and solutions to developing sustainable cities. prereq: Minimum 30 credits or instructor consent

**GEOG 3712. Geography of Latin America.**

(3 cr. ; A-F only; Every Spring)

Considers the social, physical and political landscapes of Latin America and the Caribbean before, during and after the European invasion and colonial times. Examines contemporary dynamics in the region from a political ecology perspective. prereq: Minimum 30 credits or instructor consent

**GEOG 3800. Community Empowerment in South Asia - Study Abroad.** (GLOBAL PER; 4 cr. ; A-F only; Periodic Summer)

This course will take students to Bangalore, India where they will learn about the history and culture of India and examine processes of social change. Bangalore has grown tremendously in recent years as the city has become the center of India's high-tech economy. However, the benefits of this growth have not been equally distributed: slums that house millions of the city's poorest residents are located alongside gleaming new office towers and shopping malls. In this course, students will examine the causes of these disparities and learn how disenfranchised groups such as women, lower caste members, tribal communities, and religious minorities are advocating for their social and economic rights. Students will be challenged to think about how realities in India mirror realities in the United States today, and how they too can become agents of change in their communities. prereq: minimum 3.0 GPA, 30 credits, & instructor consent; also visit the UMD Study Abroad office

**GEOG 3991. Independent Study.** (1-3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)

For students interested in doing advanced work in selected fields of geography. prereq: instructor consent

**GEOG 3995. Special Topics: (various titles to be assigned).** (; 3 cr. [max 6 cr.] ; A-F only; Periodic Fall, Spring & Summer)

Special topics in geography that are not offered in the regular curriculum. Topics may involve specialties of professional staff or visiting faculty.

**GEOG 3997. Internship.** (3 cr. [max 6 cr.] ; S-N only; Periodic Fall, Spring & Summer)

Experience in the field of geography with direct supervision in public agencies or relevant private firms. prereq: 60 credits completed and instructor consent

**GEOG 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**GEOG 4393. Political Geography.** (3 cr. [max 4 cr.] ; A-F only; Periodic Fall & Spring)

This course examines the geography of social power from international geopolitics, to protest politics in public space, to theories of heteronormativity and patriarchy. The central focus of this course is the spatial organization of politics, i.e., how people organize themselves into groups, and how those groups police themselves and vie with each other in various places and at multiple scales. prereq: Minimum 60 credits including or instructor consent

**GEOG 4401. Climate Science.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

This course examines the complex relationship between the atmosphere, oceans, and the biosphere over space and time, and how they relate to Earth's climate. Specifically, this course will study the basic forces that drive Earth's climate systems, how climate differs between the equator and the poles and between oceans and continents, and how these difference results in variations in Earth's climate. In addition, we will explore

the global balance and distribution of energy and the transfer of that energy throughout the atmosphere, the role of land and ocean surfaces in climate forcing, how global atmospheric and oceanic circulation patterns are related, and examine long-term climate forcing (ENSO, NAO, MJO, etc.) Lastly, we will understand how these processes have varied in the past, and how current variations are leading to fundamental changes to our climate system. pre-req: GEOG 3401

**GEOG 4446. Water Processes and Management.** (; 3 cr. ; A-F only; Every Spring) Introduction to the surface water processes and water resources management, including precipitation, runoff generation, channel processes, spatial and temporal variations in water distribution, aspects of water quantity and quality, and watershed management problems. Prereq: Geog 1414 or Geol 1110 or Graduate students or Instructor consent.

**GEOG 4451. The Geography of Soils.** (4 cr. ; A-F only; Every Fall)

This course gives students a fundamental understanding of the soil as a living resource. The course covers basic soil science and the critical need for sustainable soil management in the context of current agricultural and climate change. The course includes outdoor field excursions, hands-on soil study both in the field and in the lab. Course includes a weekend field trip. prereq: 1414 or Geol 1110 or grad student or instructor consent

**GEOG 4803. Geographic Thought.** (3 cr. ; A-F only; Every Fall)

Development and significance of geographic concepts and thought. History and intellectual roots of contemporary geography, geographers, and geographic institutions. prereq: 60 credits or grad student or instructor consent

**GEOG 4910. Teaching Assistantship.** (1-3 cr. [max 6 cr.] ; S-N only; Periodic Fall, Spring & Summer)

Practical experience in teaching beginning courses in the program. Students serve as intern teachers assisting with the administration of the course. pre-req: instructor consent

**GEOG 4990. Geography Seminar.** (1 cr. ; A-F only; Every Fall & Spring)

Presentation and discussion of current geographic research, including but not limited to human/physical geography, environments and sustainability, urban geography and planning, and GIS applications. prereq: Geography major or minor and minimum 90 credits; no grad credit, credit will not be granted if already received for Geog 5999.

**GEOG 4999. Honors Project.** (; 3 cr. ; A-F only; Every Fall & Spring)

Advanced individual project related to geography demonstrating sound theoretical and research foundations and resulting in a written report. prereq: minimum 90 credits and instructor consent

**GEOG 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**GEOG 5101. Water Policy.** (; 3 cr. ; A-F or Audit; Every Fall & Spring) Socio-cultural, legal, and economic factors that affect water resources management. Historical trends in water policy, resulting water laws in the United States. Federal, state and local institutional structures for water management. pre-req: Grad student or instructor consent

**GEOG 5991. Independent Study in Geography.** (1-4 cr. ; A-F only; Every Fall, Spring & Summer)

Independent problems for postbaccalaureate students interested in doing additional work in selected fields in geography. prereq: Maximum 4 credits can be applied to graduate program; instructor consent

**GEOG 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

## Geology (GEOL)

**GEOL 1044. Freshman Seminar: Revolution in the Earth Sciences.** (; 3 cr. ; A-F or Audit; Periodic Fall)

How theories of mountain building evolved to continental drift to a not-quite-all-encompassing dynamic plate tectonics model for the outer reaches of the Earth--a triumph of observation and synthesis despite disbelief, ridicule, and hard luck.

**GEOL 1110. Geology and Earth Systems.** (SUSTAIN,NAT SCI; 4 cr. ; A-F or Audit; Every Fall & Spring)

Earth systems science is an interdisciplinary approach to understanding the processes operating within and the interactions between the geosphere, hydrosphere, atmosphere, and biosphere. In this course we investigate the changing nature of the Earth; its composition, architecture, and antiquity; the internal and external processes that shape it through time; cycles of energy and matter; the development of life and impact of human activity; and both local environmental issues and global change.

**GEOL 1130. Introduction to Environmental Science.** (; 4 cr. ; A-F or Audit; Every Spring)

Earth's physical and biological systems and human interaction with the environment. Climate, rocks, soils, ecosystems, human population, land use, energy use and its consequences, environmental policy, air and water pollution, and conservation issues.

**GEOL 1610. Oceanography.** (SUSTAIN,NAT SCI; 3 cr. ; A-F or Audit; Every Fall)

Origin and history of ocean basins, sea floor morphology, chemistry of sea water, currents, waves, tides, life in the sea, primary productivity, nutrient dynamics, human impact. prereq: Credit will not be granted if already received for 2610.

**GEOL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**GEOL 2010. Surface Processes.** (4 cr. [max 8 cr.] ; A-F or Audit; Every Fall)

Study of earth surface processes emphasizing the origin and evolution of the earth's surface;

response of the physical environment to anthropogenic perturbations, climate change, and tectonic events; and application of physical, chemical, and mathematical principles to the study and interpretation of the environment. Surface processes will be explored through field and lab exercises designed to give the student hands-on experience in environmental characterization and monitoring. pre-req: GEOL 1110 or 1610 or GEOG 1414, MATH 1250 or 1290 or 1296 or 1596, CHEM 1153 or 1173 or instructor consent

**GEOL 2110. Earth History.** (; 4 cr. ; A-F or Audit; Every Spring)

What is it that makes Earth habitable? What makes earth's climate stable over geologic time? In this class, we will examine energy sources to earth's surface and the processes that change them over geologic time. We will do this within a framework of mass balance ? comparing inputs to outputs at varying scales, investigating the evolution of climate, life and tectonics through time. Our goal is to identify, investigate, characterize, and assess the principal processes that shape earth's surface environment from 4.54 billion years ago to present. To accomplish this aim, we will learn how geoscientists read Earth's history, and what tools they use to do so. prereq: 1110 or 1130 or 1610 or Ast 1040 or Geog 1414 or instructor consent

**GEOL 2120. The Earth's Dynamic Interior.** (; 3 cr. ; A-F or Audit; Every Spring)

Treatment of the origin, structure and internal composition of the Earth, synthesizing geological, chemical and physical knowledge bearing on the Earth's inaccessible interior. Emphasis is placed on dynamic processes at all depths in the Earth. prereq: 1110 or 1130 or 2110 or 1610 or Geog 1414

**GEOL 2311. Mineralogy.** (4 cr. ; A-F or Audit; Every Spring)

Systematic study of minerals and their relationship to rocks. Emphasis will be placed on introductory crystal chemistry, crystallography and physical properties; optical mineralogy, and identification of minerals in hand specimen, thin section, and by x-ray diffraction. (Course fee assessed.) prereq: GEOL 1110 or 2110 and CHEM 1173 or 1113 or 1153 or 1173 or instructor consent

**GEOL 2312. Petrology.** (; 5 cr. ; A-F or Audit; Every Fall)

Petrology of igneous, sedimentary and metamorphic rocks, including their occurrence, petrogenesis and tectonic setting. Emphasis on the relationships between mineral assemblages, rock textures, geochemistry, origins, and rock-forming processes. Course fees assessed. prereq: 2311

**GEOL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**GEOL 3000. Geologic Maps.** (; 3 cr. ; A-F or Audit; Every Spring)

Principles of reading and interpreting geological maps. Emphasis will be placed on interpreting and visualizing published geologic maps,

constructing geologic histories, and an introduction to the basic methods of making geologic maps in the field. prereq: 2312

**GEOL 3091. Independent Study.** (1-2 cr. [max 4 cr.] ; Student Option; Every Fall, Spring & Summer)  
Directed readings and projects on topics not normally covered in other courses. prereq: instructor consent

**GEOL 3095. Special Topics in Geology.** (; 1-3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Topics not covered in regular curriculum. Topic announced before course offer

**GEOL 3100. Earth's Climate and Environment: Past and Future.** (3 cr. ; A-F or Audit; Spring Even Year)  
Exploration of the processes that control Earth's climate and affect the environment on timescales of 100's of millions to 10's of years. Discussions will include how and why the dinosaur's environment was different from today's environment and concerns about future global warming. prereq: GEOL 1110 or 1130 or 1610 or GEOG 1414 and CHEM 1153 or 1173

**GEOL 3210. Geomorphology.** (4 cr. ; A-F or Audit; Every Fall)  
Study of Earth surface processes emphasizing the origin and evolution of landforms; response of the physical environment to climatic change and tectonic events, and application of physical, chemical, and mathematical principles to the study and interpretation of landforms. prereq: 1110 or 2110, Math 1250 or 1290 or 1296 or 1596 or instructor consent

**GEOL 3420. Sedimentology and Stratigraphy.** (4 cr. ; A-F or Audit; Every Fall)  
Introduction to the concepts, methods, and application of sedimentology and stratigraphy, including the description and interpretation of sediments and sedimentary rocks, their provenance, stratal packaging, and tectonostratigraphic setting. (Course fee assessed.) pre-req: GEOL 1110 or 1610 or GEOG 1414

**GEOL 3540. Geologic Field Methods.** (; 1 cr. ; A-F or Audit; Every Fall)  
Introduction to basic methods in geologic mapping and creation of geologic maps. All work done in the field during the first 6 weeks of fall semester. Course fees assessed.

**GEOL 3800. Principles of Geophysics.** (; 4 cr. ; A-F or Audit; Every Fall)  
An introduction to the geophysical concepts and techniques used by practicing geoscientists. prereq: GEOL 2120, MATH 1297, PHYS 1002 or 2015 or 2018

**GEOL 3900. Professional Geoscience Preparation.** (1 cr. ; S-N or Audit; Every Spring)  
This course focuses on preparation for a career as a professional geoscientist. Students prepare for the Fundamentals of Geology professional licensure (offered in March) and learn more about career opportunities for professional geologists pre-req: Advanced Standing in geological Sciences or minimum 90 credits; instructor consent

**GEOL 3996. Internship in Geological Sciences.** (1-2 cr. [max 4 cr.] ; S-N or Audit; Every Fall, Spring & Summer)  
Credit given for professional field work experience outside an academic department. Requires prior departmental approval and coordination with faculty sponsor. prereq: 2312, instructor consent

**GEOL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GEOL 4091. Geologic Problems and Research.** (1-2 cr. [max 4 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual research in lab or field problems. prereq: instructor consent, no grad credit

**GEOL 4095. Special Topics: (Various Titles to be Assigned).** (; 1-3 cr. [max 9 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)  
Topics not covered in regular curriculum. Topic announced before course offered.

**GEOL 4180. Teaching Assistant Experience.** (1-2 cr. [max 4 cr.] ; S-N only; Every Fall & Spring)  
Participation in teaching Geological Sciences lecture and lab courses, including preparation of material, instruction, and student interaction. prereq: Geol core, geological sciences major, instructor consent; max 2 cr can be applied toward geological sciences major; no grad credit

**GEOL 4201. Introduction to Watershed Hydrology.** (3 cr. ; A-F or Audit; Every Spring)  
This is an upper-division hydrology course covering the hydrologic cycle in the context of wildland watersheds. The course will cover the major components of the hydrologic cycle, including precipitation, snow hydrology, canopy interception, evapotranspiration, infiltration, soil water storage, runoff, streamflow and groundwater flow. The impacts of watershed management on water quantity and quality will be discussed using regional, national, and global examples, with an emphasis on solving real-world problems using hydrologic datasets. This course includes a 2-hour lab that meets once per week. pre-req: MATH 1290 or MATH 1296, no credit granted if already received for ESCI or GEOL 5201

**GEOL 4220. Advances in Paleoclimatology.** (3 cr. ; A-F or Audit; Spring Odd Year)  
Exploration of the processes that control Earth's climate/environment over that last 100 million years with a focus on the last ice age, ~24,000 years ago, to present. Assessment of climate proxy records in glacial ice, tree rings, corals, and ocean and lake sediment through hands-on analysis of datasets. Investigation of the influence on climate of external processes such as changes in Earth's orbit and volcanic eruptions as well as internal feedbacks (e.g. El Niño). Analysis of human impacts and projections of future global/regional climate change. pre-req: GEOL 2110, CHEM 1153 or 1173, MATH 1290 or 1296; no grad credit

**GEOL 4311. Igneous Petrogenesis.** (3 cr. ; A-F or Audit; Fall Odd Year)  
This course will investigate igneous processes including formation, differentiation, and

crystallization of magmas. Thermodynamics of phase equilibria between silicate melts, minerals, and magmatic fluids will be emphasized. pre-req: GEOL 2312, MATH 1297; credit will not be granted if already received for GEOL 5311; no grad credit

**GEOL 4355. Economic Geology.** (4 cr. ; A-F or Audit; Fall Odd Year)  
Geologic description, distribution, and genesis of economic mineral deposits; processes leading to their formation; relationship to plate tectonics; exploration techniques and criteria for finding new deposits. Course fees assessed. prereq: 2312 or grad student or instructor consent; credit will not be granted if already received for 4350 or 5350

**GEOL 4356. Ore Deposits and Economic Geology.** (3 cr. ; A-F or Audit; Every Spring)  
Geologic description, distribution, and genesis of economic mineral deposits; physical processes leading to deposit formation; relationship of mineral deposits to plate tectonics; exploration techniques and criteria for finding new deposits. pre-req: GEOL 2312 or instructor consent; credit will not be granted if already received for GEOL 4350, 4355, 5350 or 5355; no grad credit

**GEOL 4360. Geologic, Geophysical, and Geochemical Methods of Exploration.** (4 cr. ; A-F or Audit; Spring Odd Year)  
Team-taught course will introduce various geologic, geophysical, and geochemical exploration methods used to locate and evaluate the economic viability of metallic ore bodies in a variety of geologic settings. In labs, students will develop skills in ore microscopy, drill core logging, and geophysical field methods. Case studies will be used to highlight various exploration methods and ore deposit types. prereq: 4350, Math 1290 or 1296 or instructor consent; no grad credit

**GEOL 4400. Astrogeology.** (3 cr. ; A-F or Audit; Every Spring)  
In this astrogeology course we will explore the formation and evolution of celestial bodies in our solar system such as planets and their moons, asteroids, comets, and meteoroids. Topics will include determining internal structure of planetary bodies, dynamical processes, how to read the surface record (geology) of various bodies and leverage that record to understand internal processes and planet evolution, and comparative planetology with the goal to understand first-order cause and effect of planetary dynamics. prereq: (PHYS 1002 or 2015 and 2016) or (GEOL 2120 or 2312), minimum 60 credits, Geological Sciences or Physics majors or graduate student or instructor consent.

**GEOL 4450. Structural Geology.** (5 cr. ; A-F or Audit; Every Fall)  
Introduction to brittle and ductile deformation, including joints, faults, shear zones, and folds; deformation mechanisms; elementary stress and strain theory. Labs include geometric, structural, and kinematic analysis, and a group project. Course fee assessed. prereq: 2312 or instructor consent; credit will not be granted if already received for 3520

**GEOL 4500. Field Geology.** (6 cr. ; A-F or Audit; Every Summer)

Geological mapping of sedimentary, igneous, and metamorphic terranes and of Quaternary deposits and landforms; topographic maps and aerial photographs, including preparation of geologic maps and cross sections, and map unit descriptions. prereq: 4450, department consent; no grad credit

**GEOL 4550. Tectonic Geomorphology.** (3 cr. ; A-F or Audit; Spring Odd Year)

Consideration of how tectonics interacts with climate to sculpt the landscapes of mountains belts. Conceptual and quantitative modeling of landscape evolution to gain insights into the controls on elevation and relief of orogens. Analysis of topographic data sets to identify the statistical properties of landscapes and identify the signatures of feedback between surface processes and tectonics. prereq: GEOL 2010 or 3210 or 3420 or Grad student or instructor consent

**GEOL 4600. Digital capstone in applied geoscience I.** (3 cr. ; A-F or Audit; Summer Odd Year)

This project-based geoscience capstone course uses remote and digital data to develop skills used to solve applied geoscience problems including conducting geologic site assessment, mapping bedrock and Quaternary deposits, developing geologic cross-sections, and synthesizing observations to interpret geologic histories. pre-req: GEOL 4450 and GEOL 3420 or 2110, no grad credit

**GEOL 4610. Digital capstone in applied geoscience II.** (3 cr. ; A-F or Audit; Summer Odd Year)

This project-based geoscience capstone course uses remote and digital data to develop skills used to solve applied geoscience problems including conducting geologic site assessments, mapping Quaternary deposits, developing hazard maps, and synthesizing observations to interpret geologic histories. The course covers introductory level GIS and remote sensing through geologic applications. pre-req: GEOL 3420 or 2110 and GEOL 3210 or ESCI 2010, no grad credit

**GEOL 4710. Geochemistry.** (4 cr. ; A-F or Audit; Fall Even Year)

What geochemical processes occur at the intersection of the biosphere, lithosphere, and hydrosphere? How did earth's surface geochemistry change over geologic time and how can we tell? In this course, we will investigate questions that relate to the co-evolution of life and Earth through a geochemical lens. Overall, the course will divide into two parts: (1) the geochemical structure of Earth from the core to the surface; and (2) practical applications for geochemistry and geochemical techniques. Discussion will begin with an overview the discipline of geochemistry, which will serve as a framework to interpret the geochemical evolution and structure of the internal and external components of Earth. Following this portion, we will examine modern advances of analytical techniques and applications in geochemistry. prereq: Math 1290 or Math 1297

or MATH 1297 and Chem 1153 or Chem 1173 or grad student or instructor consent; credit will not be granted if already received for 5711

**GEOL 4800. Principles of Geophysics.** (4 cr. ; A-F or Audit; Every Fall)

An introduction to the geophysical concepts and techniques used by practicing geoscientists Course fee assessed. pre-req: GEOL 2120, MATH 1297 and (PHYS 1002 or 2015) credit will not be accepted if received for both GEOL 3800 and GEOL 4800

**GEOL 4839. Coral Reef Geology.** (GLOBAL PER; 3 cr. ; A-F or Audit; Spring Odd Year)

Field study on San Salvador, Bahamas focusing on the biological and geological studies of the coral reef complex and associated habitats of the Caribbean. We will examine the ecology and taxonomy of associated biota as well as the physical, chemical and sedimentary processes in coral reef environments. prereq: BIOL 1011 and 1012 or GEOL 1110 or IBS Grad student

**GEOL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GEOL 5091. Geologic Problems.** (1-2 cr. [max 4 cr.]; Student Option; Every Fall, Spring & Summer)

Individual research in lab or field problems. prereq: Graduate Student or instructor consent

**GEOL 5095. Special Topics: (Various Titles to be Assigned).** (1-3 cr. [max 12 cr.]; A-F or Audit; Every Fall & Spring)

Topics not covered in regular curriculum. Topic announced before course offered.

**GEOL 5100. Seminar.** (1-2 cr. [max 4 cr.]; Student Option; Periodic Fall & Spring)

Oral and written presentation on topics of current significance to geoscientists. Participation by department staff. prereq: instructor consent

**GEOL 5103. Geological Paleolimnology.** (3 cr. ; A-F or Audit; Fall Even Year)

Geological aspects of freshwater systems: origins, tectonic and climatic settings of lakes, geophysical mapping, physical sedimentary processes, sedimentary geochemistry, and geochronology. Particular focus on paleolimnology, the analysis of lake sediment to reconstruct past climate and environment prereq: MATH 1296 or 1596, PHYS 1002 or 2015 or 2018, CHEM 1155 or 1175 or grad student

**GEOL 5201. Introduction to Watershed Hydrology.** (3 cr. ; A-F or Audit; Every Spring)

This course provides an introduction to the hydrologic cycle and water processes in the context of wildland watersheds. The course will cover the major components of the hydrologic cycle, including precipitation, canopy interception, evapotranspiration, infiltration, soil water storage, runoff, streamflow, and groundwater flow. The impacts of watershed management on water quantity and quality will be discussed using regional, national, and global examples, with an emphasis on solving real-world problems using hydrologic datasets. pre-req: CHEM 1153, MATH 1290 or 1296, or

grad student, no credit is already received for ESCI or GEOL 4201

**GEOL 5210. Glacial and Quaternary Geology.** (4 cr. ; A-F or Audit; Spring Even Year)

Physics of glacier flow, processes of erosion and deposition, survey of glacial landforms, history and chronology of glaciation. Survey of geological and biological responses to changing environment resulting from climatic fluctuations during last three million years of Earth history. Field studies on the glacial deposits of Minnesota. (2 hrs lect, 2 hrs field lab) prereq: GEOL 1110 or 1610 or GEOG 1414 and PHYS 1001 or 2013 or 2017 and MATH 1290 or 1286; or instructor consent; credit will not be granted if already received for 4210

**GEOL 5220. Advances in Paleoclimatology.** (3 cr. ; A-F or Audit; Spring Odd Year)

Analysis of past global change from climate proxy records in glacial ice, tree rings, ocean and lake sediments, ocean corals. Impact of ocean and atmospheric circulation on global climate; climate cycles; El Nino; human impact on global climate. Offered alternate years. prereq: instructor consent

**GEOL 5240. Physical Hydrogeology.** (4 cr. ; A-F or Audit; Spring Even Year)

Introduction to concepts of fluid movement in Earth's crust and the interaction of rocks and water. Introduction to the hydrologic cycle, theory of flow through porous media, crustal-scale flow systems, role of fluids in the plate tectonic cycle. prereq: 2110, Phys 2011 or 2013 and 2014, Math 1296 or Math 1290 or grad student or instructor consent; credit will not be granted if already received for 4240

**GEOL 5250. Hydrogeology.** (4 cr. ; A-F or Audit; Every Fall)

A quantitative introduction to hydrogeology and aquifer mechanics with emphasis on environmental applications, including, unsaturated flow, interaction between surface water and groundwater, wellhead protection, well hydraulics, inverse methods, and solute transport. Offered alternate years. prereq: Math 1296 or Math 1290 and (Phys 2011 or 2013 and 2014) or grad student or instructor consent; credit will not be granted if already received for 4250

**GEOL 5251. Well Hydraulics.** (3 cr. ; A-F or Audit; Spring Odd Year)

Hydraulics of groundwater flow to wells: equations of flow; analysis of steady and non-steady radial flow; aquifer response to stress; analysis of monitoring well networks, pumping tests, and single-point aquifer performance tests. prereq: PHYS 1001 or 2013 or 2017 and MATH 1290 or 1296 or instructor consent or grad student

**GEOL 5260. Fluvial Geomorphology.** (4 cr. ; A-F or Audit; Fall Even Year)

Focuses on the physical processes operating in stream channels and watersheds including watershed-scale hydrology and topography in GIS; reach-scale fluid mechanics and sediment transport; and channel patterns, forms, and classification systems. Other topics included

will be river history, human alterations to rivers, and river restoration efforts. prereq: GEOL 2010 or 3210 or 3420 and MATH 1290 or 1296 and PHYS 1001 or 2013 or 2017 or graduate student

**GEOL 5310. Advanced Petrology.** (; 3 cr. ; A-F or Audit; Fall Odd Year)

Physico-chemical principles applied to origin of igneous and metamorphic rocks. Phase equilibria in important mineral systems. Lab study and interpretation of igneous and metamorphic rocks using petrographic microscope. (2 hrs lect, 2 hrs lab) prereq: 2312 or grad student

**GEOL 5311. Igneous Petrogenesis.** (3 cr. ; A-F or Audit; Fall Odd Year)

This course will investigate igneous processes including formation, differentiation, and crystallization of magmas. Thermodynamics of phase equilibria between silicate melts, minerals, and magmatic fluids will be emphasized. pre-req: GEOL 2312, MATH 1297; credit will not be granted if already received for GEOL 4311

**GEOL 5321. Theory, Practice of Scanning Electron Microscopy and X-Ray Microanalysis in Lectures.** (; 3 cr. ; A-F or Audit; Every Spring)

Presents the basic physics of scanning electron microscopy, including electron beam generation, image formation, signal detection, and beam-sample interactions. Basic sample preparation methods for scanning electron microscopy will be presented and demonstrated in laboratory sessions. How characteristic x-rays are produced in a sample and how they are measured and quantified will also be presented. Use of the SEM to collect data and instruction on how to organize collected data in a logical manner. prereq: Minimum 75 credits, Chem 1155 or 1175, Phys 1002 or 2015 and 2018, or Grad student or instructor consent

**GEOL 5355. Economic Geology.** (4 cr. ; A-F or Audit; Fall Odd Year)

Geologic description, distribution, and genesis of economic mineral deposits; processes leading to their formation; relationship to plate tectonics; exploration techniques and criteria for finding new deposits. Course fees assessed. prereq: 3326, 3150 or graduate student or instructor consent

**GEOL 5356. Ore Deposits and Economic Geology.** (3 cr. ; A-F or Audit; Summer Even Year)

Geologic description, distribution, and genesis of economic mineral deposits; physical processes leading to deposit formation; relationship of mineral deposits to plate tectonics; exploration techniques and criteria for finding new deposits. pre-req: Graduate student or instructor consent; credit will not be granted if already received for GEOL 4350, 4355, 5350, or 5355.

**GEOL 5360. Geologic, Geophysical, and Geochemical Methods of Exploration.** (4 cr. ; A-F or Audit; Spring Odd Year)

Team-taught course will introduce various geologic, geophysical, and geochemical

exploration methods used to locate and evaluate the economic viability of metallic ore bodies in a variety of geologic settings. In labs, students will develop skills in ore microscopy, drill core logging, and geophysical field methods. Case studies will be used to highlight various exploration methods and ore deposit types. prereq: 4350 or 5350, (Math 1290 or 1296) or grad student or instructor consent; credit will not be granted if already received for 4360.

**GEOL 5400. Astrogeology.** (3 cr. ; A-F or Audit; Every Spring)

In this astrogeology course we will explore the formation and evolution of celestial bodies in our solar system such as planets and their moons, asteroids, comets, and meteorites. Topics will include determining internal structure of planetary bodies, dynamical processes, how to read the surface record (geology) of various bodies and leverage that record to understand internal processes and planet evolution, and comparative planetology with the goal to understand first-order cause and effect of planetary dynamics. pre-req: Minimum 60 credits and Astronomy minor or Geology major or minor or Physics major or minor or graduate student or instructor consent

**GEOL 5480. Tectonics.** (3 cr. ; A-F or Audit; Spring Even Year)

Ancient and active plate-tectonic processes. Topics include tectonic theory, plate motions, evolution of divergent, convergent and transform margins, anatomy of orogenic belts, and neotectonics. Examines tectonic phenomena in the context of geological, geophysical and surficial processes. Offered alternate years. prereq: 2120, 4450, or grad student or instructor consent; credit will not be granted if already received for 4480

**GEOL 5601. Introduction to Stream Restoration.** (3 cr. ; A-F or Audit; Fall Even Year)

This course provides an interdisciplinary overview of the background science essential to participate in a stream restoration project. Students will learn how to assimilate geologic hydrologic, and ecological data at the watershed and research scales to plan a restoration project and evaluate/critique existing stream restoration projects. prereq: Math 1290 or 1296 or 1596, PHYS 1001 or 2013 or 2017, minimum 60 credits or graduate student or instructor consent

**GEOL 5603. Stream Crossing Design.** (2 cr. ; A-F or Audit; Fall Odd Year)

Overview of road-stream crossing design with emphasis on stream simulation for aquatic organism passage. Includes field data collection, analysis, and design of road-stream crossings. Meets concurrently with CE 5203. CE 5203 includes additional work on traditional culvert hydraulics and design. pre-req: GEOL 3210 or 3420 or 5260 or 5601 or BIOL 5833 or CE 3225 and instructor consent

**GEOL 5711. Geochemistry.** (4 cr. ; A-F or Audit; Spring Odd Year)

What geochemical processes occur at the intersection of the biosphere, lithosphere,

and hydrosphere? How did earth's surface geochemistry change over geologic time and how can we tell? In this course, we will investigate questions that relate to the co-evolution of life and Earth through a geochemical lens. Overall, the course will divide into two parts: (1) the geochemical structure of Earth from the core to the surface; and (2) practical applications for geochemistry and geochemical techniques. Discussion will begin with an overview the discipline of geochemistry, which will serve as a framework to interpret the geochemical evolution and structure of the internal and external components of Earth. Following this portion, we will examine modern advances of analytical techniques and applications in geochemistry. Prereq: Math 1290 or MATH 1296 or Math 1297 and Chem 1153 or CHEM 1173 or grad student or instructor consent.

**GEOL 5730. Geochronology.** (; 3 cr. ; A-F or Audit; Spring Odd Year)

Covers both radiometric and non-radiometric methods of dating primarily Earth but also solar-system materials (meteorites). The chronometers discussed will cover a range of timescales, from early solar-system history to recent human-influenced history. Offered alternate years. prereq: 2311, one year of college chemistry or grad student

**GEOL 5815. Exploration Geophysics.** (4 cr. ; A-F or Audit; Fall Odd Year)

Review of principle geophysical techniques used in the exploration industries. Emphasizes the application of these techniques for solving near-surface problems. Includes review of case histories and group projects. prereq: 1110, Math 1297 or grad student or instructor consent; credit will not be granted if already received for 4805 or 4815

**GEOL 5820. Global Geophysics.** (3 cr. ; A-F or Audit; Fall Even Year)

Build upon material presented in 2120, exploring the contribution of geophysics to our understanding of the Earth and the processes that control its appearance and behavior. Offered alternate years. prereq: 2120, Math 1290 or 1296 or grad student, instructor consent; credit will not be granted if already received for 4820

**GEOL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## German (GER)

**GER 1101. Beginning German I.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Fall)

Communicative course for students with little or no previous study of German. Cultivation of the four modalities of language acquisition (speaking, listening, reading, writing). Development of intercultural competency. Taught primarily in German. prereq: Little or no prior formal study of this language, or instructor consent

**GER 1102. Beginning German II.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Spring)



Communicative course for students with limited previous study of German. Cultivation of the four modalities of language acquisition (speaking, listening, reading, writing). Development of intercultural competency. Taught primarily in German. prereq: 1-2 years high school German or 1101 or instructor consent

**GER 1201. Intermediate German I.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Fall)  
Consolidation and enrichment of previously acquired abilities in four modalities (speaking, listening, reading, writing), set within contemporary culture of German-speaking societies. Further development of intercultural competency. Taught in German. prereq: 3-4 years high school German or 1102 or instructor consent

**GER 1202. Intermediate German II.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Spring)  
Consolidation and enrichment of previously acquired abilities in four modalities (speaking, listening, reading, writing), set within contemporary culture of German-speaking societies. Further development of intercultural competency. Taught in German. prereq: 4 years high school German or 1201 or instructor consent

**GER 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## German (GERM)

**GERM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## German (GER)

**GER 2040. Berlin: Myth, Legend and Reality.** (HUMANITIES; 3 cr. ; A-F or Audit; Periodic Spring & Summer)  
Analysis of Berlin from the turn of the 20th century to today, through films, music, texts and essays. The importance of Berlin in German and European historical, political and social developments. Taught in English.

**GER 2315. German Cinema: A Visual Excursion into Modern Culture and History.** (FINE ARTS; 4 cr. ; A-F or Audit; Every Summer)  
Introduction to important films produced by German, Austrian and Swiss filmmakers and the art of film analysis, and to the relationship between film, society and culture. Taught in English.

**GER 2402. Germany Today.** (HUMANITIES; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Survey of culture, politics, and society of Germany and German-speaking countries, beginning with post World War II era and emphasizing the European Union's emergence and Germany's role in contemporary Eastern Europe. Taught in English.

**GER 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

## German (GERM)

**GERM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## German (GER)

**GER 3040. German Culture in Germany - Study Abroad.** (GLOBAL PER; 4 cr. ; A-F only; Periodic Summer)  
Study of German culture, both contemporary and past as it informs the present, on site in Germany. Conducted entirely in German, and all language skills will be inculcated and improved. Format will include seminar, discussions, field trips, and small group projects. pre-req: instructor consent & completion of GER 1202 or higher; also visit the UMD Study Abroad office

**GER 3302. Advanced Composition and Conversation.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Spring)  
Refines students' skills in oral and written expression within cultural context. Further emphasis on formal oral and aural communication skills: vocabulary building; enhancement of reading skills; advanced grammar. prereq: 1202 or 2301 with grade of C or higher or instructor consent

**GER 3401. Texts and Contexts in German Speaking World.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Techniques and tools for understanding and writing about German poetry, fiction, and drama both as literary texts and as cultural testimony. Emphasis on class discussion and writing. Taught in German. prereq: 1202 or 2301 with grade of C or higher or instructor consent

**GER 3403. Page and Stage: German Theater and Performance.** (FINE ARTS; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to basic theories of drama and performance, survey of major German dramatists and current stage practices in Germany. Emphasis on class discussion and interpretive reading in German, with critical essays in German. Taught in German. prereq: 1202 or 2301 with a grade of C or higher or instructor consent

**GER 3407. Sustainability in German-speaking Cultures.** (SUSTAIN; 4 cr. ; A-F or Audit; Periodic Fall)  
This course offers the opportunity to learn about the discourses and cultures of sustainability in German-speaking countries. In this course you will be able to study several examples of successful sustainable development. Successful development in German-speaking countries has been possible due to several factors, including the coordination of economic strategies, grass roots community-based support, and dexterity in governmental organization. While the conditions of these successes are still being studied, this course engages students

by exploring lessons learned from German-speaking countries and their approaches to sustainability. The answers to the questions we ask in this course will contribute to the discourse on sustainable development for years to come. You will also have the opportunity to familiarize yourself with relevant vocabulary and communication strategies, learn how policymaking in German-speaking countries balances the interests of several stakeholders, and reflect on the larger cultural background of valuable sustainable practices. (Taught in German.) pre-req: 1202 or 2301 with a grade of C or higher or instructor consent

**GER 3591. Independent Study.** (1-4 cr. [max 8 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Students develop and carry out reading and research programs in consultation with the instructor. prereq: instructor consent

**GER 3601. German Studies I: Knights to Nationalisms.** (HUMANITIES; 4 cr. ; A-F or Audit; Fall Odd Year)  
Introduces students to Germanic history, culture and literature from third century until 1848. Taught in German. prereq: 1202 or 2301 with a grade of C or instructor consent

**GER 3602. German Studies II: From the Rise of the Reich to the Fall of the Wall.** (HUMANITIES; 4 cr. ; A-F or Audit; Spring Odd Year)  
Introduces students to the methods of German Studies, as well as to Germanic history, culture, and literature from the mid-19th to the 21st century. Topics may include: Germany as a nation state; National Socialist rise to power; the Weimar Republic; body culture; exile(s) and exile literature; the city as metropolis; womens movements and women's rights; mass culture; the industrial revolution; education and education reforms; (N)Ostalgia, Wendeliteratur; terrorism; the establishment and influence of green party politics. Taught in German. pre-req: 1202 or 2301 with a grade of C or higher or instructor consent.(HUMANITIES)

**GER 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## German (GERM)

**GERM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## German (GER)

**GER 4095. Special Topics: (various titles to be assigned).** ( ; 4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)  
Various topics in the language history and structure, literature, and culture of the German-speaking countries. prereq: GER 1202 or 2301 with a grade of C or higher or instructor consent

**GER 4302. German Women Writers and Filmmakers.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Analysis of German written and visual texts and exploration of women's oppression within repressive political systems as well as Western democracies; women's exploration of their selves; and the question of whether there is a "female writing". Conducted in German. prereq: 1202 or 2301 or instructor consent; no grad credit

**GER 4305. German Cinema.** (HUMANITIES; 4 cr. ; A-F or Audit; Every Fall & Spring)  
An introduction to the history of German cinema and to film analysis with a focus on the relationship among German film, history, literature, culture, and politics. The course will examine representative works from various cinematic periods. Taught in German. prereq: 1202 or 2301 with a grade of C or higher or instructor consent; no grad credit

**GER 4404. Contemporary Germany.** (GLOBAL PER,HUMANITIES; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Civilization, culture, and politics of Germany and German-speaking countries since 1945. Research term paper in German. prereq: 1202 or 2301 with a grade of C or higher or equivalent or instructor consent; no grad credit

**GER 4406. Through Other Lenses: Germanophone Literature & Film.** (4 cr. ; A-F or Audit; Periodic Spring)  
Historical events of the twentieth century have contributed greatly to development of multicultural, multi-ethnic societies within the German-speaking world. The literary and cinematic productions of minorities provide a powerful commentary not only on the experience of migration, but also on politics, issues of gender, and identity formation. This course focuses on a wide range of seminal and fascinating texts (novels, short stories, poems, essays, articles, films) that pose essential questions for understanding what it means to be a minority in the Germanophone world. prereq: GER 2301 or 1202 with a grade of C or higher, or consent of instructor; no grad credit

**GER 4502. German Modernisms: From Vienna to Berlin.** (HUMANITIES; 4 cr. ; A-F only; Fall Even Year)  
Focuses on the literature and culture of the two major centers in German modernisms: fin de siècle Vienna and Weimar Berlin. Both cities were the site of intellectual and aesthetic upheavals that challenged traditional notions of the subject, representation, class, gender, and technology. Examines major thinkers, writers, artists, and movements in German speaking areas between 1890 and 1933. Taught in German. prereq: 1202 or 2301 with a grade of C or higher or instructor consent; no grad credit

**GER 4591. Independent Study.** (1-4 cr. [max 8 cr.]; A-F or Audit; Periodic Fall)  
Students develop and carry out reading and research programs in consultation with the instructor. prereq: instructor consent

**GER 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## German (GERM)

**GERM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## German (GER)

**GER 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## German (GERM)

**GERM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Graduate Summer Research (GRD)

**GRD 4999. Graduate Summer Research.** (; 0 cr. ; No Grade Associated; Every Summer)  
Graduate Summer Research

## Greek (GRK)

**GRK 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GRK 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GRK 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GRK 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**GRK 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## HEA (HEA)

**HEA 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HEA 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HEA 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HEA 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HEA 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## HIT (HIT)

**HIT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HIT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HIT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HIT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HIT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## HPE (HPE)

**HPE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HPE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HPE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HPE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HPE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## HS (HS)

**HS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## HSIT (HSIT)

**HSIT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HSIT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HSIT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HSIT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HSIT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HST (HST)**

**HST 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HST 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HST 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HST 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HST 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HTLH (HTLH)**

**HTLH 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HTLH 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HTLH 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HTLH 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HTLH 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HU (HU)**

**HU 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HU 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HU 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HU 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HU 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HUN (HUN)**

**HUN 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HUN 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HUN 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

Non Direct Equivalent

**HUN 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HUN 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Health (HLTH)**

**HLTH 1100. Health and Wellness Strategies for Life.** (SUSTAIN; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

This course is designed to help students create and sustain wellbeing throughout their lives. By understanding how environmental, biological, socio-economic, and social influences affect their health, students can be empowered to make positive behavioral changes that benefit themselves and society. The dimensions of wellness serve as the foundation for making sustainable choices related to nutrition, fitness, mental/emotional wellbeing, and other areas of personal health. The importance of goal setting and social support will be emphasized through an individualized health behavior project.

**HLTH 1104. Health Science Terminology.** (; 3 cr. [max 9 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Introduces students to terms commonly used in health sciences and medical professions. Latin word roots are emphasized. Allows students to develop understanding of vocabulary appropriate to professions requiring backgrounds in biology, human anatomy, and physiology.

**HLTH 1470. Human Nutrition.** (NAT SCI; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Emphasis on chemical nature of dietary nutrients, physiological and metabolic aspects of human nutrition, effects of diet on human health, interpretation of nutrition informatics, and global issues in health and nutrition.

**HLTH 1600. Basic First Aid and CPR.** (; 2 cr. ; A-F or Audit; Every Fall & Spring)  
Basic skills and knowledge to respond correctly in first aid emergencies. Leads to American Red Cross Certification basic first aid and CPR certification.

**HLTH 1650. CPR/AED for the Professional Rescuer.** (; 1 cr. ; A-F or Audit; Every Fall & Spring)  
Techniques of cardiopulmonary resuscitation involving one and two rescuers. Leads to American Red Cross certification for infant/child/adult CPR and AED.

**HLTH 1700. First Responder.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Principles of emergency response and accident prevention in the home and community. Addresses the intersection of biology and life sciences with health promotion/protection. Leads to the American Red Cross Emergency Response certification.

**HLTH 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HLTH 2030. Human Anatomy and Physiology I with lab.** (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Human anatomy and physiology are studied together using a body systems approach, with emphasis on the interrelationships between form and function at the gross and microscopic levels of organization. Homeostasis is an integrating theme throughout this course. Subjects considered include fundamental concepts and principles of cell physiology, histology, and the integumentary, skeletal, muscular, nervous systems. This course is intended for anyone interested in gaining a better understanding of the anatomy and functioning of the human body. Lab components mirror course subjects. pre-req: BIOL 1001 or 1011 or 1170 and CHEM 1103 or 1113 or 1153

**HLTH 2040. Human Anatomy and Physiology II with lab.** (; 4 cr. ; A-F or Audit; Every Spring)

HLTH 2040 builds on HLTH 2030. Anatomy and physiology will be studied together using a body systems approach, with emphasis on the interrelationships between form and function at the gross and microscopic levels of organization. Subjects considered include digestive, endocrine, nervous, and circulatory systems. Lab components mirror course subjects. pre-req: HLTH 2030

**HLTH 2200. Research and Evaluation in Health Science.** (; 3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Introduction to basic research methods for undertaking research and program evaluation within public health settings. Addresses research methodologies, needs assessment and evaluation processes, methods of data collection, ethical issues in research, and the importance of evidence-based approaches for addressing population health challenges. prereq: Public Health or Pre-Public Health or Public Health minor or instructor consent; credit will not be granted if already received for HPER 3200 or HLTH 3200

**HLTH 2900. Professional Preparation in Public Health.** (; 3 cr. ; A-F or Audit; Every Fall)

This course prepares public health students with a range of professional skills that will help them plan for success in academic, professional, and graduate education arenas. Students will explore internship and employment resources, graduate education options, public health certifications, leadership roles, and community engagement opportunities. Students will develop skills expected in professional settings, such as documentation of professional standards, identifying and connecting with mentors, networking, resume building, and applying for and interviewing for jobs and graduate school. pre-req: minimum 30 credits, Public Health or Pre-Public Health major with Community Health Education/Promotion Concentration, or instructor consent

**HLTH 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HLTH 3000. Program Administration in Public Health.** (; 3 cr. [max 6 cr.] ; A-F or Audit; Every Spring)  
Organizational, administrative, and leadership theories pertaining to public health settings. Includes employer/employee communication, conflict management, risk management, grant writing, legal/ethical dimensions of program administration, and basic review of federal and state healthcare policies. Public Health or Pre-Public Health or Exercise Science or Physical Education or Environmental and Outdoor Education major, or Public Health minor, or instructor consent; credit will not be granted if already received for HPER 3000

**HLTH 3101. Community Health.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Emphasis on health determinants across the lifespan and their impact upon well-being and disease in communities and populations. Topics include public health history, health and the healthcare system in the U.S., health disparities, and disease prevention/control. Exploration of community-based organizations involved in health promotion efforts to address mental health, alcohol/drug abuse, environmental health and safety, and other issues affecting our communities. prereq: Minimum 30 credits, HLTH 1100

**HLTH 3115. Consumer Health Education.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Concepts of marketing, analysis, selection, and decision-making regarding healthcare products, services, and providers. Prepares students to understand health policies, laws, ethics, and economics that influence healthcare systems at the state, national, and international levels prereq: Minimum 30 credits

**HLTH 3116. Principles of Epidemiology and Human Disease.** (; 3 cr. ; A-F or Audit; Periodic Spring)  
Concepts, principles, and methods involved in epidemiology research and practice. Addresses socio-economic, behavioral, and biological determinants of population health. Covers disease transmission, surveillance, outbreak investigation, outbreak prevention, and epidemiological study design. prereq: Minimum 30 credits

**HLTH 3117. Principles of Sex Education.** (3 cr. ; A-F or Audit; Every Spring)  
Planning and implementing comprehensive sex education programs in various settings. Sexual physiology, sociocultural aspects of sexuality, birth control, prevention of STDs/HIV, teen pregnancy, and other current topics. How community and family values affect sex education. prereq: minimum 30 credits

**HLTH 3118. Women's Health Issues.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Survey of American women's health issues. Role of women as patients and as health care providers. Language, politics, and economics of women's health care. Comparison of American women's health status to that of women around the world. prereq: Minimum 30 credits

**HLTH 3119. Arts in Public and Community Health.** (3 cr. ; A-F or Audit; Fall Odd Year)

Arts in health is a discipline dedicated to using the power of the arts to enhance health and well-being in diverse institutional and community contexts. Students will learn about the different categories of the arts and how they are used nationally and internationally to impact wellbeing. An overview of the arts and health discipline, historical development, ethics, common theories, settings of practice, professional organizations, career opportunities, current research, and professional trends are also discussed. Additionally, students will learn about the evidence that arts-based engagement has on improving well-being within preventive health and health promotion, as well as the management and treatment of acute and chronic conditions. prereq: HLTH 2100, FA LEP requirement met

**HLTH 3202. Drug Education.** (; 2 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Physiological and psychological effects of alcohol, tobacco, and other drugs. Survey of societal causes and effects of drug use and abuse. Reasons and pressures for drug use by students. Appraisal and assessment of teacher's role in education, intervention, and treatment of drug abuse. Minimum 30 credits, for students seeking and admitted to the STEP (Secondary Teaching Education program), Public Health or Pre-Public Health or Physical Education or Exercise Science or Communication Sciences and Disorders major, or Public Health minor, or instructor consent.

**HLTH 3300. Public Health Communication.** (; 4 cr. ; A-F or Audit; Every Fall)  
Health communication strategies to address population health challenges. Planning effective social marketing and health education/promotion interventions using electronic technologies, social media, and mass media tools. prereq: HLTH 3101, HLTH 3301, Public Health or Pre-Public Health major with Community Health Education/Promotion concentration, or instructor consent

**HLTH 3301. Foundations of Public Health.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Concepts, philosophies, values, and history of public health and health education. Provides an introduction to public health and health education careers, organizations, certifications, and research literature. Emphasizes skills and competencies needed by public health and health education professionals. Ethical issues and professional trends are discussed. prereq: HLTH 1100, Public Health or Pre-Public Health major, or Public Health minor, or instructor consent

**HLTH 3302. School Health Education Methods and Materials.** (3 cr. ; A-F or Audit; Every Spring)  
Coordinated school health programming with a focus on comprehensive school health education for grades 5-12. Methods, strategies, and materials for effective teaching. Determining student's needs and interest, selecting content, planning curriculum, stating objective, developing learning opportunities, and evaluating student learning. prereq: 3301, Health Education or Public Health Education

and Promotion major with school concentration or instructor consent

**HLTH 3303. Planning Community Health Interventions.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Assessment, planning, implementation, and evaluation of interventions related to the societal functions of public health, including human disease and health promotion/protection. Covers public health concepts/values, professional/technical writing, and evidence-based models for behavior change. prereq: HLTH 3101, HLTH 3301, Public Health or Pre-Public Health major with Community Health Education/Promotion concentration, or Public Health minor, or instructor consent

**HLTH 3305. Community Health Methods.** (; 4 cr. ; A-F or Audit; Every Spring)  
Theory, methods and practice of community health education/promotion. Includes identification and prioritization of community health challenges with emphasis on assessment, planning, implementation, and evaluation of strategies to address behavioral factors. prereq: HLTH 3101, HLTH 3300, HLTH 3301, HLTH 3303, Public Health major with Community Health Education/Promotion concentration or instructor consent

**HLTH 3307. Conducting and Managing Worksite Health Promotion Programs.** (; 3 cr. ; A-F or Audit; Every Spring)  
How to design, implement, and evaluate worksite and employee health promotion programs. Exploration of current theories and practical application. Focus on employee needs assessment and risk appraisal, worksite health culture development, effective intervention planning, program evaluation and financial cost and benefits. prereq: minimum 45 credits

**HLTH 3341. Encountering Death and Grief: A Cross-Cultural Journey.** (CDIVERSITY; 3 cr. ; A-F or Audit; Periodic Spring)  
Grief, loss, death, dying, and bereavement in our society as understood by children, adolescents, and adults. Review of research and current literature; education program planning strategies for individuals associated with schools, agencies, organizations, or worksites. prereq: credit will not be granted if already received for 5341

**HLTH 3400. Facilitating Healthy Lifestyle Change.** (; 3 cr. ; A-F or Audit; Every Spring)  
Facilitation skills in health behavior change for individuals or small groups. Emphasis on theories and principles of behavior change, health coaching ethics/strategies, interpersonal skills, treatment planning, professional and technical writing, and HIPAA-compliant records management. Includes assessing, planning, implementing and evaluating behavior change processes. prereq: HLTH 1470, HLTH 3101, HLTH 3301, Public Health or Pre-Public Health major with Community Health Education/Promotion concentration, or Public Health minor, or instructor consent

**HLTH 3500. Environmental Health.** (; 3 cr. ; A-F or Audit; Every Fall)  
Biological, ecological, and physiological aspects of the environment; concurrent effects

on health of the community; examination of environmental health policies; and possible solutions to environmental problems. prereq: Minimum 45 credits, Public Health or Pre-Public Health major, or Public Health minor, or instructor consent

**HLTH 3991. Independent Study.** (1-6 cr. ; A-F or Audit; Every Fall & Spring)  
Opportunity for upper-division students to undertake an independent project that would serve to further their knowledge base and/or professional competencies. prereq: instructor consent

**HLTH 3992. Readings in Health.** (1-4 cr. ; A-F or Audit; Every Fall & Spring)  
Special complementary work and investigation in undergraduate student's field of interest; survey of literature and resources available to health educators. prereq: instructor consent

**HLTH 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HLTH 4100. Historical Perspectives of Community Health Through Culture & Art in Italy.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Summer)  
Investigating the foundations of public and community health using primary historical sites in the area now unified as Italy. Analyze the impact of social and cultural factors on community health from early civilizations through the Renaissance, with emphasis of effects of the Black Death. Examine the role of arts used to convene health information for non-literate populations. Relate to aspects of preventative health care and promoting healthy communities in the present. prereq: minimum 30 credits and instructor consent; no grad credit

**HLTH 4105. Obesity: Causes and Intervention.** (3 cr. ; A-F or Audit; Every Spring)  
Obesity is a common, serious and costly health risk in the US, making it the focus of many public health programs. This course reviews the etiology of obesity and explores the behavioral, social and political aspects of obesity interventions. The associated health risks of obesity will be examined especially the impacts of these on children and youth. Special emphasis is placed on community, school and work place interventions. prereq: 1470, minimum 60 credits or instructor consent; no grad credit

**HLTH 4120. Holistic Health and Healing.** (; 3 cr. ; A-F or Audit; Periodic Spring & Summer)  
Engage with the newest research while exploring the oldest healing traditions from around the globe Discover self-care, practitioner-based therapies, and natural healing systems that promote a whole person approach for health, healing, wellbeing, and stress reduction. Learn about the effectiveness and risks of these holistic health practices. Study the history, growth, and incorporation of holistic health and integrative medicine into U.S. and international healthcare systems. Explore your own personal healthcare decisions, and discuss current

health issues from an evidence-based holistic health promotion perspective. This course is occasionally provided as a study abroad option. pre-req: minimum 30 credits if offered as standard course, when offered as study abroad, consent if required through IPS

**HLTH 4400. Professional Health Coaching.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
This course allows students to hone their health coaching skills learned in HLTH 3400 Facilitating Healthy Lifestyle Change. Through individual or small group sessions, students will provide weekly health coaching to a variety of clients (e.g. students, working adults, aging adults, and/or community members) who have a range of health goals and ability levels. Students will develop leadership and management skills as they collaborate as a coaching team, manage appointments, maintain professional records, and evaluate the effectiveness of health coaching interventions. For students who want to pursue a career in health coaching, this course may be taken twice in order to gain added experience. pre-req: HLTH 1100, 3400, instructor consent

**HLTH 4700. Global Health.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
This course addresses global health topics, such as disease burdens, healthcare, nutrition, health inequalities, human rights, indigenous health, maternal/child health, and sustainability. It also examines goals, programs, and policies designed to improve the health of the global community. pre-req: HLTH 1100 and minimum 60 credits; no grad credit

**HLTH 4710. Grant Development and Writing in the Social Sciences.** (; 3 cr. ; A-F or Audit; Periodic Fall & Summer)  
The course is focused on grant writing for the social sciences, including identification of appropriate granting mechanisms and requests for proposals (federal, state, private, corporate, not-for-profit opportunities); development of goals, specific aims, measurements, and research designs for grant proposals; and practical matters within grant writing, including budgets, how to identify and work with a community partner, and plans for dissemination of results. Students will leave the course with a fully developed grant proposal. Prerequisites: Minimum 60 credits and one of the following research courses: HLTH 3200, ENED 3400, EXSC 4700, PSY 2020, PSY 3021, SW 4102, SOC 2155, SOC 3156, WS 3156, ES 4612; or with instructor consent; no grad credit

**HLTH 4996. Internship in Health Education.** (1-15 cr. ; S-N or Audit; Every Fall, Spring & Summer)  
Supervised entry-level health education practical experience in hospital, worksite, voluntary, or official agencies. Number of settings is limited to two. prereq: HLTH 3305, HLTH 4000, Public Health major with Community Health Education/Promotion concentration or instructor consent

**HLTH 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HLTH 5100. Historical Perspectives of Community Health Through Culture & Art in Italy.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Summer)

Investigating the foundations of public and community health using primary historical sites in the area now unified as Italy. Analyze the impact of social and cultural factors on community health from early civilizations through the Renaissance, with emphasis of effects of the Black Death. Examine the role of arts used to convene health information for non-literate populations. Relate to aspects of preventative health care and promoting healthy communities in the present. prereq: minimum 30 credits and instructor consent

**HLTH 5991. Independent Study.** (1-6 cr. ; A-F or Audit; Every Fall & Spring)  
Directed independent study, readings, research, or projects in a particular area of interest. Degree program plan and project proposal should be approved before course is taken by graduate students. prereq: instructor consent, non-degree seeking or grad student; maximum of 6 credits can be applied toward degree

**HLTH 5992. Readings in Health.** (1-4 cr. ; A-F or Audit; Every Fall & Spring)  
Special complementary readings and discussion in advanced or graduate student's field of interest in health and health education. prereq: instructor consent

**HLTH 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Health Care Management (HCM)

**HCM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HCM 2005. Introduction to U.S. Health Care.** (SOC SCI; 3 cr. ; A-F or Audit; Every Spring)  
Introduction to U.S. Health Care provides an overview of the organizations and processes that comprise the U.S. health care system, including historical perspectives, health insurance, patients and consumer advocacy and engagement, and health care delivery organizations. The emphasis is on a broad overview of the system as a whole and the functions of the parts within that system, particularly with respect to the consumer's view. Credit cannot be applied to the HCM major or minor.

**HCM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HCM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HCM 4510. Medical Sociology.** (3 cr. ; A-F only; Every Fall)  
Introduction to common theoretical and empirical approaches used by sociologists to study health and illness. Social inequalities in health and illness and the social processes that shape these experiences are the themes of the

course. prereq: LSBE candidate or Health Care Management minor or college consent, no grad credit

**HCM 4515. Long Term Care Policy and Management.** (3 cr. ; A-F or Audit; Every Spring)

Overview of current management issues in long term healthcare. Includes aging simulation, payment trends, insurance standards, HR, risk management, etc. pre-req: LSBE candidacy, HCM 4520

**HCM 4520. Health Care Organization and Management.** (3 cr. ; A-F only; Every Fall & Spring)

Studies the organizational structures, types of governance and management issues of the American health care system. prereq: LSBE candidate or approved Health Care Management minor or college consent, MgtS 3401 preferred but not required, no grad credit

**HCM 4530. Legal Aspects of and Ethics in Health Care.** (3 cr. ; A-F only; Every Fall & Spring)

Introduction to the legal and ethical environment of health services administration and offers a current and historical overview of legal regulation of the health care industry. prereq: LSBE candidate or approved Health Care Management minor or college consent, no grad credit

**HCM 4541. Principles of Health Policy.** (; 1-3 cr. ; A-F or Audit; Periodic Spring)

Introduces policy analysis tools and strategies. Analyzes health policy and health legislation in the United States. Provides historical and political context for health policy formation. Experiential component at St. Paul Capital during spring break or May summer session. pre-req: LSBE Candidate or approved HCM minor, HCM 4520 instructor consent

**HCM 4550. Health Care Finance.** (3 cr. ; A-F only; Fall Odd Year)

Covers finance issues related to healthcare organizations. Topics include: reimbursement analysis, understanding the nature of costs, uncertainty, forecasting, service line profitability analysis, and preparation of operating and capital budgets. prereq: 4520, FMIS 3601, LSBE candidate or approved Health Care Management minor or college consent, no grad credit

**HCM 4560. International Comparisons of Health Care Systems.** (3 cr. ; A-F only; Every Spring)

Explores various health care systems offered around the world by evaluating their characteristics, issues and reforms. prereq: LSBE candidate or approved Health Care Management minor or college consent, no grad credit

**HCM 4570. Health Care Quality Management.** (3 cr. ; A-F only; Every Fall & Spring)

Covers basic principles of quality and patient safety measurement and improvement in health care. Methods for measuring health outcomes and satisfaction as well as regulatory and accreditation requirements affecting quality

of care in hospitals, nursing homes, and other areas of healthcare will be discussed. prereq: 4520, LSBE candidate or approved Health Care Management minor or college consent; no grad credit

**HCM 4580. Health Services Data and Analysis.** (3 cr. ; A-F or Audit; Every Fall)

Introduction to the types, use, and analysis of data in health services delivery and research. This includes electronic health record, claims, and patient satisfaction data, as well as publicly available data sets. Topics include data organization, data sources available in the health services, conceptualizing analysis, sampling, data validity and reliability, qualitative and quantitative data analysis, applying research results, and communicating findings. prereq: 4520 or instructor consent, no grad credit

**HCM 4591. Independent Study.** (1-3 cr. ; A-F only; Every Fall, Spring & Summer)

Special work in health care management that extends beyond or in greater depth than regular course offerings. prereq: LSBE candidate, instructor consent, no grad credit

**HCM 4595. Special Topics: (Various Titles to be Assigned).** (; 1-3 cr. [max 9 cr.] ; A-F only; Every Spring)

Specific health care management problems, issues, and approaches. prereq: LSBE candidate or department consent, 4520 or instructor consent, no grad credit

**HCM 4597. Internship.** (1-6 cr. ; A-F only; Every Fall, Spring & Summer)

Work-integrated learning program providing practical experiences within students major. Students participate in approved program within cooperating business, governmental agencies, or civic organizations. There are minimum hours based upon the credits you select for the course; 1 credit = 100 hour minimum; 2 credits = 150 hours minimum; 3 credits = 200 hour minimum. The course also requires completion of internship contract, assignments, and performance evaluations. For LSBE majors that allow for only three (or fewer) credit hours of internship in the major curriculum, students will be allowed to count the remaining internship credits in the Upper Division Supporting Courses category. Maximum credits: 6; 3 completions allowed. prereq: LSBE candidate, prior major coursework and consent of internship director; no grad credit

**HCM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**HCM 5530. Legal Aspects of and Ethics in Health Care.** (; 3 cr. ; A-F or Audit; Every Fall)

Introduction to the legal and ethical environment of health services administration and offers a current and historical overview of legal regulation of the health care industry. prereq: MBA student or department consent

**HCM 5550. Health Care Finance.** (3 cr. ; A-F or Audit; Spring Odd Year)

Covers finance issues related to healthcare organizations. Topics include: reimbursement

analysis, understanding the nature of costs, uncertainty, forecasting, service line profitability analysis, and preparation of operating and capital budgets. pre-req: HCM 4520, FIN 3601, MBA student or department consent

**HCM 5560. International Comparisons of Health Care Systems.** (3 cr. ; A-F or Audit; Every Spring)

Explores various health care systems offered around the world by evaluating their characteristics, issues and reforms. pre-req: 4+1 student, MBA student, department consent

**HCM 5570. Health Care Quality Management.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Covers basic principles of quality and patient safety measurement and improvement in health care. Methods for measuring health outcomes and satisfaction as well as regulatory and accreditation requirements affecting quality of care in hospitals, nursing homes, and other areas of healthcare will be discussed. pre-req: HCM 4520, MBA student or department consent

**HCM 5580. Health Services Data and Analysis.** (3 cr. ; A-F or Audit; Every Fall)

Introduction to the types, use, and analysis of data in health services delivery and research. This includes electronic health record, claims, and patient satisfaction data, as well as publicly available data sets. Topics include data organization, data sources available in the health services, conceptualizing analysis, sampling, data validity and reliability, qualitative and quantitative data analysis, applying research results, and communicating findings. pre-req: HCM 4520, MBA student or department consent

**HCM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

## Health, Physical Educ and Rec (HPER)

**HPER 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**HPER 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**HPER 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**HPER 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**HPER 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

## History (HIST)

**HIST 1027. Introduction to Islam.**

(HUMANITIES; 4 cr. ; A-F or Audit; Every Summer)

This course is an introduction to Islam delivered fully online through MOODLE. It starts with the history of the pre-Islamic Middle East, the life of the Prophet Muhammad; and the emergence of Islam. It follows the survey of the Qur'an and Traditions; the tenets of the faith, sectarian differences; gender and the family, and Islam's encounter with the Occident.

**HIST 1200. World History to 1500: From Antiquity to the Age of Exploration.**

(GLOBAL PER,HUMANITIES; 4 cr. ; A-F or Audit; Every Fall & Summer)

This course surveys world history from the emergence and development of isolated settlements to the earliest trans-oceanic interactions in the sixteenth century. It will also introduce students to the various sources and analytic techniques historians use to reconstruct the pre-modern past. Major themes include the social, political, religious, and economic ramifications of intercultural exchange and conflict in the ancient and medieval periods.

**HIST 1207. Dawn of Modern Europe.**

(HUMANITIES; 4 cr. ; A-F or Audit; Every Fall & Spring)

Early history of the modern era: Renaissance, Reformation, Age of Reason, French Revolution and its impact, Napoleonic era.

**HIST 1208. Europe in the Modern Age.**

(HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Over the course of the past two centuries, the map of Europe has undergone several dramatic transformations. Empires disappeared off the map while new types of states and regimes were created. The forces of industrialization, imperialism, and nationalism brought about dramatic political, economic, social and cultural changes. At the same time, Europe extended its reach over other parts of the world. In this course, we will study the developments that have shaped European history in this period in order to better understand how we arrived at where we are today. In doing so, we will consider the many meanings of "modernity" and the impact it has had on contemporary culture.

**HIST 1304. US History Part I: 1607-1877.**

(HUMANITIES; 4 cr. ; A-F or Audit; Every Fall & Spring)

Evolution of the United States from colonial origins into a modern nation. Frontier and agrarian heritage, constitutional development, emergence of modern U.S. political system, expansion of democracy, and cultural diversity. Colonial period to 1877.

**HIST 1305. US History Part II: 1865-Present.**

(HUMANITIES; 4 cr. ; A-F or Audit; Every Fall & Spring)

Historical roots of major challenges facing Americans today: global responsibility as a world power; the quest for political, economic, and social justice; and community and family changes in modern society; 1877 to present.

**HIST 1310. Minnesota History.** ( ; 4 cr. ; A-F or Audit; Every Spring)

This course examines Minnesota's history from the pre-historic and Native American periods through European discovery and American settlement to the present. Topics include: geographic aspects of Minnesota; Native American groups in Minnesota; European exploration and the fur trade; initial American settlement; statehood; the Dakota conflict; the Civil War; the connection between Minnesotans and the natural environment; the Progressive Era and the 1920's; the Depression and World War II; and the state's economic, cultural, and political history since 1945.

**HIST 1400. Modern World History from 1500 to present.** (HUMANITIES,GLOBAL PER; 4 cr. ; A-F or Audit; Fall Odd, Summer Even Year)

This course surveys the evolution of the world from relatively isolated regions around 1500 to the global interdependence whose trends continues to the present day. This course will examine the emergence of the interdependence among major civilizations, especially between the West and the East. This latest interaction was initiated by the European colonizations and sustained by the contributions of other civilizations. Major themes of the course include the social, cultural, political, economic, demographic, and environmental ramifications of the global interaction.

**HIST 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HIST 2095. Special Topics in History (Various Titles to be Assigned).** ( ; 4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Special Topics in History to be assigned.

**HIST 2315. Colonial Latin America.** ( ; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

This course examines the history of colonial Spanish and Portuguese America from the pre-contact civilization of the Americas to independence in the early 19th century. Specific topics that will be studied include the pre-contact native societies, the wars of conquest; the ecological, cultural and economic effects of contact among Europeans, Africans, and indigenous inhabitants of the Americas; the role of missionaries the birth of syncretic religious systems (such as Condo, Voodoo, and Santeria); colonial political structures; and labor systems including slavery.

**HIST 2345. Science and Society: 1500 to Present.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Spring)

Explores a series of creative moments in development of science and scientific methods within their broader social and cultural contexts. prereq: credit will not be granted if already received for HIST 2245

**HIST 2350. Hunting and Gathering and the History of American Health.**

(HUMANITIES,SUSTAIN; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

This course is unique in its joint appeal to students of history and student of biology, as well students from other related fields in

the humanities and the sciences. Students will be exposed to cutting-edge research linking the study of early American history, American Indian history, the history of American ecology, modern nutritional science, and the development of immunity to disease. Students will be required to understand the ways in which published scientific data and research can inform historical case studies of the encounter between colonial Americans, American Indians, and European from the fifteenth century to the twentieth century and vice versa. Students will be introduced to contemporary debates on the relationship between nutritional science and human immunity, using the to understand the history of colonial American and American Indian health, farming, hunting, and ecology following European contact. These histories, in turn, will illuminate their reading of scientific papers and research.

**HIST 2405. History of Chinese Culture.** ( ; 4 cr. ; A-F or Audit; Periodic Fall & Summer)

This course examines the history of Chinese culture from the beginning of Chinese civilization, ca. 16th century BCE to the Republican period (1912 - 1949). Through a perspective of history, the course seeks to provide students with some basic knowledge of major Chinese cultures in a variety of fields, from philosophy, law, calligraphy, civil examination to gender, architect, art, medicine, and marital arts. It also intends to teach students the origin, development, and end of certain cultures or practices in the course of China's long history and their impacts on neighboring countries such as Korea, Japan, and Vietnam.

**HIST 2410. Modern China, Japan, Korea, Vietnam and East Asia.** ( ; 4 cr. ; A-F or Audit; Periodic Fall & Summer)

This course is an introductory study to the history of major East Asian countries such as China, Japan, and Korea. It intends to examine the political, cultural, legal, diplomatic, religious, military history in this region and the interactions among themselves. But, in the modern period, with the heavy influence of the West, the history of East Asia is no longer restricted in East Asia, it has become an integral part of the world history. Therefore, the course seeks to explore the western influence on East Asia and East Asian countries; responses to the West.

**HIST 2515. Ancient to Pre-Modern African History.** (HUMANITIES; 4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall)

This course considers African peoples and states from Ancient times through the Pre-Modern era. The unique geography, vast history, varied political, and dynamic social life of Africa will be examined. We will discuss the importance of understanding Africa, and the important contributions the study of Africa has made to our knowledge of the world in which we live. We will give particular attention to how and why states form, were sustained and reproduced. In addition to considering the birth of humanity, we will look at state formation processes of ancient and pre-modern



African states such as Nubia, Ancient Egypt, Ancient Ghana, the Empire of Mali, Songhai, Great Zimbabwe and the Swahili city-states. What makes these states states? What are the social needs of developments that give rise to political activities such as providing security, adjudicating disputes, creating laws and enforcing order? Are there identifiable patterns of relations with other peoples and states?

**HIST 2700. Ascetics, Mystics, and Yogis: Travel, Learning and the Spiritual Quest.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)  
The course introduces the history of travel and cultural exchange between ascetics and mystics from west Asia, and Africa, and yogis of south Asia in their common search for spiritual transformation. Because a physical as well as cognitive component was inherent to the spiritual quest, this course, which historicizes asceticism, mysticism, and yoga of the pre-modern period, includes a movement component [led by instructor]. The goal is to help make the mind-body connection as theorized and documented by seekers of a variety of Asian and African spiritually inclined movements. In the closing weeks of the course, students will explore modern western adaptations of pre-modern practices and ideas in political, social and economic context.

**HIST 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HIST 3035. Ancient Warfare From Alexander to Mohammad.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Warfare as the unifying theme in the social and cultural analysis of the impact Alexander the Great had on eastern Mediterranean development between 323 B.C. and 631 A.D. Alexander and his world, the formation of its three great religions, and the Alexandrian legacy of his achievement. prereq: Credit will not be granted if already received for HIST 3335 or HMC1 3335.

**HIST 3038. History of Christianity: Origins to 1054.** (; 4 cr. ; A-F or Audit; Periodic Spring)  
Examination of the historical (social, cultural, intellectual, and political) development of the Christian religion from the first century to the schism of 1054, with particular consideration of Eastern Christianity. recommended prereq: 1207

**HIST 3055. The Bible & Ancient Near East.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)  
History of Ancient Near East from birth of civilization in Egypt and Mesopotamia (c. 3100 B.C.) to arrival of Alexander (330 B.C.). Review of the ancient cultures of Egypt, Babylonia, Assyria, the Hittites, Persia, Syria, and Palestine. prereq: Minimum 30 credits; credit will not be granted if already received for HmCI 3055 or CSt 3055

**HIST 3091. Independent Study.** (1-4 cr. [max 8 cr.] ; A-F only; Periodic Fall, Spring & Summer)  
Advanced study and research under supervision of a faculty member. Students must consult with a faculty member prior to

registration with that faculty member. prereq: instructor consent repeatable: allow up to 2 repetitions totalling up to 8 credits

**HIST 3095. Special Topics: (Various Titles to be Assigned).** (; 3 cr. [max 15 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)  
Special topics in history.

**HIST 3096. Fieldwork in Public History.** (4 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
This course will introduce students to the methods used in Public History. Public History is defined as the interaction of the non-academic public and the fields of Museum Studies, Historic Preservation, Cultural Resource Management, Heritage Tourism, and Popular History. The focus of the project to be completed will change each time the course is offered. Example of projects to be completed during the course are: Interpretive Plan for a historic district, historic survey of a neighborhood, archival research, artifact cataloging and analysis at a local museum, pedestrian survey of a historic site, archaeological excavation/evaluation of a historic site, feasibility study for a local museum, and designing an interpretive display for a historic resource. pre-req: department consent

**HIST 3097. Internship in History.** (1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Supervised opportunity to pursue local or regional history under auspices of local museums, historical societies, commemorative commissions. Written and oral presentation of completed project. prereq: 60 credits, instructor consent

**HIST 3099. Practicum in Teaching History.** (3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall & Spring)  
Assisting in teaching a 1xxx- or 2xxx-level history course; experience preparing course materials, advising students in learning about the grading process; experience in lecturing and leading discussions, conferences with professor about teaching issues. prereq: History major, completion of 20 credits of 2xxx and above history courses with GPS of 3.3, completion of 90 credits, instructor consent

**HIST 3133. Ancient Greece from Homer to Alexander.** (; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Early history of Greek world from Heroic Age to death of Alexander the Great, 850-323 B.C. prereq: Credit will not be granted if already received for HIST 3333 or HmCI 3333

**HIST 3141. Ancient Rome: From Republic to Empire.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Outlines a four century period in which ancient Rome was an empire beginning after the Second Punic War of 201 B.C. Republican Rome struggled with external possessions and the wealth this provided for the ruling elite in their effort to dominate the state. The failed reform movement of the Gracchi brothers guaranteed that a polarized society would continue. This led to the Roman Revolution and

the establishment of the imperial dynasties, the first of which was created by Julius Caesar and his successors and Julio-Claudians. The Pax Romana was a direct outcome of the seizure of power by Julius Caesar and for the next two full centuries Rome governed a world that was larger than the continental United States. The signs of mismanagement, social stagnation, and military pressure at the end of the 2nd century A.D. in the reign of the philosopher-king Marcus Aurelius eventually led to a crisis that was both political as well as economic. prereq: Credit will not be granted if already received for HmCI 3041 or HIST 3041

**HIST 3145. Ireland and the Construction of History.** (; 4 cr. ; A-F or Audit; Periodic Spring & Summer)

This course approaches the question of the history of Ireland by examining how history itself is written. Since its founding as an independent nation-state only a century ago, the Republic of Ireland has experienced an explosion of historical narratives, both official and unofficial. Each narrative has a distinct agenda, or "constructed image," of Ireland which its proponents believe is essential for the identity, or the self-awareness, of the new state. Students will examine Irish historiography by focusing on the presentation of three ears common to Irish historical writing: 1) The Prehistoric/"Dreamtime," 2) Early Christian/Medieval, and 3) Modern/Revolution. By examining books, articles, images, and museum displays the students will critically evaluate the construction of various Irish identities over the past century, and they will also evaluate the academic and popular criticism of these narratives which call for different approaches.

**HIST 3195. Special Topics European History (various titles to be assigned).** (; 4 cr. [max 16 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)  
Topics on any period or area in the history of Europe not included in the regular curriculum.

**HIST 3243. Europe in Crisis in the 20th Century.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

This course focuses on the turbulent history of Europe in the 20th century, particularly the causes, development, and consequences of the First and Second World Wars. It will explore the world wars as global phenomena and consider the ways in which these events have shaped contemporary geopolitics and the international world order. The course will address the political, military, cultural, economic and social transformations that characterized this period and influence our society today.

**HIST 3244. Holocaust & Genocide in Europe in the 20th Century.** (; 4 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

The murder of six million Jews as well as hundreds of thousands of other innocent civilians by the Nazi regime during World War II remains one of the most horrific massacres in human history. This course will examine the circumstances and causes that led to the Holocaust, the mechanisms through

which the genocide was carried out, and the consequences and responses to the Holocaust. We will consider the perspectives of victims, bystanders, perpetrators, collaborators and resisters, as well as the meanings of these categories themselves. Moreover, this course frames the Holocaust within the broader history of ethnic cleansing and genocide, posing important questions about modernity and threats faced by minority populations in our world today.

**HIST 3250. Women, Peace and War.**

(GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Feminist analysis of war and peace; debates regarding the gendered nature of war and peace; analysis of the interrelationships of patriarchy, masculinity, and militarism. Women's role in warfare as soldiers, mothers, wives, munitions makers, etc. and effects of war on women including disease, displacement, rape, trafficking and prostitution, etc. Feminism and peace: Feminist peace activism and peacemaking efforts. prereq: WS 1000 or WS 2101 or WS 3750 or WS 3775 or instructor

**HIST 3264. Russian Empire under the Tsars: Russia under the Romanovs from Peter the Great to Lenin.** (GLOBAL PER; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

The Romanov dynasty reigned in Russia for over 300 years and, despite the Romanovs' dramatic fall from power in the wake of the Revolution of 1917, was, by many criteria, one of the most successful dynasties in European history. This course will examine the economic, cultural, political and social transformations of the Russia Empire during the epoch of the Romanovs from the 17th to the early 20th centuries. We will study the accomplishments of the dominating political figures of the period, such as Peter the Great and Catherine the Great, as well as the experiences of the diverse populations who lived across the wide expanse of the empire. In doing so, we will gain insight into the causes of the downfall of the imperial regime in 1917.

**HIST 3265. The Soviet Experiment: Russia, the USSR, and Contemporary Russia.**

(GLOBAL PER; 4 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

This course will cover the economic, political, social and cultural changes within the Russian empire, the Soviet Union, and the Russian Federation over the course of the 20th century and into the 21st. Topics to be covered include the Russo-Japanese War, the revolutions of 1905 and 1917, Russian Civil War, Russia's industrialization and collectivization of land, Stalinism, the Great Patriotic War, the cold War, late Soviet culture, the collapse of the Soviet Union and Russian under Yeltsin and Putin. Throughout the semester, students will be working with a variety of primary and secondary sources in different media (textual materials, visual sources, and film). Thorough written and oral assignment, student will develop their critical reading, writing and speaking skills. Credit will not be granted if already received for HIST 2265 or 2365.

**HIST 3310. The American Revolution.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

This course studies the social and political values, ideas, and experiences of colonial and revolutionary America that underlay the eventual formation of the US Constitution. Particular attention is given to the different ways in which American settlers from varying social and ideological contexts reconceived their own past history/histories.

**HIST 3313. Global Surf Culture - Study Abroad.** (GLOBAL PER; 4 cr. ; A-F only; Periodic Summer)

Taught abroad. Surfing is one of the world's most popular cultural phenomena. Students will explore the intersections of surfing, war, and tourism, addressing how a pastime commonly associated with mindless pleasure has in fact been implicated in some of the major global developments of the last two-hundred years. These include empire-building and the "civilizing mission" in nineteenth- and early-twentieth-century Hawaii's, modernization and economic development in the so-called Third World, the growth of international tourism following the Second World War, political mass movements and the anti-apartheid struggle, American foreign relations and Cold War cultural diplomacy, and the surf industry and corporate globalization. As a class taught in another country, the course will also cover the history of U.S. foreign policy in that region. And it has an experiential component: to develop an appreciation for the subject and for why millions of people have planned their lives around the sport, students will learn to surf. The course will thus combine academic instruction with outdoor education. pre-req: instructor consent, ability to swim; admission to an approved study abroad program requires consent from the International Programs and Services Office

**HIST 3315. Ideas of God in Early America.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Examines the history of religion, in all its forms, during the period of Colonial America and the American Revolution. Special attention is given to the role of religion in the social and political changes of the colonies.

**HIST 3318. Slavery, Lincoln and the Civil War.** (CDIVERSITY; 4 cr. ; A-F or Audit; Every Fall & Spring)

Examines the Civil War and its causes, slavery, and the career of Abraham Lincoln.

**HIST 3320. American Popular Culture, 1929 to the Present.** (; 4 cr. ; A-F or Audit; Every Fall)

Examines the intersection of the American popular arts--especially film, music, the visual arts, and literature--with national and international politics and American public life from the Great Depression to the present.

**HIST 3355. War and American Society, 1500-Present.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

This course seeks to cultivate students' understanding of the military history of the United States, exploring the development and influence of the "American way of war" in the broader context of American history,

"American" history began with the invasion by Europeans five centuries ago and has continued to be shaped by war and the preparation for war ever since. This course is intended to assist students in gaining knowledge of important people, events and trends in American military history, and to develop the tools to critically assess and discuss that history.

**HIST 3386. The United States and the World since 1898.** (; 4 cr. ; A-F or Audit; Every Fall)

Examines United States foreign relations--political, economic, social, and cultural--since 1898. prereq: students will receive credit if 3384 (only) or 3385 (only) were taken; credit will not be granted if already received for 3384 and 3385.

**HIST 3395. Special Topics The Americas (various titles to be assigned).** (; 4 cr. [max 16 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Topics on any period or area in the history of The Americas not included in the regular curriculum.

**HIST 3396. The Vietnam War.** (; 4 cr. ; A-F only; Every Spring)

Examines the Vietnam war as a transformative event in both the United States and Vietnam. It will cover the decades-long history of the conflict, and will address its legacies in U.S. foreign relations, domestic politics and culture, and Vietnamese life.

**HIST 3463. History of Modern China.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

This course examines Chinese history from the early 1300s, late Yuan dynasty through the early 20th century. The focus of the course will be the Ming dynasty and the Qing dynasty with a particular attention on the Chinese political, legal, social, cultural, and diplomatic history in both dynasties. It intends to teach students the various factors that gradually influenced the historical course of China since middle 1300s and the important roles that the West and Japan played in shaping modern China. Ming and Qing dynasties have many things in common, albeit the Ming was founded by a Han peasant and the Qing was created by a Manchu noble.

**HIST 3465. Twentieth Century China**

**Politics.** (; 4 cr. ; A-F or Audit; Every Spring)

Examines Chinese history from the late Qing to the present with a particular attention on the Chinese political, legal, social, and diplomatic history. Teaches the various factors that gradually influenced the historical course of China, the important roles that the West and Japan played in shaping modern China, the causes and consequences of the numerous political movements in the early stage of the People's Republic of China, and China's recent massive reform efforts to prosperity.

**HIST 3495. Special Topics East Asian History (Various Titles to be Assigned).** (; 4 cr. [max 16 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Topics on any period or area in the history of East Asia not included in the regular curriculum.

**HIST 3496. International Field Work.**

(GLOBAL PER; 4 cr. ; A-F or Audit; Every Summer)

This course will introduce students to the methods used in Public History in an international setting. Public History is defined as the interaction of the non-academic public and the fields of Museum Studies, Historic Preservation, Cultural Resource Management, Heritage Tourism, and Popular History. Examples of projects to be completed during the course are: Interpretive Plan for a historic district, historic survey of a neighborhood, archival research, artifact cataloging and analysis at a local museum, pedestrian survey of a historic site, archaeological excavation/evaluation of a historic site, feasibility study for a local museum, and designing an interpretive display for a historic resource. pre-req: Admission to an approved study abroad program requires consent from the International Programs and Services Office.

**HIST 3497. International Internship.**

(GLOBAL PER; 3 cr. [max 9 cr.] ; A-F or Audit; Every Fall, Spring &amp; Summer)

Supervised opportunity to pursue public history under auspices of museums, historical societies, commemorative commissions. Written and oral presentation of completed project. The internship will be conducted at an international location. pre-req: minimum 60 credits, department consent

**HIST 3505. Colloquium for Majors.** ( ; 1 cr. ; S-N only; Every Fall & Spring)

Lecture and discussion groups on a variety of topics. prereq: History or teaching social studies major/minor, instructor consent

**HIST 3525. Introduction to Historic Preservation.** ( ; 4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall & Spring)

This class examines the history and theory of historic preservation, focusing on the United States, but with reference to traditions and practices in other countries. The class is designed to examine the largely untold history of the historic preservation movement in this country, and explore how laws, public policies and cultural attitudes shape how we preserve or do not preserve the built environment. The class will give students a grounding in the history, theory and practice of historic preservation.

**HIST 3535. Material Culture: from Object to History.** ( ; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

The course will investigate both the methods by which material culture can be harnessed for historical and social analysis and the significant genres or avenues of inquiry undertaken by scholars working with material culture sources. Students will gain familiarity with the most significant literature in material culture studies, major trends in material culture historiography, and the leading figures that have given the field its shape and direction.

**HIST 3550. Africa and Her Early American Diaspora.** ( ; 4 cr. ; A-F or Audit; Periodic Fall)

This course will examine the civilizations and people of Africa and her Diaspora in the

Americas generally, and people of African descent in the United States in particular. This course begins with continental Africa from prehistoric times. We will look at state formation processes of ancient and pre-modern Africa states such as Ancient Egypt and Ethiopia, Ancient Ghana, Mali, Songhai. The course will continue to examine the tragedy of the Atlantic Slave Trade and the emergence of Africa's Diaspora throughout the Americas, and consider the tremendous contributions of people of African Descent in early American History, while considering the dynamics leading up to the American Civil War.

**HIST 3575. Jews & Poles: Entangled Lives, Cultures and Memories in the 20th Century Poland - Study Abroad.** (GLOBAL PER; 4 cr. ; A-F only; Periodic Summer)

Study abroad in Poland. This course focuses on the history, experience and memory of Jewish life in Poland. One of the focuses of the course will be the experience of discrimination and the history of the Holocaust in Poland. However, the course will also examine the ways in which both Poles and Jews contributed to and engaged in a rich cultural, social and economic life in communities across the region and, in some cases, continued to do so today. The course will consider the history and legacies of the co-existence, interdependence, entangle between Poles, Jews, and other minority populations in this diverse geographic space. We will also explore the contentious contemporary debates over the politics of commemoration of Holocaust sites and Jewish life in Poland today. Pre-req: minimum 30 credits, instructor consent; admission to an approved study abroad program requires consent from the International Programs and Services Office

**HIST 3580. Eastern Europe during the Holocaust: A Virtual Experience.** ( ; 4 cr. ; A-F or Audit; Summer Odd Year)

This course will introduce students to the history and memory of the Holocaust in Eastern Europe. Students will explore Jewish life in Hungary, Romania and Poland (including what is now Ukraine, Lithuania and Belarus) during the interwar period and the changes wrought by Nazi occupation. It will also consider the ways in which narratives about the Holocaust have been crafted across Eastern Europe in the decades since. This course emphasizes international engagement through virtual tours, story mapping, and guest lectures. pre-req: minimum 30 credits

**HIST 3615. Modern Africa.** ( ; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Africa, 1800 to present. Colonial conquest and domination, African resistance, nationalism, and problems of independence. prereq: credit will not be granted if already received for HIST 3515

**HIST 3616. Society and Culture in 20th-Century Africa.** ( ; 4 cr. ; A-F or Audit; Periodic Spring)

Generational, class, and gender conflicts in the wake of European occupation, impact of colonial and neocolonial domination, and African responses to that occupation and to the

world economy in the 20th century; selected films and literary sources. prereq: credit will not be granted if already received for HIST 3516

**HIST 3695. Special Topics African History (various titles to be assigned).** ( ; 4 cr. [max 16 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Topics on any period or area in the history of African history not included in the regular curriculum.

**HIST 3720. History of Iran.** ( ; 4 cr. ; A-F or Audit; Periodic Spring)

This course covers 1,200 years of Iranian history, politics and culture. Because Iran has exerted a substantial influence on world history, this course will provide an overview of that history and culture from the Arab Conquests (c. 641) to the Iran-Iraq War (1980-1988). Covering sixteen centuries, the scope of this course will be necessarily concentrate on the formative aspects of Iranian history: the first half of the course brings us up to the early modern period (1700); the second half concentrates on the modern period (1800's-1990). Throughout the course, the history of Iran will be placed in the greater context of world history.

**HIST 3726. Modern Middle East: 18th Century-Present.** ( ; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

This course examines developments of politics, religion, culture in the contemporary Middle East from the eighteenth century to the present. Topics include contacts with the west, connections between modernity, democracy and Islam; gender; national identity; globalization and societal transformation in the urban Middle East.

**HIST 3735. Muslim Societies.** (GLOBAL PER; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Muslim Societies examines the political, religious, and cultural bases of societies in which Islam is the predominant, but not the only, faith. It covers Islamic origins, expansion; and innovation in the premodern period as well as global socio-political issues of the modern era.

**HIST 3795. Special Topics in West Asia (various titles to be assigned).** ( ; 4 cr. [max 16 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Topics on any period or area in the history of West Asia not included in the regular curriculum.

**HIST 3825. Islamic History from Muhammad to the Ottomans.** ( ; 4 cr. ; A-F or Audit; Every Fall)

This intermediate level class on Islamic history is offered partially online. It covers the periods from ca. 570 to 1600 C.E. It includes an examination of the political leadership of the Prophet; the development of the caliphate and Community; sectarian differences; the rise of the independent states; military and land tenure practices; social history; the influx of Turks, Mongol and Timurid invasions; and ends with the Ottoman and Safavid dynasties. prereq:

minimum 30 credits; credit will not be granted if already received for HIST 3725

**HIST 3939. Europe in the Age of Renaissance and Reformation: 1348-1648.**

(; 4 cr. ; A-F or Audit; Every Fall)  
Social, economic, political, and cultural development of Europe from the Black Death to the Thirty Years' War. Central themes include Renaissance humanism and art, Columbus and European expansion, the Protestant and Catholic Reformations, and the era of religious wars. prereq: credit will not be granted if already received for HIST 3239

**HIST 3940. Early Modern England: 1485-1689.**

(; 4 cr. ; A-F or Audit; Periodic Spring)  
Early Modern English society and culture from the 15th to the 17th centuries. prereq: credit will not be granted if already received for HIST 3240

**HIST 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HIST 4727. Middle Eastern History Through Film.**

(; 4 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course examines regional Middle Eastern history through documentary and feature film and printed sources. This course will give students an overview of the most significant themes of Middle Eastern history - religious, political, social, and cultural - from the rise and spread of Islam globally to the assimilation of the region to the world economy in modern times. prereq: 30 credits, no grad credit

**HIST 4999. Seminar.**

(; 4 cr. [max 8 cr.] ; A-F only; Periodic Fall & Spring)  
Advanced study and individual research on a selected historical topic or there; senior capstone course for history majors. pre-req: instructor consent

**HIST 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HIST 5094. Directed Research.**

(4 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Directed Research prereq: instructor consent, maximum 4 credits may be applied to grad program

**HIST 5905. History Seminar.** (4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall & Spring)  
Advanced study and individual research on a selected historical topic or theme; senior capstone course for history majors. (2.5 hrs lect, 1 hr student/faculty consultation) prereq: instructor consent

**HIST 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Home Economics (HE)**

**HE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Home Economics (HEC)**

**HEC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Home Economics (HE)**

**HE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Home Economics (HEC)**

**HEC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Home Economics (HE)**

**HE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Home Economics (HEC)**

**HEC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Home Economics (HE)**

**HE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Home Economics (HEC)**

**HEC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Home Economics (HE)**

**HE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Home Economics (HEC)**

**HEC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Home Economics Education (HEED)**

**HEED 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HEED 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HEED 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**HEED 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HEED 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Honors (HON)**

**HON 1003. Beethoven to the Beatles.** (FINE ARTS; 3 cr. ; Student Option; Periodic Spring)  
Survey of 19th- and 20th-century classical, jazz, rock, pop, and ethnic music genres.

**HON 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HON 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HON 3095. University Honors Special Topics: (Various Titles to be Assigned).** (; 1-4 cr. [max 12 cr.] ; A-F or Audit; Every Spring)

Special topics in support of the UMD Honors Program. Topic will be announced before course is offered. prereq: Honors Student

**HON 3303. The World of Surfing.** (GLOBAL PER; 4 cr. ; A-F only; Periodic Fall)

This course examines the history of surfing in the context of world history. The course addresses some of the major global phenomena of the last two hundred years, such as empire-building and the "civilizing mission," modernization and economic development, international tourism, political mass movements, American foreign relations, and corporate globalization. The course also has an experiential component: students will learn to surf. The course is a combination of classroom and pool instruction, with a least one surfing (or, if the waves do not allow it, stand-up paddleboarding or wakeboarding outing. pre-req: Honors student, must be able to swim

**HON 3305. University Honors French Cuisine Exploring French Culture Through Food.** (GLOBAL PER,HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

This course in taught in English, will use food as an entry point into a deeper exploration of French identity, including analysis of important contemporary issues related to gender, class, and sustainability. Students will study the ways in which French society has sought to establish order and symmetry around the table, a focal point of French society, and the many points of creative resistance to that order. pre-req: University Honors student

**HON 3398. University Honors Special Topics: (Various Titles to be Assigned).** (NAT SCI,SUSTAIN; 1-4 cr. ; A-F or Audit; Periodic Fall & Spring)

Special topics in support of the UMD Honors Program. Topic will be announced before course is offered. prereq: Honors students, 60 credits and instructor consent; no grad credit

**HON 3495. University Honors Special Topics: (Various Titles to be Assigned).** (SOC SCI; 1-4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Special topics in support of the UMD Honors Program. Topic will be announced before course is offered. pre-req: Honors students

**HON 3595. University Honors Special Topics: (Various Titles to be Assigned).** (HUMANITIES; 1-4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Special topics in support of the UMD Honors Program. Topic will be announced before course is offered. prereq: Honors students

**HON 3895. Honors Special Topics.** (CDIVERSITY; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Special topics in support of the UMD Honors Program. Topic will be announced before course is offered. prereq: Honors students

**HON 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HON 4095. University Honors Special Topics: (Various Titles to be Assigned).** (; 1-4 cr. [max 12 cr.] ; A-F or Audit; Every Spring)  
Special topics in support of the UMD Honors Program. Topic will be announced before course is offered. prereq: Honors students, 60 credits and instructor consent; no grad credit

**HON 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HON 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Honors Seminar (HSEM)

**HSEM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HSEM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HSEM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HSEM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HSEM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Horticultural Science (HORT)

**HORT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HORT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HORT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HORT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HORT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Humanities (HUM)

**HUM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HUM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HUM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HUM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HUM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Humanities and Classics (HMCL)

**HMCL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HMCL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HMCL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HMCL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HMCL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### ID (ID)

**ID 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ID 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ID 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ID 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ID 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### INED (INED)

**INED 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INED 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INED 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INED 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INED 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### INS (INS)

**INS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### INST (INST)

**INST 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INST 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INST 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INST 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INST 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### INTP (INTP)

**INTP 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INTP 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INTP 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INTP 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INTP 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## ITM (ITM)

**ITM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ITM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ITM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ITM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ITM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## ITS (ITS)

**ITS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ITS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ITS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ITS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ITS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Industrial (IND)

**IND 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**IND 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**IND 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**IND 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**IND 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

## Industrial Engineering (IE)

**IE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**IE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**IE 3115. Operations Research.** (4 cr. ; A-F or Audit; Every Spring)

This course prepares students to formulate optimization models in the formats of linear programming, network programming, integer mixed linear programming, goal programming, multi objective programming and nonlinear programming models; understand the simplex algorithm and solve simple linear programming models by hand; implement complex models and solve them using computer software; and interpret and communicate final results. prereq: Math 3280, Stat 3411, BSIE candidate or instructor consent

**IE 3122. Materials Engineering Laboratory.** (2 cr. ; A-F only; Every Fall & Spring)

ASTM standards for testing metals, polymer, ceramic, and composite materials. Measurement of material properties including: yield strength, tensile strength, stiffness, hardness, toughness, and hardenability. Traditional methods of processing materials including: punching, plastic injection molding, thermoforming, sand casting, sheet metal forming, extrusion, welding, polymer matrix composites vacuum bagging. Heat treatment and metallographic study of metals. Estimation of the effects processing techniques have on material properties using both analytical and empirical techniques. Use of Design of Experiments approach for estimation of process control factor effects and modeling of process quality characteristics. Detailed lab report writing and oral presentation of results. prereq: ENGR 1222, BSIE or BSME candidate, concurrent registration in 3130

**IE 3125. Engineering Economic Analysis.** (SOC SCI; 3 cr. ; A-F or Audit; Every Fall & Spring)

Data analysis and methods for engineering decision making under risk; using time and value of money concepts; and using expectation principles for project selection. prereq: Statistics 3411 or 3611, engineering candidate or instructor consent

**IE 3130. Materials Processing Engineering.** (3 cr. ; A-F only; Every Fall & Spring)

An introduction to common materials processes and material responses, including thermal and mechanical processing of metals, polymers and composite materials. prereq: Engr 2110 or ME 2105, Engr 2016 or CE 2017, Stat 3411 (concurrent registration is allowed) and BSIE or BSME or BSEP candidate

**IE 3140. Human Factors and Ergonomic Design.** (3 cr. ; A-F only; Every Fall)

Through the study of perception, cognition, and motor performance, explores human abilities

and limitations as well as the external factors impacting them. To improve performance of a human-machine system, learn about tools for analyzing products, identifying design elements to augment abilities, and recognizing limitations. prereq: B.S.I.E. candidate or instructor consent

**IE 3222. Occupational Systems Laboratory.** (; 2 cr. ; A-F only; Every Spring)

Using principles of human factors and production management, introduces methods for assessing and optimizing performance of occupational systems (i.e., workers, workplaces and tasks, and tools and equipment). These methods are applied in laboratory exercises to evaluate effects of workplace factors on various performance measures. prereq: 3140, must be taken after or concurrently with IE 4020 or instructor consent; credit will not be granted if already received for 3105, 3265

**IE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**IE 4010. Six Sigma Quality Control.** (3 cr. ; A-F only; Periodic Spring)

Statistical quality control in manufacturing; modeling, process quality, control charts, process capability, acceptance sampling methods, Six Sigma, Design of Experiments, and Lean Enterprise. prereq: Che 2011 or Stat 3411 or 3611, engineering candidate, no grad credit

**IE 4020. Lean Production Management.** (3 cr. ; A-F only; Every Spring)

Develops management systems using lean methods: JIT, CMS, ERP, SCM, TQM, SMED, and Kaizen Techniques. Forecasting, aggregate planning, inventory management, and other facilities improvement techniques, including efficient scheduling of manufacturing and service systems. prereq: pre or co req: 3125 or Che 4501 or instructor consent, no grad credit

**IE 4115. Facility Planning and Simulation.** (; 4 cr. ; A-F or Audit; Every Fall)

Facility and process design and analysis using flow rates, design relationships, graphical aids, and computer simulation. prereq: 4010, 4020, BSIE candidate

**IE 4196. Cooperative Education I.** (1 cr. [max 2 cr.] ; A-F or Audit; Every Fall & Spring)

Practical work experience with employer closely associated with student's academic area; arranged by mutual agreement among student, department, and employer. Biweekly status reports and final written report must be submitted to department. prereq: BSIE candidate, no grad credit

**IE 4197. Industrial Engineering Internship.** (; 1 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Advanced practical work experience with employer closely associated with student's academic area; arranged by mutual agreement among student, department, and employer. Biweekly status reports and final written report must be submitted to department. Requires

more than 15 hours per week of company work. Pre-req: upper division student and instructor consent; no grad credit

**IE 4222. Systems Integration Laboratory.** (2 cr. ; A-F only; Every Fall)

Design, programming, and implementation of part or all of an automated and integrated manufacturing, testing, packaging, or distribution system. prereq: must be taken after or concurrently with IE 4230 or department consent, no grad credit

**IE 4230. Systems Integration.** (3 cr. ; A-F only; Every Fall)

Study of the hardware and software aspects of many devices, subsystems, and computers used in modern automation, and their integration into automated manufacturing, packaging, and distribution systems. prereq: 4020 or ME 3140, ECE 2006, CS 1121 or CS 1131 or CS 1511 or CS 2121, BSIE candidate or instructor consent

**IE 4255. Multidisciplinary Senior Design.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Capstone course in industrial engineering. Project Management, problem definition, root cause analysis, baseline analysis, alternative solutions, analysis, reporting. Societal, economic, ethical, environmental, political considerations. Oral and written reports. Work is in teams focused on industrial, research, or competition-based projects. prereq: EMgt 4110, BSIE candidate, or instructor consent, no grad credit

**IE 4296. Cooperative Education II.** (2 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Advanced practical work experience with employer closely associated with student's academic area; arranged by mutual agreement among student, department, and employer. Biweekly status reports and final written report must be submitted to department. prereq: 4196 or ME 4196; no grad credit

**IE 4297. Industrial Engineering Internship.**

(2 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Advanced practical work experience with employer closely associated with student's academic area; arranged by mutual agreement among student, department, and employer. Biweekly status reports with final written report must be submitted to department. Requires more than 15 hours per week of company work. pre-req: ME 4196 or 4197 or IE 4196 or 4197 and instructor consent

**IE 4491. Independent Study.** (1-4 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Directed individual study arranged with instructor and department head before registration. prereq: BSIE or BSME candidate, department consent

**IE 4495. Special Topics: (Various Titles to be Assigned).** (1-4 cr. [max 32 cr.] ; Student Option; Fall Odd Year)

Topics not available in regular department curriculum. May involve specialties of department or visiting faculty. prereq: BSIE candidate or instructor consent

**IE 4993. Industrial Engineering Seminar.**

(1 cr. [max 2 cr.] ; S-N or Audit; Every Fall & Spring)  
Reports on recent developments in engineering and on research projects in the department. prereq: BSIE or BSChE or BSECE or BSME or MEHS candidate or instructor consent; no Grad credit

**IE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**IE 5305. Supply Chain Management.** (3 cr. ; A-F or Audit; Fall Even Year)

Concepts essential to understanding supply chain management, including strategy and design, as well as operational, managerial, technological, and implementation issues. It provides an integrated perspective of the supply chain, including purchasing, production, transportation, distribution and information systems. prereq: 4020, BSIE candidate or MSEM student or instructor consent

**IE 5315. Organizational Control Methods.** (3 cr. ; A-F or Audit; Spring Odd Year)

Roles of the engineer in managing organizational resources. Budgeting, cost-volume relationships, product costing, annual reports, audits. Project estimating and reporting. prereq: BSIE or MSEM candidate or department consent

**IE 5325. Advanced Engineering Economics.**

(3 cr. ; A-F or Audit; Spring Even Year)  
Fundamentals of engineering economics: decision trees, time value of money, analysis of alternatives for project investments, taxes, inflation. Applications to engineering services and manufacturing. prereq: 3125, BSIE or MSEM candidate or department consent

**IE 5335. Engineered Products and Services.**

(3 cr. ; Student Option; Fall Odd Year)  
Development, production, and distribution of engineered products and services. Strategies for positioning engineered products and services to successfully compete in a global market. Sales, purchasing, qualification, and service. Standards, regulations. prereq: BSIE or MSEM candidate, instructor consent

**IE 5345. Life Cycle Assessment.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Students will learn how to assess environmental impact, economic costs, and social impacts for the entire life cycle of materials, products, processes, and infrastructure using industry life cycle assessment (LCA) software SimaPro. Topics include sustainability, cradle to cradle design, functional unit definition, materiality, discount rates, worker health and safety, and how to utilize LCA in decision-making. Students will work in teams on a LCA project with a presentation and written report that will be given to a client upon completion. pre-req: CHEM 1153, BS or MS SCSE candidate or instructor consent

**IE 5991. Independent Study in Industrial Engineering.** (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)

Directed study of special interest topics not available in standard curriculum. Must be

arranged with instructor before registration. May include readings, research and/or special projects. prereq: MSEM candidate, department consent

**IE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**Integr Crses Interdisc Curric (INT)**

**INT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**INT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**INT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**INT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**INT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**Integrated Elem Special Educ (IESE)**

**IESE 1010. Introduction to Elementary & Special Education: Inclusive & Anti-Racist Schooling.** (3 cr. ; A-F or Audit; Every Fall & Spring)

This is an introductory course to the elementary and special education teaching profession. Topics include: developing a reflective teaching practice, inclusive teaching practices, anti-racist pedagogy, special education, and teaching as a profession. prereq: Pre elementary education student

**IESE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**IESE 2001. Diversity and Education Implications.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Examines issues of diversity related to planning instruction, classroom management, integrated and exploratory curriculum, utilization of technology, community resources, structured service learning and humanizing classroom environments. prereq: Pre-IESE Candidate, 1010; credit will not be granted if already received for ELED 2001

**IESE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**IESE 3325. Foundations of Literacy and Language.** (3 cr. ; A-F only; Every Fall & Spring)

In the first of three required literacy courses, the teach candidates are introduced to the principles of comprehensive, scientifically-based literacy (reading, writing, speaking, and listening) instruction that includes phonemic awareness, phonics, fluency, vocabulary



development, and comprehension. prereq: Admission to the IESE program, successful completion of IESE 3331; credit will not be granted if already received for ELED 3325

**IESE 3326. Advanced Literacy & Language: Designing & Implementing a Comprehensive Literacy Program.** (; 3 cr. ; A-F only; Every Fall & Spring)

Second in a sequence of three literacy courses, this course is designed to prepare teacher candidates to create and implement comprehensive and scientifically based literacy instruction in elementary school classrooms. prereq: Admission to IESE program and successful completion of Blocks One and Two courses and associated field experiences; credit will not be granted if already received for ELED 3326

**IESE 3331. Children's Literature in the Elementary School.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

The focus of this course is on literature for children, the criteria for selecting books and non-book materials for use in the elementary school, and the integration of children's trade books across the curriculum. prereq: Pre-IESE, Sophomore standing, IESE 1010 and ECH 2025; credit will not be granted if already received for ELED 3331.

**IESE 3355. Critical Thinking Elementary Mathematics Methods I.** (; 2 cr. ; A-F only; Every Fall & Spring)

First in a two-semester component required of all students planning to teach elementary education in the area of mathematics. Through discussion, projects, and reflection on readings we will study the nature of mathematics, how children learn mathematics, and how to most effectively teach and assess mathematics. prereq: Admission to the IESE program and successful completion of Block One courses and associated field experience; credit will not be granted if already received for ELED 3355

**IESE 3356. Elementary Mathematics Methods II.** (; 3 cr. ; A-F only; Every Fall & Spring)

Second in a two-semester component required of all students planning to obtain certification to teach mathematics at the elementary level. Through discussion, projects, and reflections on readings we will study the nature of mathematics as it related to social justice, how to most effectively teach and assess mathematics, and the different ways to grade mathematics. prereq: Admission to IESE program and successful completion of Blocks One and Two courses and associated field experiences; credit will not be granted if already received for ELED 3356

**IESE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**IESE 4344. Teaching Science and Environmental Education I.** (; 3 cr. ; A-F only; Every Fall & Spring)

This course is the first method course of elementary science teacher preparation. The emphasis of ELED 4344 is on enriching

content knowledge, increasing confidence, as well as developing appropriate instructional skills, strategies, and attitudes for being a science teacher. Students will participate in extensive field experiences, learn and apply recommended methods for science instruction based on research and theory, and reflect upon their personal development and ability. prereq: Admission to IESE program and successful completion of Block One courses and associated field experience; no grad credit; credit will not be granted if already received for ELED 4344

**IESE 4346. Teaching Science & Environmental Education II.** (; 2 cr. ; A-F only; Every Fall & Spring)

Advanced methods course of elementary science teacher preparation. Emphasis on designing curriculum, using appropriate teaching methodologies and assessments to measure student learning, as well as developing attitudes for being a science teacher. Presentation of contemporary perspectives in science education and finding solutions to problems in the classroom from the reform initiatives. prereq: Admission to IESE program and successful completion of Blocks One and Two courses and associated field experiences; no grad credit; credit will not be granted if already received for ELED 4346

**IESE 4366. Teaching Elementary Social Studies I.** (; 3 cr. ; A-F only; Every Fall & Spring)

Study of the content and organization of social studies in elementary schools; planning instruction for diverse students; understanding and improving the learning situation and effective use of materials emphasizing historical and civil discourses. pre-req: Admission to IESE program; no grad credit; credit will not be granted if already received for ELED 4366

**IESE 4367. Teaching Elementary Social Studies II.** (; 2 cr. ; A-F only; Every Fall & Spring)

Exploring inquiry-based models of instruction in social studies planning instruction for diverse students; conceptualizing and planning instructional units; and effective use of an array of instructional materials. prereq: Admission to IESE program and successful completion of Block One courses and associated field experience; no grad credit; credit will not be granted if already received for ELED 4367

**IESE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**IESE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Inter-Institutional Cross-Reg (IICR)

**IICR 1001. Inter-Institutional Cross**

**Registration.** (1-9 cr. [max 36 cr.] ; Student Option; Every Fall & Spring)  
Inter-institutional cross registration reflecting the credit hour load of University of Minnesota

Duluth students enrolling under the inter-institutional cross registration agreement with the College of Saint Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists. prereq: instructor consent

**IICR 1002. Inter-Institutional Cross**

**Registration.** (; 1-9 cr. [max 36 cr.] ; Student Option; Every Fall & Spring)

Inter-institutional cross-registration reflecting the credit hour load of University of Minnesota Duluth students enrolling under the inter-institutional cross registration agreement with the College of St. Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists.

**IICR 1003. Inter-Institutional Cross**

**Registration.** (; 1-9 cr. ; Student Option; Every Fall & Spring)

Inter-institutional cross-registration reflecting the credit hour load of University of Minnesota Duluth students enrolling under the inter-institutional cross registration agreement with the College of St. Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists.

**IICR 1004. Inter-Institutional Cross**

**Registration.** (; 1-9 cr. ; Student Option; Every Fall & Spring)

Inter-institutional cross-registration reflecting the credit hour load of University of Minnesota Duluth students enrolling under the inter-institutional cross-registration agreement with the College of St. Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists.

**IICR 2001. Inter-Institutional Cross**

**Registration.** (1-9 cr. [max 36 cr.] ; Student Option; Every Fall & Spring)

Inter-institutional cross registration reflecting the credit hour load of University of Minnesota Duluth students enrolling under the inter-institutional cross registration agreement with the College of St. Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists. prereq: instructor consent

**IICR 2002. Inter-Institutional Cross**

**Registration.** (1-9 cr. [max 36 cr.] ; Student Option; Every Fall & Spring)

Inter-institutional cross-registration reflecting the credit hour load of University of Minnesota Duluth students enrolling under the inter-institutional cross registration agreement with the College of St. Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists.

**IICR 2003. Inter-Institutional Cross**

**Registration.** (; 1-9 cr. ; Student Option; Periodic Fall & Spring)

Inter-institutional cross-registration reflecting the credit hour load of University of Minnesota Duluth students enrolling under the inter-institutional cross registration agreement

with the College of St. Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists.

#### **ICR 2004. Inter-Institutional Cross**

**Registration.** (; 1-9 cr. ; Student Option; Periodic Fall, Spring & Summer)

Inter-institutional cross-registration reflecting the credit hour load of University of Minnesota Duluth students enrolling under the inter-institutional cross registration agreement with the College of St. Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists.

#### **ICR 3001. Inter-Institutional Cross**

**Registration.** (1-9 cr. [max 36 cr.] ; Student Option; Every Fall & Spring)

Inter-institutional cross registration reflecting the credit hour load of University of Minnesota Duluth, students enrolling under the inter-institutional cross registration agreement with the College of Saint Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists. prereq: instructor consent

#### **ICR 3002. Inter-Institutional Cross**

**Registration.** (; 1-9 cr. [max 36 cr.] ; Student Option; Every Fall & Spring)

Inter-institutional cross-registration reflecting the credit hour load of University of Minnesota Duluth students enrolling under the inter-institutional cross registration agreement with the College of St. Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists.

#### **ICR 3003. Inter-Institutional Cross**

**Registration.** (; 1-9 cr. ; Student Option; Periodic Fall & Spring)

Inter-institutional cross-registration reflecting the credit hour load of University of Minnesota Duluth students enrolling under the inter-institutional cross registration agreement with the College of St. Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists.

#### **ICR 4001. Inter-Institutional Cross**

**Registration.** (1-9 cr. [max 36 cr.] ; Student Option; Every Fall & Spring)

Inter-institutional cross registration reflecting the credit hour load of University of Minnesota Duluth, students enrolling under the inter-institutional cross registration agreement with the College of Saint Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists. prereq: No grad credit; instructor consent

#### **ICR 4002. Inter-Institutional Cross**

**Registration.** (; 1-9 cr. [max 36 cr.] ; Student Option; Every Fall & Spring)

Inter-institutional cross-registration reflecting the credit hour load of University of Minnesota Duluth students enrolling under the inter-institutional cross registration agreement with the College of St. Scholastica and the University of Wisconsin Superior and any

other institution with whom such an agreement exists.

#### **ICR 4003. Inter-Institutional Cross**

**Registration.** (1-9 cr. ; Student Option; Periodic Fall & Spring)

Inter-institutional cross-registration reflecting the credit hour load of University of Minnesota Duluth students enrolling under the inter-institutional cross registration agreement with the College of St. Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists. prereq: No grad credit

#### **ICR 5001. Inter-Institutional Cross**

**Registration.** (1-9 cr. [max 36 cr.] ; Student Option; Every Fall & Spring)

Inter-institutional cross registration reflecting the credit hour load of University of Minnesota Duluth students enrolling under the inter-institutional cross registration agreement with the College of Saint Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists. prereq: instructor consent

#### **ICR 5002. Inter-Institutional Cross**

**Registration.** (; 1-9 cr. [max 36 cr.] ; Student Option; Every Fall & Spring)

Inter-institutional cross-registration reflecting the credit hour load of University of Minnesota Duluth students enrolling under the inter-institutional cross registration agreement with the College of St. Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists.

#### **ICR 5003. Inter-Institutional Cross**

**Registration.** (1-9 cr. ; Student Option; Periodic Fall & Spring)

Inter-institutional cross-registration reflecting the credit hour load of University of Minnesota Duluth students enrolling under the inter-institutional cross registration agreement with the College of St. Scholastica and the University of Wisconsin Superior and any other institution with whom such an agreement exists.

### **Interdisciplinary Studies (IS)**

**IS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**IS 2001. Sustainability Across Disciplines.** (SUSTAIN; 4 cr. ; A-F or Audit; Every Fall & Spring)

An introduction to academic disciplines and interdisciplinary inquiry, with an emphasis on integrative, sustainable thinking. Includes case studies of real-world sustainable problem-solving, visits from disciplinary experts, and student-led design of interdisciplinary projects that focus on sustainability. pre-req: WRIT 1120

**IS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**IS 3093. Senior Project.** (1-10 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

An agreement that specifies nature of the project, amount of work, and number of credits must be approved by two advisers and filed with director of interdisciplinary studies. prereq: instructor consent; credit will not be granted if already received for IS 3099

#### **IS 3180. Women's Health and Policy: An EU and US Comparison - Study Abroad.**

(GLOBAL PER; 3 cr. ; Student Option; Summer Even Year)

A critical examination of women's healthcare and policy in the European Union and United States with an emphasis on reproductive rights, including pregnancy, birth, contraception and parenting policies. Includes discussion of the economics of women's healthcare and policy, real-world interdisciplinary problem-solving, and lectures from disciplinary experts. prereq: minimum 45 credits completed & instructor consent; admission to an approved study abroad program requires consent from the International Programs and Services Office

**IS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**IS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**IS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### **International Business (INTB)**

**INTB 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INTB 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INTB 3211. International Business Down Under.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Summer)

The course is designed to expose the students to as many aspects as possible of the Australian business and its environment so that they can learn how important it is to understand national differences, similarities, and implications for successful conduct of international business, as well as how doing business internationally is different from operating in the US. For that purpose, this course provides a broad yet refined view of Australian business, culture, and other infrastructure by bringing the faculty members of the host university and local guest speakers to the class sessions, by taking field trips to companies and industries, by promoting interactions with local businesses and executives, and by various class activities such as reflections on field trips, projects, and presentations on what students have learned and experienced. pre-req: LSBE candidate or minimum 60 credits from other colleges with a minimum GPA of 2.6 and instructor consent

**INTB 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**INTB 4201. Chinese Business and Economy.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Summer)

Introduction to Chinese business and economy. Provides fundamental knowledge of Chinese business and economy; provides students with understanding of social, cultural, economic and political environments of doing business in China through lectures, readings, hand-on project and travel to China. prereq: LSBE candidate, consent of instructor

**INTB 4211. Innovation in Ireland.** (GLOBAL PER; 3 cr. ; A-F only; Every Summer)

Explore Irish innovation on multiple levels (individual, organizational, and regional) concentrating on how Ireland has created a culture of innovation and the consequences of this innovation on its people from its earliest history to today. prereq: minimum 2.8 GPA, junior status, instructor consent

**INTB 4231. Peru's Food Revolution: The Links to Sustainability, Development and Branding.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Summer)

The course provides an opportunity for students to learn and study the unique conditions that characterize the food revolution in Peru. In particular, it creates a multidisciplinary study abroad experience by exploring the interconnections between food and economic development, sustainability, branding and international marketing and other aspects of economics and business. Meanwhile, students will explore first-hand how the growth in Peru's food revolution has important implications for the Peruvian economy, culture and national identity. pre-req: ECON 1022, 1023, GPA 2.5 or higher; no grad credit

**INTB 4495. Special Topics: (Various Titles to be Assigned).** (; 1-3 cr. [max 9 cr.] ; A-F only; Periodic Fall, Spring & Summer)

Special, focused, and timely topics in globalization and international business. prereq: instructor consent

**INTB 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**INTB 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**International Studies (INTS)****INTS 1010. Introduction to International Studies.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to the field of International Studies, examination of the implications of our global world, and analysis of a selection of issues in contemporary international affairs.

**INTS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**INTS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**INTS 3191. International Study.** (1-5 cr. [max 15 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

For students who want to take an independent study course while traveling or living in a foreign country. Course must be approved by supervising faculty member and director of international studies. prereq: department consent

**INTS 3197. International Internship.** (1-6 cr. [max 8 cr.] ; S-N or Audit; Every Fall, Spring & Summer)

Supervised work experience involving international interaction. prereq: minimum 50 credits, department consent; max 4 cr may be applied to IntS major

**INTS 3458. International Negotiation & Bargaining: Negotiating Across Cultures.** (; 3 cr. ; A-F or Audit; Periodic Fall)

Cultural understanding and misunderstanding can determine the outcome of international negotiation and bargaining. Word choice becomes particularly significant in global negotiations. In this class, we explore how international solutions in various areas, such as the environment, business, politics, and human rights, are produced through negotiation and influenced by culture, language, and behavior. pre-req: minimum 30 credits

**INTS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**INTS 4100. Seminar in International Studies.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Analysis of and supervised research and writing on selected topics. prereq: Pol 1050, 60 credits including 8 upper division credits approved IntS courses and instructor consent

**INTS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**INTS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**Italian (ITAL)****ITAL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**ITAL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**ITAL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**ITAL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**ITAL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**Japanese (JPN)****JPN 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**JPN 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**JPN 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**JPN 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**JPN 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent**Journalism (JOUR)****JOUR 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**JOUR 2001. Introduction to Journalism.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Gateway course for journalism. Draws on a craft-based, digital-first approach to introduce students to fundamentals used by all journalists: information gathering, audience engagement, writing stories, basic news practices and ethics, news style, structure and readability, and interviewing techniques. Students also analyze various styles of journalism and talk about core theoretical concepts behind journalism and mass communication.

**JOUR 2101. Journalist's Toolbox.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Exposes students to the always-changing tools that can be used in journalistic storytelling. The course is designed for students interested in using these journalistic tools in myriad disciplines: journalism, public relations, marketing, design and various communication-related disciplines. prereq: 2001, WRIT 1120; credit will not be granted if already received for 3101

**JOUR 2300. Visual Journalism.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course is an introduction to visual journalism and other forms of visual media. Class covers the basics of photojournalism, visual persuasion, visual literary and ethical image-making. Course also covers the basics of data visualization and other visual displays of information.

**JOUR 2400. Community and Journalism.** (GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Examines the role of journalism in defining communities. Exposure to various concepts of community and the role journalism has in defining these communities on both a local and global scale. Analyze a specific case study of one community journalism entity, and explore the ramifications of technology on the transformation of community. (Course may be offered as a short-term study abroad program.)

**JOUR 2501. History of American Media.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Explores the social and cultural history of journalism in the United States. Explore examples of journalism in various forms and critiques of journalism from time periods and study key moments in journalism history. Examines the practice of journalism, its core values, and how these have changed over time. Explores how technological, social and economic change shape journalism.

**JOUR 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**JOUR 3001. Local Journalism.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Skills-based that builds on JOUR 2001. Write publishable news stories based on field work and interviews. Emphasis on fully-developed, multi-source news stories that are fair and complete. Expand interview and research skills, and become familiar with the wide range of information available in public documents. prereq: 2001

**JOUR 3095. Special Topics: Journalism Inquiry (theory) (Titles to be assigned)..** (3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Topics not included in regular curriculum. Courses will focus on theory and critical inquiry course relevant to the study of journalism and mass communication. New topics will be proposed through the required procedure but could include journalism in the digital media age, the impact of social media on journalism, citizen journalism, etc.

**JOUR 3195. Special Topics: Journalism Craft (skills) (Titles to be Assigned).** (3 cr. [max 12 cr.] ; A-F or Audit; Periodic Fall & Spring)  
Topics not included in regular curriculum. Courses will focus on skills and craft courses relevant to the production of journalism and media content. New topics will be proposed through the required procedure but could include journalism advance digital storytelling, magazine writing, podcast production, etc.

**JOUR 3401. Digital Storytelling.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Produce various forms of digital news stories drawing on photography, audio, video and other digital forms of storytelling. Learn the style differences between writing electronic news scripts and writing for print. Learn basic field recording techniques and production skills for audio and video. prereq: 2001

**JOUR 3501. Audio Stories for Podcasts and Radio.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course teaches students how to record audio interviews and natural sound and assemble professional-quality audio stories. Students will learn how to use audio recording field gear and digital audio editing software. They will learn how to write for the ear. They will critique professional audio productions and produce their own multi-layer documentary-style audio projects, suitable for use on radio, podcasts, or in multimedia installations online

or in real world settings. They will learn how podcasts and other audio productions fit into the current digital information landscape. prereq: JOUR 2001

**JOUR 3555. Data Journalism.** (3 cr. ; A-F or Audit; Every Spring)  
Discover the stories hiding in the numbers. Learn the basic techniques of computer-assisted reporting, data practices laws, using government documents, business reports, and statistical methods. Introduces the basics in creating graphs, charts and other forms of data visualization. prereq: JOUR 2001

**JOUR 3700. Media Law and Ethics.** (3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Examines laws, regulations and major court decisions that affect journalists and news organizations. Topics include First Amendment principles of press freedom, libel, invasion of privacy, prior restraint, access to information, and the regulation of electronic media content. prereq: Writ 1120

**JOUR 3991. Independent Study.** (1-3 cr. [max 5 cr.] ; A-F only; Every Fall, Spring & Summer)  
Directed reading and research in journalism. prereq: 2001, instructor consent

**JOUR 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**JOUR 4001. Specialized Reporting: Narrative Nonfiction.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Survey of different styles of narrative nonfiction writing including science writing, food and agricultural journalism, travel writing and other specialized forms of journalism. Read and critique examples. Produce work in an area of specialization. prereq: 2001; no grad credit

**JOUR 4021. Outdoor and Environmental Journalism.** (3 cr. ; A-F or Audit; Periodic Spring)  
Covers the basics of outdoor and environmental journalism as it pertains to newspapers, magazine, television and online. Read and critique examples and produce work in this genre. Pre-req: JOUR 2001

**JOUR 4102. Newsroom Practicum.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Experience in a working newsroom. Apply skills from other journalism classes to plan, produce and manage an online news publication. Basic principles as well as practical skills with advanced computer programs. Includes editing, managing and reporting, as well as the discussion of both journalism and leadership issues. Advance theory and practice in news selection, preparation, and display for newspaper, magazine, broadcast and photojournalism media. Emphasis on the ethical and professional responsibility of the journalist. prereq: 2001; no grad credit

**JOUR 4197. Journalism Internship.** (1-3 cr. [max 6 cr.] ; S-N only; Every Fall, Spring & Summer)  
Supervised professional experience as a working staff member with a newspaper,

magazine, broadcast station or other communications organization. prereq: 2001, 3700, minimum 60 credits, instructor consent, no grad credit

**JOUR 4200. Social Media in the Digital Age: From Pictographs to Pixels.** (3 cr. ; A-F or Audit; Periodic Spring)  
This course introduces students to social, political, historical, and economic aspects of social media in everyday life. Through both hands-on and analytical activities, students will explore and discover the evolution of social media and apply best practices to using and engaging with social media. Students will study new and use social media tools, such as Twitter, Instagram, Facebook, and Reddit to source, create, verify and share news and information. Understanding social media as both an innovation and a disruption, students will learn how emerging and evolving practices impact and shape their personal and professional identity.

**JOUR 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**JOUR 5102. Editing II: Newsroom Practicum.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Experience in a working newsroom. Apply skills from other journalism classes to plan, produce and manage an online news publication. Basic principles as well as practical skills with advanced computer programs. Includes editing, managing and reporting, as well as the discussion of both journalism and leadership issues. Advance theory and practice in news selection, preparation, and display for newspaper, magazine, broadcast and photojournalism media. Emphasis on the ethical and professional responsibility of the journalist. prereq: Grad Student; credit will not be granted if already received for 5102

**JOUR 5197. Journalism Internship.** (1-3 cr. ; S-N only; Every Fall, Spring & Summer)  
Supervised professional experience as a working staff member with a newspaper, magazine, broadcast station or other communications organization. prereq: College Grad or grad student, instructor consent

**JOUR 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## KIN (KIN)

**KIN 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**KIN 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**KIN 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**KIN 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**KIN 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## LIBS (LIBS)

**LIBS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIBS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIBS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIBS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIBS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## LIT (LIT)

**LIT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Labovitz Schl of Business/Econ (LSBE)

**LSBE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LSBE 2000. Interpersonal and Teamwork Skills.** (1 cr. ; A-F or Audit; Every Fall & Spring)  
This course prepares students to work collaboratively and be effective as team members. Students will learn about team design and interpersonal dynamics effective interpersonal communication skills, team member roles, team goal setting, intercultural competence, and team conflict management. Students will also learn to work in diverse as well as virtual teams. pre-req: UST 1000 or completion of at least 15 credits

**LSBE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LSBE 3000. Career Development for the Business Professional.** (1 cr. ; A-F or Audit; Every Fall & Spring)

This course focuses on preparing students for finding and succeeding in internships and for obtaining professional positions. Students will receive orientation regarding continuous learning and are socialized to understand how educational requirements contribute to their development as business professionals. Students will prepare resumes and cover letters, participate in mock interviews, and develop professional career development skills. Students will learn about career planning and implementation. pre-req: LSBE candidate

**LSBE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LSBE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LSBE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Language (LANG)

**LANG 1101. Beginning Foreign Language I.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
For students studying beginning language where that language is spoken, under the auspices of another college or university or by individual arrangement with prior approval by the Department of Foreign Languages and Literatures; or students studying a less frequently taught language at UMD. prereq: instructor consent, department approval

**LANG 1102. Beginning Foreign Language II.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Spring & Summer)  
For students studying beginning language where that language is spoken, under the auspices of another college or university or by individual arrangement with prior approval by the Department of Foreign Languages and Literatures; or students studying a less frequently taught language at UMD. prereq: 1101 or instructor consent

**LANG 1201. Intermediate Foreign Language I.** (COMM & LAN; 4 cr. ; Student Option; Every Fall, Spring & Summer)  
For students studying intermediate language under the auspices of another college or university or by individual arrangement with prior approval by the Department of Foreign Languages and Literatures; or students studying a less frequently taught language at UMD. prereq: 1102 or instructor consent

**LANG 1202. Intermediate Foreign Language II.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
For students studying intermediate language under the auspices of another college or university or by individual arrangement with prior approval by the Department of Foreign Languages and Literatures; or students studying a less frequently taught language at UMD. prereq: 1201 or instructor consent

**LANG 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**LANG 2050. The Digital Humanities: Language as Interface.** (HUMANITIES; 4 cr. ; A-F or Audit; Every Fall)

This course explores the use of digital technology in Humanities. To do so, we examine the impact digital technology has on the study of human culture in the language-centered disciplines. These disciplines, because they are often comparative, embrace the difficulties that come with translation and other forms of communication over distance. This course explores the status of language as interface in the increasingly complex media landscape still emerging today. By focusing on language as interface and by focusing on the intersection of Comparative Literacy Studies and the Digital Humanities, this course provides students with the skills they will need to best make use of digital technology as an instrument of the study of human culture. Taught in English.

**LANG 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LANG 3093. Directed Study.** (1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Directed Study prereq: instructor consent, department approval; maximum 6 credits between LANG 3091 and 3093

**LANG 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LANG 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LANG 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Latin (LAT)

**LAT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LAT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LAT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LAT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LAT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Lesb, Gay, Bi, Trans, Queer St (LGBT)

**LGBT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**LGBT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LGBT 3000. Queer Theory.** (3 cr. ; A-F or Audit; Every Fall)

This course introduces students to the fundamental and current issues in queer theory. Students in this course will learn how the field emerged from LGBTQ studies and feminist theory, as well as how theorists reclaimed the pejorative term 'queer' to describe marginalized ways of knowing and being. Students in this class will investigate key concepts in gay, lesbian, bisexual, transgender, queer, allied and intersex studies; performativity; critical theory; poststructuralism; and feminism. prereq: WS 1000 or CST 2001

**LGBT 3151. Queer Cinema in International Perspective.** (GLOBAL PER; 3 cr. ; A-F or Audit; Spring Even Year)

This course offers an investigation of feature films and documentaries about lesbians, gays, bisexuals, transvestites, transgender and intersex individuals in international, primarily European and American, and historical perspective. pre-req: WS 1000 or instructor consent

**LGBT 3152. History of the International Homosexual Rights Movement (1895 - present).** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Fall)

This course introduces students to the long winding road toward the emancipation of sexual outsiders (homosexuals, lesbians, bisexuals, transvestites, intersex, and transgender individuals) worldwide. prereq: WS 1000 or CST 2001 or instructor consent

**LGBT 3153. Queer Media.** (CDIVERSITY; 3 cr. ; A-F or Audit; Every Spring)

This course explores the varied terrain of new media - including digital, print, and broadcast platforms - from a queer perspective, that asks, "How queer is it?" Using theoretical and representational strategies from queer studies, media studies, feminist analysis, literary analysis, and cinema studies, along with foundational critiques of issues related to class, race, gender, and sexuality, this course investigates techniques for 'reading for the queer' in contemporary media. Because the course focuses on academic analysis, it does not require students (or texts) to maintain a queer identity or to claim membership in an LGBTQ community. prereq: WS 1000 or CST 2001

**LGBT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LGBT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LGBT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Library (LIB)

**LIB 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIB 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIB 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIB 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIB 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Library Science (LSC)

**LSC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Library Science (LSCI)

**LSCI 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Library Science (LSC)

**LSC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Library Science (LSCI)

**LSCI 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Library Science (LSC)

**LSC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Library Science (LSCI)

**LSCI 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Library Science (LSC)

**LSC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Library Science (LSCI)

**LSCI 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Library Science (LSC)

**LSC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

## Library Science (LSCI)

**LSCI 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Limnology (LIM)

**LIM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LIM 5010. Integrated Approaches to the Study of Inland Waters.** (3 cr. ; A-F or Audit; Every Fall)

An interdisciplinary introduction to the science of Limnology taught at the beginning graduate student level. The science of inland waters, Limnology, is built on Geology, Chemistry, Biology, and Physics and increasingly includes Social Sciences. In this course, students will experience an in-depth, integrated approach to Limnology. Lake systems are emphasized but wetland and running water systems are discussed. The course includes significant out of class time reviewing on-line modules and other materials. In-class time is devoted mainly to group work, problem solving, and student-led discussions and presentations. An optional companion laboratory and practice course (LIM 5011) is associated with this course where additional foundational and fundamental limnological techniques are taught. pre-req: graduate student or instructor consent

**LIM 5011. Laboratory and Discussion in Integrated Approaches to the Study of Inland Waters.** (2 cr. ; A-F or Audit; Every Fall)

A graduate-level laboratory and discussion course with an interdisciplinary introduction to Limnology. This class will introduce students to laboratory, field, data collection, and data analysis techniques in the study of limnology. Introductory coding will be covered. Oral and written communication skills and problem solving skills will also be developed. This course is designed to be taken in conjunction with LIM 5010, Limnology I. pre-req: pre or co-req LIN 5010, grad student or instructor consent

**LIM 5012. Integrated Approaches to the Study of Inland Waters II.** (3 cr. ; A-F or Audit; Every Spring)

Continuing from LIM 5010, this is the second semester of an interdisciplinary introduction to the science of Limnology taught at the beginning graduate student level. The science of inland waters, Limnology, is built on

Geology, Chemistry, Biology, and Physics and increasingly includes Social Sciences. Students will experience an indepth, integrated approach to Limnology. Lake systems are emphasized but wetland and running water systems are discussed. The course includes significant out of class time reviewing on-line modules and other materials. In-class time is devoted mainly to group work, solving real-world problems, and student-led discussions and presentations. An optional companion laboratory and practice course (LIM 5013) is associated with this course where additional foundational and fundamental limnological techniques are taught. pre-req: LIM 5010 or instructor consent

**LIM 5013. Laboratory and Discussion in Integrated Approaches to the Study of Inland Waters II.** (2 cr. ; A-F or Audit; Every Spring)

A second semester of the graduate-level laboratory and discussion course with an interdisciplinary introduction to Limnology. This class will introduce students to laboratory, field, data collection, and data analysis techniques in the study of limnology. Introductory coding will be covered. Oral and written communication skills and problem solving skills will also be developed. The second half of this semester will be spent working with industry and non-profit community partners on a capstone project, emphasizing the use of newly acquired skills and knowledge in a non-academic setting. pre-req: LIM 5010 or instructor consent

**LIM 5101. Physical Limnology.** (; 3 cr. ; A-F or Audit; Fall Odd Year)

Physical description of lake dynamics including: lake morphometry, water budget, light distribution, circulation, fronts, waves and mixing. Descriptive, mathematical, numerical and data-analysis techniques are used to investigate the various topics. pre-req: Math 1297, Phys 2012 or 2015 and 2016, or grad student

**LIM 5102. Chemical Limnology.** (; 3 cr. ; A-F or Audit; Fall Odd Year)

Organic and inorganic chemistry of natural waters, major and minor ions, pH-Eh relationships, carbon and nutrient cycles, pore water chemistry, sediment chemistry, microbial geochemistry. Offered alternate years. pre-req: Math 1296, Phys 1002 or 1202, Chem 1152 or 1162, or grad student; Credit will not be granted if already received for 5001

**LIM 5103. Geological Paleolimnology.** (; 3 cr. ; A-F or Audit; Fall Even Year)

Geological aspects of freshwater systems: origins, tectonic and climatic settings of lakes, geophysical mapping, physical sedimentary processes, sedimentary geochemistry, and geochronology. Particular focus on paleolimnology, the analysis of lake sediment to reconstruct past climate and environment pre-req: MATH 1290 or 1296 or 1596, PHYS 1002 or 2015 or 2018, CHEM 1155 or 1175 or grad student

**LIM 5104. Geochemical, Physical, and Biological processes in Aquatic Sediments.** (2 cr. ; A-F or Audit; Spring Even Year)

The course covers the geochemical, physical, biogeochemical, and biological processes in the upper meters of aquatic sediments. Topics include biogeochemical cycles of C, N, P, S; sediment-water exchanges of nutrients, metals, and pollutants; pathways and rates of microbially catalyzed reactions; bioturbation and bioirrigation; measurement techniques and reaction-transport modeling. pre-req: Graduate student or instructor permission

**LIM 5105. Research Frontiers and New Directions in Limnology and Environmental Science.** (1 cr. ; S-N or Audit; Periodic Spring)

An interdisciplinary graduate seminar with dual goal of reviewing most significant current developments in limnological science and helping students identify most significant knowledge gaps in their disciplinary research fields. The course involves guest lectures, student presentations and discussions. It aims to provide students with guidance on choosing research directions to achieve an optimal balance between difficulty and scientific payoff. pre-req: Graduate student or instructor permission

**LIM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Linguistics (LING)

**LING 1000. Language and Culture in the U.S. What does it Mean to Speak American.** (CDIVERSITY; 3 cr. ; A-F or Audit; Every Fall)

This course fulfills the UST 1000 requirement. Facilitate the successful transition into college learning and student life at UMD while simultaneously fulfilling other core requirements. Examine the topic of Cultural Diversity in the US through the context of language and dialect in American. Explore the impact language as on the broad spectrum of American culture, and conversely, the ways in which various American cultures and their diverse heritages have influenced the many ways language is spoken in the United States., Investigate concepts of linguistic competency, perceptions and biases toward language, power structures manifested in language, and influences of class, race, ethnicity, and heritage on spoken language. Pre-req: less than 30 credits

**LING 1811. Introduction to Linguistics.**

(LOGIC & QR; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Provides an introduction to a theoretical study of the nature of natural language, using examples primarily from present-day English. Students are expected to learn analytical skills to understand how human languages (and the human mind) work and how the sub-components (sounds, words, sentences and meaning) of natural languages are systematically organized.

**LING 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LING 2101. Phonetics and Phonology.** (NAT SCI; 3 cr. ; A-F or Audit; Every Fall)

This course, which is rooted in biology and physics, focuses on the sound systems of the languages of the world. What do these systems have in common? How do they differ from one another? There is an immense amount of variation across languages, but it is far from random, and this assumption is the driving factor of the course. Students will learn the anatomy of the vocal tract and the means of speech articulation, and they will learn to produce every possible sound of every possible human language. They will also analyze the acoustic signals resulting from speech articulation and how these acoustic results are perceived by hearers. Along the way, student learn to analyze large amounts of phonetic data, both by hand and electronically and to understand when a difference in speech sounds can change the meaning of a message as opposed to simply changing as a result of contextual effects. In short, when are speech sounds meaningful, and what does this tell us about the way the human language faculty is organized? The scientific approach taken here will teach students a great deal about their own language. It will also teach students a great deal about the diversity of languages in the world: how they differ, but more importantly, what they all have in common, and what it is that makes them all human.

**LING 2195. Special Topics: (Various Titles to be Assigned).** (; 3 cr. [max 6 cr.] ; A-F or Audit; Periodic Spring)

Topics not included in regular curriculum.

**LING 2400. Language of Advertising.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Our linguistic landscape has never been more saturated with advertising, branding, messaging, and media. This course will explore the links between the markets and masses through a variety of linguistic aspects. Students will scrutinize film, journalism, podcasts, comics, and interactive experiences for language play, genderspeak, teenspeak, emerging changes in use, and representation of time and perspective.

**LING 2600. Language in Society.**

(CDIVERSITY, SOC SCI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course considers the way social factors relate to the form and function of language. We will consider a broad range of topics, such as language and gender, in-group slang, bilingualism, pidgins and creoles, African American Language, and more as time permits. An important part of the course will consider the role of language in constructing and maintaining group identity, and we will look specifically at language variation in Minnesota and other regions of the United States.

**LING 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LING 3102. Syntax.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Deals with how sentences are structured. After discussing lexical categories (parts of speech) and phrasal structures from a scientific perspective, several different theories are



introduced under the blanket name Generative Grammar. Based on Generative Grammar, students learn how to analyze English sentence structures to understand universal properties of natural language. prereq: 1811 or instructor consent

**LING 3103. Semantics and Pragmatics.** ( ; 3 cr. ; A-F or Audit; Every Fall)

This course will provide an introduction to the study of what is said (semantics) and what is meant (pragmatics) in natural language. It will provide an introduction to set theory, first- and higher-order logic, and lexical semantics. It will also cover pragmatic topics such as presupposition, implicature, and speech act theory. Beyond these basic topics, the course will focus on specific sub-topics from time to time such as negation, reference, information structure, reported speech, genre, and so on. prereq: 1811

**LING 3104. Python Programming for Language Researchers.** (LOGIC & QR; 3 cr. ; A-F or Audit; Every Fall)

The aim of this course is to learn computer programming using Python within the context of linguistic analysis. After learning how to create basic code using basic programming concepts, students will create more domain specific programs to clean up and reformat a large set of text data. Students will also learn how to use existing linguistic analytical tools (modules) such as NLTK (Natural Language Tool Kit), SpaCy, and Stanford Parser to parse English sentences as well as to generate bi-/tri-grams as a preparation for further statistical analyses.

**LING 3203. Linguistics and Social Media.** (3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

This course examines the structure and use of language across a wide range of social media platforms, such as texting, Facebook, e-mail, Instagram, Snapchat, Twitter, blogs and more. Rooted in theories of discourse analysis, sociolinguistics, and pragmatics, this course looks at how structural limitations steer the functions of the various media at the same time as engendering creativity among users. Similarly, the course investigates the ways in which online communities construct and maintain identities through language use, and in so doing, sheds light on the linguistic behavior of traditional community groups as well. Students will gain experience collecting large amounts of electronic data and performing quantitative analyses on it as well as performing ethnographic descriptions of online communities. Students will also examine the way interpersonal relationship develop and are maintained through the linguistic conventions of the various media. The class will consist of lecture, discussion groups, and a significant amount of hands-on experience in an extended final project. pre-req: LING 1811 or LING 2600 or instructor consent

**LING 3591. Independent Study in Linguistics.** (1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Directed reading and/or research. prereq: 1811 or instructor consent, department consent

**LING 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LING 4103. Morphology: Word Structures and Rules.** ( ; 3 cr. ; A-F or Audit; Fall Odd Year)

An introductory survey course on linguistic morphology that examines key concepts used to describe and explain the internal structures of words, and also deals with the central word formation processes across the typologically different languages. This theoretical knowledge acquired is then applied to the analysis of word formation in various discourse domains in present-day English and non-Indo-European languages. prereq: 1811, no grad credit

**LING 4104. Corpus Linguistics.** ( ; 3 cr. ; A-F only; Periodic Spring)

The aim of this course is to learn how to analyze linguistic phenomena based on data extracted from large databases. Students will learn the distinction between corpus methods and the traditional, intuition-based approaches. After reviewing key linguistic concepts learned in the prerequisite linguistics course, students will learn several statistical tests widely used in linguistics and how those tests are applied to the data extracted from large corpora. Students will also acquire basic computer programming skills in Python and R to clean up and manipulate the data structure for the purpose of linguistic exploration. Students will be able to evaluate competing hypotheses using the results of their empirical investigations. pre-req: LING 1811

**LING 4105. Cognitive Linguistics.** ( ; 3 cr. ; A-F or Audit; Periodic Spring)

As a general introduction to cognitive linguistics, this course consists of three main components. The first part provides an overview of some of the main aims, assumptions, and commitments of the cognitive linguistics enterprise, and provides an indicative sketch of some of the descriptive analyses and theoretical positions that are representative of cognitive linguistics. Based on this theoretical background, the next two parts focus on the two best-developed research frameworks in cognitive linguistics: cognitive semantics (meaning), and the cognitive approach to grammar (structure). Students will also learn the difference between cognitive approaches to linguistics and the mainstream generative approach. pre-req: LING 1811

**LING 4195. Special Topics: (various titles to be assigned).** ( ; 3 cr. [max 4 cr.] ; A-F or Audit; Periodic Fall & Spring)

Subdisciplines such as pragmatics, semantics, regional and social language variation, childhood language acquisition, second language learning, language change and linguistic reconstructions, cognitive linguistics, and history of linguistic inquiry. prereq: 60 credits earned or in progress, no grad credit

**LING 4852. Teaching Assistantship in Linguistics.** (1-3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Students gain practical experience in teaching-related activities for introductory linguistic

courses. Students assist the instructor in administration of the class. prereq: 1811, 3101, 3102, instructor consent, no grad credit

**LING 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**LING 5852. Practicum in Teaching Linguistics.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Supervised teaching in introductory linguistics courses. Experience in preparation for and in conduct of classes, in consultations with students, and in testing. prereq: College Grad or Grad student

**LING 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## M (M)

**M 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**M 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**M 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**M 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**M 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## MEDT (MEDT)

**MEDT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MEDT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MEDT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MEDT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MEDT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## MFL (MFL)

**MFL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MFL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MFL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**MFL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MFL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## MGMT (MGMT)

**MGMT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MGMT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MGMT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MGMT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MGMT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## MILS (MILS)

**MILS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MILS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MILS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MILS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MILS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## MSCI (MSCI)

**MSCI 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MSCI 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MSCI 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MSCI 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MSCI 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## MTH (MTH)

**MTH 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MTH 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MTH 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MTH 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MTH 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Management Information Systems (MIS)

**MIS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MIS 2201. Information Technology in Business.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to information technology (IT) concepts: computer hardware and software; use of personal productivity tools (spreadsheet, database, and presentation software); system development processes; Web technologies; applications of IT in business processes. prereq: LSBE major or minor student or Graphic Design and Marketing major or Graphic Design with Marketing subplan major or Computer Information Systems majors or minors, or Arts Administration, minimum 15 credits or college consent; credit will not be granted if already received for FMIS 2201

**MIS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MIS 3211. Introduction to Responsive Apps Development.** (; 3 cr. ; A-F or Audit; Every Summer)  
Introductory programming in HTML, CSS, JavaScript, and application development frameworks such as Bootstrap and Cordova for web apps (entirely web-based app) and hybrid apps (partially web-based app) based on the responsive web design paradigm, which aims at creating apps to provide an optimal viewing experience - better user experience through easy reading and navigation with a minimum of refreshing, resizing, and scrolling - across a wide range of devices (from smartphones to tablets to desktop computers). pre-req: FMIS 2201 or MIS 2201 or CS 1121 or CS 1511; credit will not be granted if already received for FMIS 3211

**MIS 3220. Database Management and Design.** (3 cr. ; A-F only; Every Fall & Spring)  
Concepts and structures relating to design, implementation, and administration of database management systems. Emphasis on relational databases and development of integrated applications. prereq: FMIS 2201 or MIS 2201 or CS 1121 or CS 1511, LSBE candidate or

non-LSBE MIS minor or college consent; credit will not be granted if already received for FMIS 3220

**MIS 3224. Data Communications and Computer Networks.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Management of telecommunications networks from a business problem solving perspective. Survey of telecommunications technologies, network architectures, management issues, and evolving business environments. prereq: FMIS 3201 or FMIS 2201 or MIS 2201 or CS 1121 or CS 1511, LSBE candidate or college consent; credit will not be granted if already received for FMIS 3224

**MIS 3231. Data Visualization and Presentation.** (3 cr. ; A-F or Audit; Spring Odd Year)  
Data visualization is the art and science of presenting data effectively in order to facilitate knowledge sharing and decision making. How to present and visualize data is an important skill for business professionals to develop. This course will teach the principles and techniques that empower students to understand and interpret data, as well as make effective decisions based on data. Students will learn the benefits of effective data presentation and visualization, understand the principles and methods of visualization, and apply the principles using popular data visualization technologies. pre-req: FMIS 2201 or MIS 2201, LSBE candidate

**MIS 3232. Computer Programming for Business.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
This course covers the entire spectrum of object-oriented computer programming features using a language such as Java. The goal of the course is to teach basic to advanced principles and practical issues in computer programming, while at the same time preparing students to use computer programming skills for applications in MIS, finance, accounting, marketing, and other disciplines. Topics include: object-oriented programming; algorithms and data structures; and business software systems development. prereq: FMIS 2201 or FMIS 3201 or MIS 2201, FMIS 3220 or concurrently or MIS 3220 or concurrently, LSBE candidate or college consent; credit will not be granted if already received for FMIS 3232

**MIS 3232. Computer Programming for Business.** (3 cr. ; A-F or Audit; Every Fall & Spring)

This course covers the entire spectrum of object-oriented computer programming features using a language such as Java. The goal of the course is to teach basic to advanced principles and practical issues in computer programming, while at the same time preparing students to use computer programming skills for applications in MIS, finance, accounting, marketing, and other disciplines. Topics include: object-oriented programming; algorithms and data structures; and business software systems development. prereq: FMIS 2201 or FMIS 3201 or MIS 2201, FMIS 3220 or concurrently or MIS 3220 or concurrently, LSBE candidate or college consent; credit will not be granted if already received for FMIS 3232

**MIS 3261. Information Security and Assurance.** (3 cr. ; A-F or Audit; Every Spring)

The course is an introduction to technical and managerial issues related to information security and assurance in businesses and organizations. It provides a foundation for understanding how to protect information assets, how to design safeguards and responses to security incidents, and develop an information security strategy, and to implement the strategy. Students will understand the range of activities, methods, and procedures for information security and assurance. Coverage will include inspection and protection of information assets, detection of and reaction to threats to information assets, and examination of pre- and post-incident

procedures, technical and managerial responses, and an overview of the information security planning and staffing functions. pre-req: FMIS 2201 or MIS 2201, LSBE candidate

**MIS 3295. Special Topics: (Various Titles to be Assigned).** ( ; 1-4 cr. [max 24 cr.] ; A-F or Audit; Periodic Fall & Spring)

Exploration of specific MIS problems, issues, and approaches. prereq: LSBE candidate or department approval; repetition of course credits includes credits earned between FMIS 3295 and MIS 3295

**MIS 3297. MIS Internship.** (1-6 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Work-integrated learning program providing practical experiences within students major. Students participate in approved program within cooperating business, governmental agencies, or civic organizations. There are minimum hours based upon the credits you select for the course; 1 credit = 100 hour minimum; 2 credits = 150 hours minimum; 3 credits = 200 hour minimum. The course also requires completion of internship contract, assignments, and performance evaluations. For LSBE majors that allow for only three (or fewer) credit hours of internship in the major curriculum, students will be allowed to count the remaining internship credits in the Upper Division Supporting Courses category. Maximum credits: 6; 3 completions allowed; repetition of course and credits includes both FMIS 3297 and MIS 3297 prereq: Prereq: LSBE Candidate, prior major coursework, consent of Internship Director; credit will not be granted if already received for FMIS 3397.

**MIS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MIS 4220. Healthcare Informatics.** (3 cr. ; A-F or Audit; Every Fall)

Introduction to the convergence of computing, information systems, and healthcare with a focus on managing information and developing systems that leads to more effective decisions and actions in healthcare. Covers the standards, ethics and security of the electronic health record. prereq: FMIS 2201 or MIS 2201 or FMIS 3201, LSBE candidate or college consent, no grad credit; credit will not be granted if already received for FMIS 4220

**MIS 4223. Systems Analysis and Design.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Analysis phase of systems development life cycle. Emphasizes feasibility study, requirements analysis, and system specification. Detailed study of current physical and logical systems models and specification. prereq: FMIS 2201 or MIS 2201, LSBE candidate or non-LSBE MIS minor or college consent; credit will not be granted if already received for FMIS 3222 or FMIS 4223, no grad credit

**MIS 4225. Advanced Applications Development.** (3 cr. ; A-F only; Every Fall & Spring)

This course is designed to give students opportunities to apply the knowledge of

business and technology that they acquired through their junior and senior year courses to real-world projects. The goal of this course is to augment the knowledge with the state-of-the-art technology in the field of information systems for the conventional and mobile platforms, while at the same time getting students involved in projects to expose them to an in-depth practical experience. Topics include: software version control; computing platform ecosystem; project management; best practices and technologies in business applications development; and business computing, including simulation and data analysis. prereq: FMIS 3220 or MIS 3220, FMIS 3232 or MIS 3232; credit will not be granted if already received for FMIS 4225

**MIS 4241. Data Analytics for Managerial Decision Making.** ( ; 3 cr. ; A-F or Audit; Every Spring)

This course introduces the basic concepts, techniques and technologies of data analytics and business intelligence, and their role in supporting high-level decision making in business. The course examines fundamental principles of descriptive, predictive and prescriptive analytics, illustrates real-world examples in different business contexts using data analytics software, and develops data-analytic thinking in specific application domains. pre-req: LSBE candidacy, FMIS 2201 or MIS 2201, ECON 2030; credit will not be granted if already received for FMIS 3241 or MIS 3241; no grad credit

**MIS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MIS 5220. Medical Informatics.** (3 cr. ; A-F or Audit; Every Fall)

Introduction to the convergence of computing, information systems, and healthcare with a focus on managing information and developing systems that leads to more effective decisions and actions in healthcare. Covers the standards, ethics and security of the electronic health record. pre-req: MIS 2201, MBA student or department consent

**MIS 5223. Systems Analysis and Design.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Analysis phase of systems development life cycle. Emphasizes feasibility study, requirements analysis, and system specification. Detailed study of current physical and logical systems models and specification. pre-req: MIS 2201, MBA student or department consent

**MIS 5225. Advanced Applications Development.** (3 cr. ; A-F or Audit; Every Fall & Spring)

This course is designed to give students opportunities to apply the knowledge of business and technology that they acquired through their junior and senior year courses to real-world projects. The goal of this course is to augment the knowledge with the state-of-the-art technology in the field of information systems for the conventional and mobile platforms, while at the same time getting students involved in projects to expose them

to an in-depth practical experience. Topics include: software version control; computing platform ecosystem; project management; best practices and technologies in business applications development; and business computing, including simulation and data analysis. pre-req: MIS 3220, 3232, MBA student or department consent

**MIS 5241. Data Analytics for Managerial Decision Making.** ( ; 3 cr. ; A-F or Audit; Every Spring)

This course introduces the basic concepts, techniques and technologies of data analytics and business intelligence, and their role in supporting high-level decision making in business. The course examines fundamental principles of descriptive, predictive and prescriptive analytics, illustrates real-world examples in different business contexts using data analytics software, and develops data-analytic thinking in specific application domains. pre-req: MBA student

**MIS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Management Studies (MGTS)

**MGTS 1101. Introduction to Business.** ( ; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Introduction to context, environment, and operation of business and organizations. Study of foundations and functional areas of business and entrepreneurship. Analysis of technological, ethical, diversity, and global issues from business and organizational perspectives.

**MGTS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MGTS 2411. Team Skills.** (2 cr. ; A-F or Audit; Every Fall & Spring)

This course will give students the opportunity to learn teams theory and apply this body of knowledge in a team setting prereq: COMM 1112 or 1222, PSY 1003, pre-business major

**MGTS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MGTS 3301. Production and Operations Management.** ( ; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Introductory survey of production and operations as a functional area of management, including operations strategy, process design, forecasting, resource allocation, inventory management, scheduling, quality management, and project management. Computer applications of quantitative techniques to support operations decision making. prereq: LSBE candidate or approved non-LSBE business administration minor or college consent; credit will not be granted if already received for FMIS 3301

**MGTS 3401. Organizational Behavior and Management.** ( ; 3 cr. ; A-F only; Every Fall & Spring)

Introduction to organizations, management processes, and understanding human behavior at work. Covers the effects of the external environment, organizational structure, job design, teams, and leadership on employees, attitudes, motivation, and behavior. prereq: LSBE candidate or Management minor or approved Organizational Management minor or college consent

**MGTS 3491. Independent Study.** (1-3 cr. ; A-F only; Every Fall, Spring & Summer)  
For students wishing to do special work in entrepreneurship, human resource, MIS, organizational management or strategic management that extends beyond, or in greater depth than regular course offerings. prereq: department consent

**MGTS 3497. Organizational Management Internship.** (1-6 cr. ; A-F only; Every Fall, Spring & Summer)  
Work-integrated learning program providing practical experiences within students major. Students participate in approved program within cooperating business, governmental agencies, or civic organizations. There are minimum hours based upon the credits you select for the course; 1 credit = 100 hour minimum; 2 credits = 150 hours minimum; 3 credits = 200 hour minimum. The course also requires completion of internship contract, assignments, and performance evaluations. For LSBE majors that allow for only three (or fewer) credit hours of internship in the major curriculum, students will be allowed to count the remaining internship credits in the Upper Division Supporting Courses category. Maximum credits: 6; 3 completions allowed. prereq: LSBE candidate, prior major coursework and consent of internship director

**MGTS 3801. Human Resource Management.** (; 3 cr. ; A-F only; Every Fall & Spring)  
Introduction to theory and practice of human resource management in private and public organizations. Organizational, legal, and ethical influences on major personnel functions, including planning, staffing, training, performance appraisal, compensation, and labor-management relations. prereq: LSBE candidate or approved non-LSBE business administration or approved non-LSBE HRM minors or college consent

**MGTS 3897. Human Resources Internship.** (1-6 cr. ; A-F only; Every Fall, Spring & Summer)  
Work-integrated learning program providing practical experiences within students major. Students participate in approved program within cooperating business, governmental agencies, or civic organizations. There are minimum hours based upon the credits you select for the course; 1 credit = 100 hour minimum; 2 credits = 150 hours minimum; 3 credits = 200 hour minimum. The course also requires completion of internship contract, assignments, and performance evaluations. For LSBE majors that allow for only three (or fewer) credit hours of internship in the major curriculum, students will be allowed to count the remaining internship credits in the Upper Division Supporting Courses

category. Maximum credits: 6; 3 completions allowed pre-req: LSBE candidate, prior major coursework, consent of Internship Director

**MGTS 3997. Management of Community Projects.** (1-3 cr. ; A-F only; Every Fall, Spring & Summer)  
Requires design and administration of community-related project involving volunteers. Interns identify project, contact appropriate persons, obtain approval, and submit written proposal. Requires completion of minimum of 100-300 hours, maintenance of weekly journal, oral presentation, and written analysis. prereq: 3401, 3801, LSBE candidate, instructor consent

**MGTS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MGTS 4095. Entrepreneurship Special Topics: (various Titles to be Assigned).** (; 1-3 cr. [max 6 cr.] ; A-F only; Periodic Fall, Spring & Summer)  
Enables students, working closely with the instructional faculty, to explore one or more entrepreneurial management issues in substantial depth. prereq: LSBE candidate, 3401 or college consent, no grad credit

**MGTS 4195. Micro Special Topics: (Various Titles to be Assigned).** (; 1-3 cr. [max 6 cr.] ; A-F only; Periodic Fall, Spring & Summer)  
Enables students, working closely with the instructional faculty, to explore one or more micro management issues in substantial depth. prereq: LSBE candidate, 3401 or college consent; maximum of 6 credits between MGTS 4195 and MGTS 4495 Micro Topics

**MGTS 4295. Special Macro Topics: (Various Titles to be Assigned).** (; 1-3 cr. [max 6 cr.] ; A-F only; Periodic Fall, Spring & Summer)  
Enables students, working closely with the instructional faculty, to explore one or more contemporary macro management issues in substantial depth. prereq: LSBE candidate, 3401 or college consent; maximum of 6 credits between MGTS 4295 and MGTS 4495 Macro Topics

**MGTS 4395. Process Special Topics: (Various Titles to be Assigned).** (; 1-3 cr. [max 6 cr.] ; A-F only; Periodic Fall, Spring & Summer)  
Enables students, working closely with the instructional faculty, to explore one or more contemporary process management issues in substantial depth. prereq: LSBE candidate, 3401 or college consent; maximum of 6 credits between MGTS 4395 and MGTS 4495 Process Topics

**MGTS 4411. High Performance Organization Design and Transformation.** (3 cr. ; A-F only; Periodic Fall & Spring)  
The course introduces knowledge and develops skills on how to design and change organizational systems to achieve optimal performance. Students are exposed to modern and classic organizational theories on how to maximize efficiency and innovation. Building upon the knowledge, students will diagnose organizational systems to identify areas of

improvement and subsequently plan and orchestrate a change process to transform organizations for high performance. prereq: 3401, LSBE candidate or college consent

**MGTS 4431. Leadership Studies.** (; 3 cr. ; A-F only; Every Fall)  
A survey of the leadership literature aimed at the development of an understanding of leaders and the leadership process. An exploration of such questions as: Who as a person is the leader? How do people come to the position of a leader? What is the nature of leadership as a process? How do leaders influence others? What is participative leadership? What is charismatic and transformational leadership? prereq: 3401, LSBE candidate or or Non-LSBE Organizational Management minor or college consent

**MGTS 4443. Teams in Organizations.** (3 cr. ; A-F only; Periodic Fall & Spring)  
Examines effective design and management of a variety of groups in organizations, including work groups, task forces, self-managed teams and coalitions. Covers group composition, goals, processes, and effectiveness; includes leadership, managing external relationships, and performance measurement. prereq: LSBE candidate, 3401 or instructor consent

**MGTS 4451. Management Inquiry.** (3 cr. ; A-F only; Every Spring)  
Methods employed by organizational specialists in conducting applied inquiry (research) to assist organizational decision making, coupled with an examination of a contemporary management issue. Preparation and written/oral presentation of research findings from student-conducted field, laboratory, or library research projects focused on contemporary management issues. prereq: 3401, 3801, approved LSBE candidate or approved non-LSBE Organizational Management minor or college consent

**MGTS 4461. Business Ethics.** (3 cr. ; A-F only; Every Fall)  
Stakeholder theory, ethical decision-making frameworks, ethical business and function-specific issues (e.g., organizational management, human resource management), with business as part of larger system (e.g., economic, political, social. Emphasis on external environment--economics, culture, government, technology). prereq: 3401, 3801, LSBE candidate or approved non-LSBE Organizational Management minor or college consent

**MGTS 4463. Foundations of Sustainable Management.** (3 cr. ; A-F or Audit; Every Spring)  
This course will introduce students to the concepts of sustainability in a managerial context. prereq: 3401 and LSBE candidate or approved non-LSBE Organizational Management Minor or instructor consent; no grad credit

**MGTS 4472. Entrepreneurship.** (3 cr. ; A-F only; Every Fall)  
Seminar on the fundamentals of entrepreneurship, the characteristics of

entrepreneurs, and the life cycle of a new venture: creating and starting a new venture; financing the new venture; managing, growing, and ending the new venture. prereq: LSBE candidate or approved non-LSBE Organizational Management minor or college consent

**MGTS 4473. Management of Innovation and Technology.** (; 3 cr. ; A-F only; Periodic Fall) Issues related to achieving maximum leverage from innovation competencies, skills, and resources. Factors distinguishing high-innovation companies, strategies for innovation, internal and external conditions, and market consequences of innovation. Integration of technology within the strategic management process. prereq: 3401, LSBE candidate or college consent

**MGTS 4474. International Management.** (3 cr. ; A-F only; Periodic Fall & Spring) Differences in culture, history, resources, etc. are explored in the context of managing global businesses and workforce. Students will reflect on their own managerial skills, and develop skills to become a global manager. prereq: 3401, LSBE candidate or college consent

**MGTS 4475. Negotiations, Bargaining and Conflict Resolution.** (3 cr. ; A-F only; Periodic Fall & Spring) Combines analytical material on the negotiation process, with a series of negotiating experiences, to develop your understanding of, and skills in, negotiating and resolving conflicts in business. Covers topics and strategies appropriate for use between people, departments, organizations and countries, across a variety of industries. prereq: LSBE candidate, 3401 or instructor consent

**MGTS 4478. Supply Chain Management.** (3 cr. ; A-F or Audit; Every Fall) Key drivers of supply chain performance will be explored in this course along with how these drivers may be used to improve performance on a practical level during supply chain design, planning, and operations. Students will gain a solid understanding of the analytical tools necessary to solve supply chain problems. prereq: LSBE student: MGTS 3301 or non-LSBE student: instructor consent; no grad credit

**MGTS 4481. Strategic Management.** (; 3 cr. ; A-F only; Every Fall & Spring) Integration of basic functions of marketing, finance, production, and behavioral sciences. Emphasis on organizational environments and development and implementation of competitive strategies that respond to social, political, and economic conditions from perspective of top management. prereq: 3401, 3801, Mktg 3701, FMIS 3301 or MGTS 3301, FMIS 3601, 90 credits, LSBE candidate or college consent; no grad credit

**MGTS 4495. Special Topics: (Various Titles to be Assigned).** (; 1-3 cr. [max 9 cr.] ; A-F only; Periodic Fall, Spring & Summer) Enables students, working closely with the instructional faculty, to explore one or more contemporary organization management issues in substantial depth.

**MGTS 4821. Staffing Work Organizations.** (3 cr. ; A-F only; Every Spring) Theory and practice of staffing work organizations. Emphasis on design and implementation of staffing systems, legal requirements, and career planning. prereq: 3801, LSBE cand or department consent

**MGTS 4825. Human Resource Analytics.** (3 cr. ; A-F or Audit; Every Fall) Human Resource (HR) analytics is a sector within the field of human resource management that aims at using measurement and analysis techniques to understand, improve, and optimize the people side of the business. HR analytics adds value to businesses by improving vital decisions about talent and how it is organized in organizations. This course will teach the analytical foundations of HR decisions, the connections between data analytics and strategic HRM, and the applications of analytic logic and processes of various HR functions and workplace trends. Students will learn how to gather and analyze pertinent HR metrics and how to properly communicate findings to support HR decisions and drive organizational decisions. pre-req: MGTS 3801, LSBE candidate or HRM minor; no grad credit

**MGTS 4831. Compensation Systems.** (3 cr. ; A-F only; Every Fall) Theory, design, and practice of employee compensation systems. Impacts of compensation, economic and institutional forces influencing employer compensation policies and practices, supplemental forms of compensation and administrative practices. prereq: 3801, LSBE candidate or college consent

**MGTS 4841. Training and Development.** (3 cr. ; A-F only; Every Spring) Elements of training and development program planning and delivery: learning theories and approaches, needs assessment, training objectives, design, training methods, transfer-of-training strategies, and evaluation. Assess, design, and evaluate human resource development systems. Develop training skills and techniques. prereq: 3801, LSBE candidate or approved non-LSBE Human Resources Management minor or college consent

**MGTS 4851. Labor Relations.** (3 cr. ; A-F only; Periodic Spring) Nature of and basis for the labor relations system in the United States. Emphasis on background of labor movement, union organizing, bargaining relationships, labor law; important issues for business, policy makers, and labor unions (e.g. workplace flexibility, employee empowerment, labor-management partnerships, and globalization); and options for labor relations reform. prereq: 3801, LSBE candidate or college consent

**MGTS 4861. International Human Resource Management.** (3 cr. ; A-F only; Every Fall) Course combines theories of culture with HRM applications to develop students' awareness cultural issues as they apply in the workplace. prereq: 3801, LSBE candidate or instructor consent

**MGTS 4871. Strategic Human Resource Management.** (3 cr. ; A-F or Audit; Every Fall) This course aims to provide students with a systematic understanding of HRM from a strategic lens. Students in this course will study key human resource functions with a special focus on how each function complements each other and at the same time contributes to an organization's overall business strategy. Students will develop their ability to analyze, evaluate, and design effective human resource management system, which are critical skills not only for human resource managers but also general managers as well. pre-req: MGTS 3801

**MGTS 4881. Human Resource Issues and Trends.** (3 cr. ; A-F only; Periodic Fall & Spring) Integrative, problem-solving approaches to contemporary human resource challenges, with emphasis on employment law. prereq: 3801, LSBE candidate or college consent

**MGTS 4895. Special Topics: (Various Titles to be Assigned).** (; 3 cr. [max 9 cr.] ; A-F only; Periodic Fall, Spring & Summer) Enables students, working closely with the instructional faculty, to explore one or more contemporary human resource management issues in substantial depth. prereq: LSBE cand, 3801 or instructor consent

**MGTS 4921. Entrepreneurial Finance.** (; 3 cr. ; A-F or Audit; Every Spring) Course topics include raising seed and growth capital from venture capital, business angels, investment banking, commercial banking, and bootstrapping sources, and understanding financial problems unique to the small and medium sized firms undergoing rapid growth. The course examines proposals made to venture capital firms, particularly in terms of their financial viability as well as financial management for entrepreneurs over the life of business project. Includes financing start-ups, financial planning for the nonpublic smaller enterprise, going public, selling out, bankruptcy, sources of capital, and other related topics. prereq: LSBE candidate, FMIS 3601, no grad credit

**MGTS 4931. Family Business Management.** (3 cr. ; A-F or Audit; Every Spring & Summer) Family Business Management provides an introduction to understanding family owned, controlled, and influenced businesses. Family Businesses are the most prevalent form of business organization all over the world. The course introduces the unique issues that arise due to the interaction of the family system with the business system. Issues such as governance, entrepreneurship, succession, growth, internationalization, strategy, and leadership are discussed in the context of family business management. The influence of family on the business values, goals, behavior, and performance is described. Finally, the management of non-family employees in family businesses is covered. prereq: 3401 or 3801, 4472, LSBE candidate or college consent; no grad credit

**MGTS 4941. Social Entrepreneurship.** (; 3 cr. ; A-F or Audit; Every Spring)

This course introduces students to the field of social entrepreneurship, the practice of identifying, designing, starting and growing successful mission-driven for profit and nonprofit ventures. These include non-profit enterprises designed to respond to a special social, need, as well as more traditional ventures working to incorporate socially-responsible practices into their business models. The course provides an overview of the processes, challenges, and demands associated with creating ventures that seek to integrate financial and social/environmental benchmarks of success. This course is designed to appeal to those who want to learn more about enterprise in business and social contexts. prereq: LSBE candidate or college consent, no grad credit

**MGTS 4961. Entrepreneurial Capstone Experience.** (3 cr. ; A-F or Audit; Every Spring & Summer)

Entrepreneurial Experience course gives our undergraduate students the unique opportunity of conceiving, launching, and operating a real business as part of their educational experience. Student put entrepreneurial thought and action into practice by developing, taking and building on key action steps to advance their own venture or on projects for existing enterprises. Key elements of the process involve both primary and secondary research while engaging prospective customers, experts, suppliers, stakeholders, analogous/complimentary ventures, and investors. Students are challenged to test ideas and gain a clearer understanding of the interdisciplinary complexities involved within the entrepreneurial landscape. The core is action based learning which will result in pivoting your venture based on information gained in experimenting and testing assumptions. prereq: 4472, BLAW 3201, MKTG 4741, LSBE candidate, instructor consent; no grad credit

**MGTS 4997. Entrepreneurial Internship.** (1-6 cr. ; A-F or Audit; Every Spring)

Work-integrated learning program providing practical experiences within students major. Students participate in approved program within cooperating business, governmental agencies, or civic organizations. There are minimum hours based upon the credits you select for the course; 1 credit = 100 hour minimum; 2 credits = 150 hours minimum; 3 credits= 200 hour minimum. The course also requires completion of internship contract, assignments, and performance evaluations. For LSBE majors that allow for only three (or fewer) credit hours of internship in the major curriculum, students will be allowed to count the remaining internship credits in the Upper Division Supporting Courses category. Maximum credits: 6; 3 completions allowed prereq: LSBE candidate, major coursework and consent of internship director; no grad credit

**MGTS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MGTS 5431. Leadership Studies.** (3 cr. ; A-F or Audit; Every Fall)

A survey of the leadership literature aimed at the development of an understanding of leaders and the leadership process. An exploration of such questions as: Who as a person is the leader? How do people come to the position of a leader? What is the nature of leadership as a process? How do leaders influence others? What is participative leadership? What is charismatic and transformational leadership? pre-req: MGTS 3401, MBA student or instructor consent

**MGTS 5463. Foundations of Sustainable Management.** (3 cr. ; A-F or Audit; Every Spring)

This course will introduce students to the concepts of sustainability in a managerial context. pre-req: MGTS 3401, MBA student or instructor consent

**MGTS 5472. Entrepreneurship.** (3 cr. ; A-F or Audit; Every Fall)

Seminar on the fundamentals of entrepreneurship, the characteristics of entrepreneurs, and the life cycle of a new venture: creating and starting a new venture; financing the new venture; managing, growing, and ending the new venture. pre-req: MBA student or instructor consent

**MGTS 5473. Management of Innovation and Technology.** (3 cr. ; A-F or Audit; Periodic Fall)

Issues related to achieving maximum leverage from innovation competencies, skills, and resources. Factors distinguishing high-innovation companies, strategies for innovation, internal and external conditions, and market consequences of innovation. Integration of technology within the strategic management process. pre-req: MGTS 3401, MBA student or instructor consent

**MGTS 5473. Management of Innovation and Technology.** (3 cr. ; A-F or Audit; Periodic Fall)

Issues related to achieving maximum leverage from innovation competencies, skills, and resources. Factors distinguishing high-innovation companies, strategies for innovation, internal and external conditions, and market consequences of innovation. Integration of technology within the strategic management process. pre-req: MBA student or instructor consent

**MGTS 5478. Supply Chain Management.** (3 cr. ; A-F or Audit; Every Fall)

Key drivers of supply chain performance will be explored in this course along with how these drivers may be used to improve performance on a practical level during supply chain design, planning, and operations. Students will gain a solid understanding of the analytical tools necessary to solve supply chain problems. pre-req: MBA student or instructor consent

**MGTS 5821. Staffing Work Organizations.** (3 cr. ; A-F or Audit; Every Spring)

Theory and practice of staffing work organizations. Emphasis on design and implementation of staffing systems, legal requirements, and career planning. pre-req: MGTS 3801, MBA student or instructor consent

**MGTS 5831. Compensation Systems.** (3 cr. ; A-F or Audit; Every Fall)

Theory, design, and practice of employee compensation systems. Impacts of compensation, economic and institutional forces influencing employer compensation policies and practices, supplemental forms of compensation and administrative practices. pre-req: MGTS 3801, MBA student or instructor consent

**MGTS 5841. Training and Development.** (3 cr. ; A-F or Audit; Every Spring)

Elements of training and development program planning and delivery: learning theories and approaches, needs assessment, training objectives, design, training methods, transfer-of-training strategies, and evaluation. Assess, design, and evaluate human resource development systems. Develop training skills and techniques. pre-req: 4+1 student or MBA student, department consent

**MGTS 5851. Labor Relations.** (3 cr. ; A-F or Audit; Periodic Spring)

Nature of and basis for the labor relations system in the United States. Emphasis on background of labor movement, union organizing, bargaining relationships, labor law; important issues for business, policy makers, and labor unions (e.g. workplace flexibility, employee empowerment, labor-management partnerships, and globalization); and options for labor relations reform. pre-req: MGTS 3801, MBA student or instructor consent

**MGTS 5861. International Human Resource Management.** (3 cr. ; A-F or Audit; Every Fall)

Course combines theories of culture with HRM applications to develop students' awareness cultural issues as they apply in the workplace. pre-req: MGTS 3801, MBA student or instructor consent

**MGTS 5921. Entrepreneurial Finance.** (3 cr. ; A-F or Audit; Every Spring)

Course topics include raising seed and growth capital from venture capital, business angels, investment banking, commercial banking, and bootstrapping sources, and understanding financial problems unique to the small and medium sized firms undergoing rapid growth. The course examines proposals made to venture capital firms, particularly in terms of their financial viability as well as financial management for entrepreneurs over the life of business project. Includes financing start-ups, financial planning for the nonpublic smaller enterprise, going public, selling out, bankruptcy, sources of capital, and other related topics. pre-req: FIN 3601, MBA student or instructor consent

**MGTS 5941. Social Entrepreneurship.** (3 cr. ; A-F or Audit; Every Spring)

This course introduces students to the field of social entrepreneurship, the practice of identifying, designing, starting and growing successful mission-driven for profit and nonprofit ventures. These include non-profit enterprises designed to respond to a special social, need, as well as more traditional ventures working to incorporate socially-responsible practices into their business

models. The course provides an overview of the processes, challenges, and demands associated with creating ventures that seek to integrate financial and social/environmental benchmarks of success. This course is designed to appeal to those who want to learn more about enterprise in business and social contexts. pre-req: 4+1 student or MBA student, department consent

**MGTS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Manufacturing Technology (MT)

**MT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Marketing (MKTG)

**MKTG 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MKTG 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MKTG 3701. Principles of Marketing.** (3 cr. ; A-F only; Every Fall, Spring & Summer)  
Marketing as a process of exchange management. Emphasis on conceptual tools necessary to deal with both strategic marketing management issues and tactical management of product, price, promotion, and distribution. prereq: LSBE candidate or non-LSBE Marketing minor or approved non-LSBE business administration minor or college consent

**MKTG 3710. Green Marketing.** (3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
This course provides an overview of the role of green marketing and sustainability in marketing strategy. The course adopts the triple bottom line perspective to case sustainability as the simultaneous pursuit of financial, social/relational, and environmental performance. It provides an assessment of current efforts to pursue sustainability with a primary focus on the interaction of the marketing organization with the environment. The course focuses on examining specific marketing tactics employed by firms seeking to maximize triple bottom line performance, and subsequently address consumption processes in the household,

industrial, services, and transportation sectors of the economy. prereq: 3701

**MKTG 3711. Marketing Research.** (3 cr. ; A-F only; Periodic Fall, Spring & Summer)  
Emphasis on improving skills of conducting secondary research, designing a primary research study, and analyzing and reporting results of a research study. prereq: MgtS 3701 or Mktg 3701, LSBE candidate or Graphic Design and Marketing majors or Graphic Design with Marketing subplan major or non-LSBE Marketing Minor or college consent

**MKTG 3721. Social Media Marketing.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course provides an overview of various aspects of social media marketing, including: (1) the social media planning process (2) how social media marketing platforms are coordinated with other traditional promotional elements (advertising, public relations, consumer promotion, customer service, personal selling) as a part of an integrated marketing communications campaign. prereq: 3701, LSBE Candidate or Graphic Design with Marketing subplan or college consent

**MKTG 3731. Sales Analytics: An Introduction to Sales Analysis Techniques and Applications.** (3 cr. ; A-F or Audit; Every Spring)  
Sales Analytics introduces students to the foundation metrics used in Business to Business and other sales environments. Students use excel to manage and summarize data sets, analyze product category and brand trends, and assess the impacts of various trade promotions. Students develop business insights from the data sets and use these insights to build compelling sales presentations. The course focuses on the use of data sets typical to consumer packaged goods industries but will also integrate data from other sources including: the US Census, other government surveys and Experian Simmons Oneview. pre-req: MKTG 3701 and Professional Sales Major

**MKTG 3741. Fundamentals of Selling.** (3 cr. ; A-F only; Every Fall & Spring)  
Theory and practice of personal selling as used by organizations to develop long-term partnerships with customers. Emphasis on marketing, planning, communication, and presentation skills. prereq: MgtS 3701 or Mktg 3701, LSBE candidate or Graphic Design and Marketing majors or Graphic Design with Marketing sub plan major or non-LSBE Marketing Minor or college consent

**MKTG 3751. Marketing Ethics.** (3 cr. ; A-F or Audit; Every Summer)  
Introduces a broad range of ethical issues encountered by marketing practitioners, and helps discover, develop, and test personal sets of guidelines for making judgments when such issues arise. prereq: 3701, LSBE candidate or Graphic Design and Marketing majors or college consent

**MKTG 3771. Sports Marketing.** (3 cr. ; A-F or Audit; Every Fall)  
This course will provide an overview of various aspects of sports marketing including: (1) the

marketing of sports products (2) the use of sports to market non-sports products. prereq: 3701, LSBE Candidate or Graphic Design and Marketing majors or Graphic Design with Marketing sub plan major

**MKTG 3791. Independent Study.** (1-3 cr. ; A-F only; Every Fall, Spring & Summer)  
For students wishing to do special work in marketing that extends beyond, or in greater depth than, regular course offerings. prereq: department consent

**MKTG 3797. Marketing Internship.** (1-6 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Work-integrated learning program providing practical experiences within students major. Students participate in approved program within cooperating business, governmental agencies, or civic organizations. There are minimum hours based upon the credits you select for the course; 1 credit = 100 hour minimum; 2 credits = 150 hours minimum; 3 credits = 200 hour minimum. The course also requires completion of internship contract, assignments, and performance evaluations. For LSBE majors that allow for only three (or fewer) credit hours of internship in the major curriculum, students will be allowed to count the remaining internship credits in the Upper Division Supporting Courses category. Maximum credits: 6; 3 completions allowed Pre-req: LSBE candidate, prior major coursework, consent of internship director; credit will not be granted if already received for MgtS 3797

**MKTG 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MKTG 4710. Marketing for Non-Profits.** (3 cr. ; A-F or Audit; Periodic Spring)  
This course will introduce students to the dynamic world of non-profits with an emphasis placed on key marketing strategies and tactics that successful non-profits use to fulfill their mission. This course will provide an overview of various aspects and special issues related to non-profit marketing including: (1) the focus of non-profit on social impact versus maximizing profits; (2) the marketing of social services; (3) marketing's role in fundraising; (4) challenges of integrating marketing efforts among diverse stakeholders; and (5) external economic, legal and political factors that impact marketing of non-profit services. prereq: 3701

**MKTG 4712. Event Marketing.** (3 cr. ; A-F or Audit; Periodic Spring)  
This course will focus on the role of events in marketing. Students are introduced to a number of effective event marketing strategies used to reach and engage target audiences and achieve engagement, sales lead and revenue goals. Marketing using webinars, festivals, trade shows, corporate events, conferences, non-profit fundraisers, cultural and sporting events will be explored. Specific topics will include event management and planning, selecting the "right" event partnership, branding, lead generation, sponsorship, social media, virtual reality, engaging event experiences, touch points



and various ways to measure ROI. Insights into consumer experiences, such as how experiences are remembered and ways experienced based marketing may contribute to value are also explored. pre-req: MKTG 3701, LSBE candidate or Graphic Design Marketing sub plan major or non-LSBE Marketing Minor or college consent; no grad credit

**MKTG 4721. Advertising and Marketing Communications.** (3 cr. ; A-F only; Every Fall & Spring)

Promotional planning. Emphasis on planning for advertising, sales promotion, public relations/publicity, direct marketing, and personal selling. Importance of integrated marketing communications to organizations. prereq: MgtS 3701 or Mktg 3701, LSBE candidate or Graphic Design and Marketing majors or Graphic Design with Marketing sub plan or non-LSBE Marketing Minor or college consent

**MKTG 4731. Consumer Behavior.** (3 cr. ; A-F only; Every Fall & Spring)

Buyer behavior and implications for marketing strategy. Emphasis on information processing concepts, influences on behavior, and decision-making processes from both conceptual and pragmatic perspectives. Students requiring graduate credit must complete additional coursework. prereq: MgtS 3701 or Mktg 3701, LSBE candidate or Graphic Design and Marketing majors or Graphic Design with Marketing sub plan major or non-LSBE Marketing Minor or college consent

**MKTG 4741. Developing and Marketing New Products.** (3 cr. ; A-F only; Every Fall)

A marketing-oriented new products management course that explores the new product development process with a focus on marketing strategies for the planning, development and launch of new products and services. prereq: MGTS 3701 or MKTG 3701, LSBE candidate or Graphic Design and Marketing majors or Graphic Design with Marketing sub plan major or college consent

**MKTG 4742. Advanced Professional Selling.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Introduces advanced topics and skill development in professional selling. Emphasis on interpersonal communications, relationship management, team selling, personal productivity, and negotiations. pre-req: MKTG 3741 and Professional Sales Major

**MKTG 4751. Retailing.** (3 cr. ; A-F only; Periodic Fall & Spring)

Principles of establishing and operating a retail business. Topics include retail market analysis and research, store layout, retail accounting, merchandise selection and financing, pricing, selling, advertising, budgets and current trends. Emphasis on retail management from a strategic perspective. prereq: 3701, LSBE candidate or Graphic Design and Marketing majors or college consent

**MKTG 4763. Marketing Analytics Practicum.** (; 2 cr. ; A-F or Audit; Every Fall)

This course provides students the opportunity to apply their analytic knowledge and skills to

an industry project and/or data sets. During the course, students will work with industry clients and the course instructor to formulate realistic recommendations based on their analysis of the information. prereq: Markeing Analytics Major, no grad credit

**MKTG 4774. International Marketing.** (; 3 cr. ; A-F only; Periodic Fall, Spring & Summer) Marketing across national boundaries; effects of foreign economic, legal/political, and sociocultural environments on multinational marketing strategies. prereq: MGTS 3701 or MKTG 3701, LSBE candidate or Graphic Design and Marketing majors or Graphic Design with Marketing sub plan or non-LSBE Marketing Minor or college consent; credit will not be granted if already received for 3781; no grad credit

**MKTG 4775. Digital Marketing in Sports.** (3 cr. ; A-F or Audit; Every Spring)

Introduces topics in digital marketing in sports, such as ticket sales, multimedia rights, social media, digital media streaming, video creation, and monetizing digital sports content. pre-req: MKTG 3701, LSBE candidate or Graphic Design major with Marketing Emphasis or non-LSBE Marketing Minor or college consent; no grad credit.

**MKTG 4781. Marketing Management and Strategy.** (3 cr. ; A-F only; Every Fall & Spring)

Planning, directing, and controlling an organization's marketing activity, including formulating marketing objectives, strategy, and tactics. Interpretation of information in decision making and strategy formulation. Case analysis used to develop marketing problem-solving, communication, and organization skills. prereq: MKTG 3711 and 1 other Marketing course, 90 credits, LSBE candidate or Graphic Design and Marketing majors or Graphic Design with Marketing sub plan major or grad or college consent

**MKTG 4795. Special Topics (Various Topics to be Assigned).** (; 3 cr. [max 27 cr.] ; A-F only; Periodic Fall & Spring)

Enables students, working closely with the instructional faculty, to explore one or more contemporary marketing issues in substantial depth. prereq: LSBE cand or non-LSBE Marketing Minor or Graphic Design and Marketing majors or Graphic Design with Marketing sub plan majors, MKTG 3701 or concurrent registration, no grad cr

**MKTG 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**MKTG 5710. Marketing for Non-Profits.** (3 cr. ; A-F or Audit; Periodic Spring)

This course will introduce students to the dynamic world of non-profits with an emphasis placed on key marketing strategies and tactics that successful non-profits use to fulfill their mission. This course will provide an overview of various aspects and special issues related to non-profit marketing including: (1) the focus of non-profit on social impact versus maximizing profits; (2) the marketing of social services; (3)

marketing's role in fundraising; (4) challenges of integrating marketing efforts among diverse stakeholders; and (5) external economic, legal and political factors that impact marketing of non-profit services. pre-req: MBA student or department consent

**MKTG 5721. Advertising and Marketing Communications.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Promotional planning. Emphasis on planning for advertising, sales promotion, public relations/publicity, direct marketing, and personal selling. Importance of integrated marketing communications to organizations. pre-req: MKTG 3701, MBA student or department consent

**MKTG 5731. Consumer Behavior.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Buyer behavior and implications for marketing strategy. Emphasis on information processing concepts, influences on behavior, and decision-making processes from both conceptual and pragmatic perspectives. Students requiring graduate credit must complete additional coursework. pre-req: MKTG 3701, MBA student or department consent

**MKTG 5741. Developing and Marketing New Products.** (3 cr. ; A-F or Audit; Every Fall)

A marketing-oriented new products management course that explores the new product development process with a focus on marketing strategies for the planning, development and launch of new products and services. pre-req: MKTG 3701, MBA student or department consent

**MKTG 5762. Marketing Analytics II: Advanced Metrics and Analytic Techniques.** (3 cr. ; A-F or Audit; Every Fall)

This course builds upon the quantitative knowledge and skills that were introduced in Marketing Analytics Fundamentals, and introduces students to important customer relationship management metrics for customer acquisition, retention and defection, and customer lifetime value measures. pre-req: MBA student or instructor consent

**MKTG 5774. International Marketing.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Marketing across national boundaries; effects of foreign economic, legal/political, and sociocultural environments on multinational marketing strategies. pre-req: MKTG 3701, MBA student or instructor consent

**MKTG 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**Master Advocacy and Pol Ldrshp (MAPL)**

**MAPL 5309. Legal System and Public Policy.** (3 cr. ; A-F or Audit; Periodic Spring)

Prepares advocates to understand the extent to which courts or more precisely the issues confronting our legal system drive policy and social change. Students will develop practical skills to seek legal remedies for their

constituencies, and strategies for knowing when to choose the courts instead of the legislative process. prereq: Grad student or instructor consent

## Master Tribal Admin Governance (MTAG)

### MTAG 5110. Principles of Tribal Sovereignty I. (3 cr. ; A-F or Audit; Every Fall)

This course provides students with a general background of the history, development, structure, and politics associated with indigenous governments. We will examine North American indigenous governance from pre-colonial times to the present, focusing on both the evolution and alteration of these governments as well as the difficult political decisions indigenous peoples faced when confronted by the colonizing forces of European states, the U.S., and individual states, and the modifications developed by indigenous nations in their efforts to retain and exercise their sovereign powers. prereq: MTAG or MTRES student or instructor consent

### MTAG 5120. Principles of Tribal Sovereignty II. (3 cr. ; A-F or Audit; Every Spring)

This course examines the challenges facing tribal governments as they exercise their sovereignty and involves political, economic, and intergovernmental perspectives. Part one examines tribal resource management, analyzing historical use of land, land loss, and contemporary efforts to develop sustainable environmental plans for water, timber, wildlife, and subsurface resources. Part two focuses on the various means tribal governments have devised to exercise sovereignty, such as gaming, small business development, tourism, and joint ventures with partners. Part three concentrates attention at the sub-national level and pays close attention to the political, legal, and economics relationships that have developed between Native nations, state governments, county governments, and municipal entities. prereq: 5110 or instructor consent

### MTAG 5210. Administration Governance I (Strategic). (3 cr. ; A-F or Audit; Every Fall)

This course will provide an overview of the integration and application of strategic management principles in tribal governments. Topics will include the development of mission statements, goals, strategies, and approaches to implementation. The course will focus on tribal strategic plans and issues specific to tribes, such as the federal-tribal relationship, tribal constitutions, and tribal ordinances and regulations. Also, the role of federal and state government policymakers as they interrelate with administrators in strategic management decisions will be studied. prereq: MTAG student or instructor consent

### MTAG 5220. Administration and Governance II (Operations). (3 cr. ; A-F or Audit; Every Spring)

This course will provide an overview of organizational management theories with an emphasis on tribal governments. It will focus

on the various types of tribal governments, the role of tribal managers, tribal management functions, communications processes, and management information systems design and development. It will also explore different models of delivering services on reservations, including the direct federal service model, the 638 contract model, and the self-governance compact. Also, the role of federal and state government policymakers as they interrelate with administrators in operations management decisions will be studied. prereq: 5210 or instructor consent

### MTAG 5230. Advanced Tribal Administration and Governance I (Human Resources). (3 cr. ; A-F or Audit; Every Fall)

This course will focus on the theoretical and practical aspects of solving problems, the activity that takes up the majority of a tribal manager's day. Human resource management will be emphasized. The use of tribal hypothetical and real-life situations will be heavily relied upon. Case studies of reservations and tribal organizations will be utilized to define problems, collect and analyze data, and seek creative solutions. The use of analogy, brainstorming, the scientific method, systems analysis, and graphic representations will be studied, as well as the role of federal and state government policymakers as they interact with administrators on human resources matters. prereq: 5220 or instructor consent

### MTAG 5240. Advanced Tribal Administration and Governance II (Project). (3 cr. ; A-F or Audit; Every Spring)

This course will focus on the theory and implementation of project management and managing personnel engaged in project management. It will provide an overview of project management principles and concepts. Each student will select an actual reservation project and an aspect of tribal management (e.g., health care, natural resources, housing, or other area) for his or her final research paper. Each student will describe the project from beginning to end through the lens of management theory, as well as critique the implementation of the project. Also, the role of federal and state government policymakers as they interact with administrators on project management matters will be studied. prereq: 5230 or instructor consent

### MTAG 5310. Foundations of Leadership and Ethics in Indigenous Community Life and Organizations. (3 cr. ; A-F or Audit; Every Fall)

This course will develop a general understanding of leadership and ethics. Content will include a survey of basic philosophies, models, figures, and applications to community-based scenarios and institutions. Western scholarship will be contrasted with Indigenous perspectives and lived experience as a means of exploring cultural difference. The role of traditional values and beliefs, internalized oppression, and contemporary community institutional dynamics are core course topics. prereq: MTAG student or instructor consent

### MTAG 5320. Applied Leadership and Ethics in an Indigenous Organizational Context. (3 cr. ; A-F or Audit; Every Spring)

This course explores leadership and ethics in an applied context. Students will explore what it means to be an effective ethical leader from a personal and community-based perspective. This involves a critical study of organizational culture and systems-based change processes. Case studies will be used to facilitate exploration and analysis. Reflecting on theories and philosophies of ethics and leadership, students will identify a personal leadership style, and determine what it means to be a decolonized leader in contemporary community life. prereq: 5310 or instructor consent

### MTAG 5430. Tribal Finance, Accounting and Budgets I. (3 cr. ; A-F or Audit; Every Fall)

This course will provide an overview of financial terms, processes, agencies, and laws as they apply to tribal governments. It will focus on overseeing budgeting, bookkeeping, accounting, and purchasing functions; interpreting financial statements; conducting due diligence; and negotiating indirect cost rates with the federal government. Emphasis will be placed on the role of the federal government in tribal financial management, the role of tribal sovereign immunity in financial transactions, and the roles of tribal accountants and auditors. prereq: MTAG 5120, MTAG student or instructor consent

### MTAG 5440. Tribal Finance, Accounting and Budgets II. (3 cr. ; A-F or Audit; Every Spring)

This course will focus on the federal laws and regulations that tribal managers are required to comply with annually. These laws and regulations include the Indian Gaming Regulatory Act, Title 31, the Single Audit Act, and auditing rules under the Tribal Self-Determination Act. The course will also focus on compliance with federal grants, the preparation of year-end financial statements, and the role of circulars from the federal Office of Management and Budget. The general standards for accountants and the penalties for non-compliance will be studied. The role of federal auditors and investigators will be compared to the role of tribes' internal auditors. prereq: 5430 or instructor consent

### MTAG 5530. Federal Indian Law I. (3 cr. ; A-F or Audit; Every Fall)

This course examines the formulation, implementation, and evolution of Indian policy from pre-colonial times to the self-governance era. This course provides a chronological framework and theoretical context in which policies, programs, and events can be seen interacting with each other to produce the cumulative body of treaties, statutes, and court decisions. Students analyze major federal Indian policies that define indigenous/federal political relationship, examining the views and attitudes of policy-makers and gauging the reactions of indigenous nations to those policies. prereq: MTAG 5320, MTAG student or instructor consent

### MTAG 5540. Federal Indian Law II. (3 cr. ; A-F or Audit; Every Spring)

Federal Indian law has had profound affect on the lives, liberties, and properties of indigenous peoples. At times, U.S. policy and Supreme Court rulings have worked to protect aboriginal rights; at other times, these policies and decisions have had devastating consequences. This course examines the role and practice of the U.S. Supreme Court as a policy-making institution in their dealings with Indigenous nations. This examination requires us to think historically and theoretically; to question the origins and exercise of federal judicial power; and examine the application of federal law to indigenous peoples and Indian citizens. prereq: 5530 or instructor consent

**MTAG 5997. Tribal Administration and Governance Directed Project.** (2 cr. [max 4 cr.]; S-N only; Every Summer)  
The Tribal Administration and Governance Directed Project is designed to give MTAG students practical experience in the field while assisting a tribe with a project that meets their own identified priorities. prereq: 12 credits in MTAG or instructor consent

## Mathematics (MATH)

**MATH 1005. College Algebra.** (; 5 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Computer based, on site course with students working at a semi-self pace taking notes in a guided notebook and completing online homework while asking the instructor questions as needed. Course topics include basic concepts of solving equations and inequalities as well as an introduction to function concepts and graphing for polynomial, rational, logarithmic, and exponential functions. prereq: Math ACT 21 or higher or MATH 0103 or department consent

**MATH 1007. Algebra Review.** (; 1 cr. ; S-N or Audit; Every Fall & Spring)  
College-level algebra: solving equations and inequalities. Designed for students who need to review high-school algebra topics and/or supplement previous courses, such as College Algebra. prereq: concurrently with MATH 1160 or 1250 or 1290 or 1296

**MATH 1024. Introduction to Contemporary Mathematics.** (LOGIC & QR; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Increases awareness and appreciation of uses, richness, and power of mathematics. Sample topics: graph theory for management science, scheduling, linear programming, statistical sampling and inference, coding information, decision making, voting theory, game theory, geometric growth, symmetry, and patterns. prereq: Math ACT 18 or higher or SSP 0103 or department consent, a grade of C- or better in is required in all prerequisite courses

**MATH 1140. Mathematics for Elementary Education I.** (LOGIC & QR; 3 cr. ; A-F or Audit; Every Fall)  
Subject matter for effective elementary school teaching. Problem solving and structure of number systems. pre-req: IESE major and Math ACT 18/SAT 480 or a grade of C or higher in Math 103; credit will not be granted if already received for Math 1141.

**MATH 1142. Mathematics for Elementary Education II.** (; 3 cr. ; A-F or Audit; Every Spring)  
Part two of subject matter for effective elementary school teaching. Properties of geometric figures, probability, statistics. prereq: 1140

**MATH 1160. Finite Mathematics and Introduction to Calculus.** (LOGIC & QR; 5 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Elementary functions, matrices, graphical and algebraic methods for solving systems of linear equations and inequalities, introduction to linear programming, and abbreviated treatment of calculus with emphasis on business and social science applications. prereq: Math ACT 24 or higher or a grade of at least C- in Math 1005 or department consent; if you have received credit for 1290 or 1296 or 1596, you will not receive credit for Math 1160.

**MATH 1170. Introduction to Game Theory.** (LOGIC & QR; 3 cr. ; A-F or Audit; Every Fall)  
Game Theory is the study of strategic decision making in cooperative and competitive settings. Students will survey classical results and techniques in game theory and then explore how game theoretical modeling can be used to enhance our understanding of diverse topics, including elections, ecology, business, ethics, and psychology. This course is highly collaborative and may include both group and individual projects. pre-req: MATH 1005 or MATH ACT of 24 or higher

**MATH 1250. Precalculus Analysis.** (LOGIC & QR; 4 cr. ; A-F or Audit; Every Fall & Spring)  
This course introduces the concepts of analytical geometry, relations, functions, and graphs. It includes exponential, logarithmic, and trigonometric functions as well as conic sections, sequences and series, and systems of linear equations. prereq: Math ACT 24 or higher or a grade of at least C- in Math 1005 or department consent

**MATH 1290. Calculus for the Natural Sciences.** (LOGIC & QR; 5 cr. ; A-F or Audit; Every Fall & Spring)  
Differential and integral calculus needed for modeling in earth and life sciences. Computational software. Not intended for students in mathematics, engineering, or physical sciences. prereq: Math ACT 27 or higher or a grade of at least C- in Math 1250 or department consent

**MATH 1296. Calculus I.** (LOGIC & QR; 5 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
First part of a standard introduction to calculus of functions of a single variable. Limits, continuity, derivatives, integrals, and their applications. prereq: Math ACT 27 or higher or a grade of at least C- in Math 1250 or department consent

**MATH 1297. Calculus II.** (LOGIC & QR; 5 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Second part of a standard introduction to calculus. Vectors, applications of integrals, transcendental functions, series, and multivariable functions and partial derivatives. prereq: A grade of at least C- in 1290 or 1296 or 1596

**MATH 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MATH 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MATH 3091. Independent Study.** (1-3 cr. [max 8 cr.]; A-F or Audit; Every Fall, Spring & Summer)  
Directed reading and/or research in mathematics. Must be arranged with instructor and department head before registration. prereq: department consent

**MATH 3097. Internship.** (1-3 cr. ; S-N or Audit; Every Fall, Spring & Summer)  
Practical, independent project in commercial, government, or industrial setting. Department approval required before beginning project. prereq: Math major, department consent

**MATH 3101. Mathematical Theory of Interest.** (3 cr. ; A-F or Audit; Every Spring)  
Introduction to quantitative applications of interest and its related functions. Basics of Interest Rates, Annuities, Rates of Return, Loans, Bonds, Financial Risk Management, Financial Economics pre-req: Math 1297 or 1597 with a grade of C- or better

**MATH 3101. Mathematical Theory of Interest.** (3 cr. ; A-F or Audit; Every Spring)  
Introduction to quantitative applications of interest and its related functions. Basics of Interest Rates, Annuities, Rates of Return, Loans, Bonds, Financial Risk Management, Financial Economics pre-req: Math 1297 or 1597 with a grade of C- or better

**MATH 3110. Foundations of Mathematics and Geometry.** (; 4 cr. ; A-F or Audit; Every Spring)  
Introduction to foundations of mathematics. Non-Euclidean geometries, postulational systems, and models. History of mathematics. Importance and use of mathematics in modern society. prereq: 1290, or 1296 or 1596, teaching math major, a grade of C- or better in is required in all prerequisite courses

**MATH 3120. Mathematics Tutorial Project.** (1-2 cr. [max 4 cr.]; S-N or Audit; Every Fall, Spring & Summer)  
Primarily for tutoring 1xxx mathematics courses, under supervision of mathematics department member. prereq: 1290 or 1296 or 1596, SSP 3003, instructor consent, a grade of C- or better in is required in all prerequisite courses

**MATH 3280. Differential Equations with Linear Algebra.** (; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
First, second, and higher order equations; series methods; Laplace transforms; systems; software; modeling applications; introduction to vectors; matrix algebra, eigenvalues. prereq: A grade of at least C- in 1297 or 1597

**MATH 3298. Calculus III.** (; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Third part of a standard introduction to calculus. Conic sections, vectors and vector-

valued functions, partial derivatives and multiple integrals, vector fields, Green's and Stokes' theorems. prereq: A grade of at least C- in 1297 or 1597

**MATH 3326. Vectors and Matrices.** (3 cr. ; A-F or Audit; Every Fall)

Solving systems of linear equations; matrix algebra; determinants; an introduction to vector spaces, subspaces, linear independence, span, basis; coordinates, matrix transformations, eigenvalues, eigenvectors, matrix factorizations and applications to computer graphics. prereq: 1296 with a grade of C- or better

**MATH 3355. Discrete Mathematics.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to mathematical logic, predicates and quantifiers, sets, proof techniques, recursion and mathematical induction, recursive algorithms, analysis of algorithms, assertions and loop invariants, complexity measures of algorithms, combinatorial counting techniques, relations, graph theory. prereq: 1297 or 1597 or instructor consent, a grade of C- or better in is required in all prerequisite courses

**MATH 3810. Applied Mathematics:**

**Numerical Methods.** (; 4 cr. ; A-F or Audit; Every Spring)

Methods for the numerical solution of mathematical problems. Computer representation of numbers; courses of error; introduction to interpolation, approximation, numerical integration, solution of linear and nonlinear systems, initial-value problem approximation; use of highly structured computer software such as MATLAB, Octave, Mathematical and/or SAGE. prereq: previous or concurrent registration in 3280

**MATH 3941. Undergraduate Colloquium.**

(1 cr. ; S-N or Audit; Every Fall, Spring & Summer)  
Exposure to UMD mathematics-related colloquia. Sixteen points required: one for attending a colloquium; one for writing an acceptable report on a colloquium (at least four must be earned through writing); up to eight for giving a colloquium. prereq: Math major or minor, department consent; must register during semester of 16th point

**MATH 3995. Special Topics: (Various Titles to be Assigned).** (; 1-3 cr. [max 6 cr.] ; A-F or Audit; )

Topics not available in standard curriculum.

**MATH 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MATH 4095. Special Topics: (Various titles to be assigned).** (; 1-5 cr. [max 10 cr.] ; S-N or Audit; Periodic Fall, Spring & Summer)  
Special Topics in Math

**MATH 4180. Solving Industrial Mathematics Research Problems.** (3 cr. ; A-F or Audit; Every Spring)

This course is intended for mathematics or statistics majors. The focus of the course is solving industrial mathematics research problems. Students will work in teams of three

to five on a semester-long research problem from business, industry or government. Students will acquire specialized mathematical knowledge specific to the research problems posed for the semester. In addition, students will develop problem solving, teamwork, and communication skills as they design and implement a solution strategy for one of the research problems. A business, industry or government partner will serve as a liaison for project teams. Presentation to professional partners will occur throughout the semester. A final solution product will include oral, written and video presentations. pre-req: Minimum 2 courses in MATH or STATS at about about the 3xxx level, with a minimum of 3 credits each, instructor consent; no grad credit

**MATH 4201. Elementary Real Analysis.** (4 cr. ; A-F or Audit; Every Fall & Spring)

In-depth study of concepts fundamental to the theory of single-variable calculus, including topology of the real numbers, convergence of sequences and series, function continuity, the derivative, and the Riemann integral. prereq: 3280, 3355, a grade of C- or better in is required in all prerequisite courses, no grad credit; credit will not be granted if already received for 3299

**MATH 4230. Applied Mathematics: Complex Variables.** (3 cr. ; A-F or Audit; Every Spring)

Complex numbers and analytic functions; complex integration; complex power series, Taylor series, and Laurent series; theory of residues; conformal mapping. prereq: 3280 with a grade of C- or better

**MATH 4240. Applied Mathematics:**

**Operational Methods.** (3 cr. ; A-F or Audit; Every Fall)

Laplace transform; Fourier series, integrals, and transforms; Sturm-Liouville operator- and boundary-value problems; orthogonal functions; operator solutions of partial differential equations. prereq: 3280 with a grade of C- or better

**MATH 4326. Linear Algebra.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Systems of linear equations, matrix algebra, determinants, vector spaces, subspaces, linear independence, span, basis, coordinates, linear transformations, matrix representations of linear transformations, eigenvalues and eigenvectors, diagonalization, Gram-Schmidt orthogonalization, orthogonal projection and least squares. prereq: A grade of at least C- in 3280, 3355, no grad credit

**MATH 4347. Applied Algebra and Cryptology.** (3 cr. ; A-F or Audit; Periodic Fall)

Applied algebra topics may include mathematical origami, permutation games (such as the Rubik's cube), and dihedral groups. Cryptology topics may include monoalphabetic ciphers, substitution ciphers, RSA, primality testing, and elliptic curve cryptology. Only one of either MATH 4374 or MATH 5374 may be allowed for undergraduate mathematics electives. pre-req: MATH 3355 with a grade of C- or better or both MATH 3326 and CS 2531 with a grade of C- or better in both courses or instructor consent

**MATH 4370. Introduction to Abstract Algebra for Teaching Majors.** (3 cr. ; A-F or Audit; Every Fall)

Introduction to groups and rings appropriate for students majoring in teaching mathematics. prereq: 3355, 4326 or 3280, a grade of C- or better in is required in all prerequisite courses, teaching math major; credit will not be granted if already received for Math 4371; no grad cr

**MATH 4375. Introduction to Abstract Algebra.** (3 cr. ; A-F or Audit; Every Fall)

This course is intended for mathematics or statistics majors. The focus of the course is to introduce students to abstract algebra. Topics include groups, permutation, quotient groups, homomorphisms, and rings. pre-req: Math 3355 with a grade of C- or better is required and a grade of B- or better is recommended; no grad credit

**MATH 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MATH 5201. Real Variables.** (; 4 cr. ; A-F or Audit; Every Fall)

Limits, sequence and series of real numbers, tests for convergence, rearrangements, summability, and the class L-SQUARED. Metric spaces; continuous functions, connectedness, completeness, compactness. Banach fixed-point theorem and Picard existence theorem for differential equations. prereq: 4201 with a grade of C- or better

**MATH 5202. Applied Functional Analysis.** (3 cr. ; A-F or Audit; Spring Odd Year)

Basic concepts, methods, and applications of functional analysis. Complete metric spaces, contraction mapping, and applications. Banach spaces and linear operators. Inner product and Hilbert spaces, orthonormal bases and expansions, approximation, and applications. Spectral theory of compact operators, including self-adjoint and normal operators. pre-req: MATH 5201, MATH 4326 or 5327; MATH 5327 can be taken concurrently

**MATH 5233. Mathematical Foundations of Bioinformatics.** (3 cr. ; A-F or Audit; Every Spring)

Mathematical, algorithmic, and computational foundations of common tools used in genomics and proteomics. Topics include: sequence alignment algorithms and implementations (Needleman-Wunsch, Smith-Waterman, BLAST, Clustal), scoring matrices (PAM, BLOSUM), statistics of DNA sequences (SNPs, CpG islands, isochores, satellites), and phylogenetic tree methods (UPGMA, parsimony, maximum likelihood). Other topics will be covered as time permits: RNA and protein structure prediction, microarray analysis, post-translational modification prediction, gene regulatory dynamics, and whole-genome sequencing techniques. prereq: MATH 3355, CS 1xxx or above, STAT 3411 or 3611

**MATH 5260. Dynamical Systems.** (; 3 cr. ; Student Option; Fall Odd Year)

Fundamentals of differential equations (existence, uniqueness, continuation of solutions); linear systems, autonomous

systems, and Poincare-Bendixson theory; periodic systems; discrete dynamical systems; bifurcation theory; chaos. prereq: 3280 with a grade of C- or better

**MATH 5270. Modeling with Dynamical Systems.** (3 cr. ; Student Option; Spring Even Year)

Application and analysis of continuous and discrete dynamical systems. Model construction, simulation, and interpretation. prereq: 3280 with a grade of C- or better

**MATH 5280. Partial Differential Equations.** (3 cr. ; A-F or Audit; Fall Even Year)

Introduction to partial differential equations, emphasizing use of Fourier series, Green's functions, and other classical techniques. prereq: A grade of at least C- in 3280 and 3298 or grad standing

**MATH 5327. Advanced Linear Algebra.** (3 cr. ; A-F or Audit; Every Spring)

Vector spaces over fields, subspaces, linear transformations, matrix representations, change of basis, inner-product spaces, singular value decomposition, eigenspaces, diagonalizability, annihilating polynomials, Jordan form. prereq: Graduate student or instructor consent

**MATH 5330. Theory of Numbers.** (3 cr. ; A-F or Audit; Spring Odd Year)

Properties of integers, primes, divisibility, congruences, and quadratic reciprocity. Computational aspects include factoring algorithms and RSA cryptosystem. prereq: 3355 with a grade of C- or better or instructor consent

**MATH 5347. Applied Algebra and Cryptology.** (3 cr. ; A-F or Audit; Fall Even Year)

Applied algebra topics include mathematical origami, permutation games, and the Rubik's cube. Cryptology topics include monoalphabetic substitution ciphers, RSA, primality testing, and elliptic curve cryptology, and recent advancements in the field. Only one of either MATH 4274 or MATH 5374 may be allowed for undergraduate mathematics electives. pre-req: grad student or instructor consent

**MATH 5365. Graph Theory.** (3 cr. ; A-F or Audit; Every Fall)

Finite graphs, including trees, connectivity, traversability, planarity, colorability, labeling, and matchings. prereq: 3355 with a grade of C- or better or instructor consent

**MATH 5366. Enumerative Combinatorics.** (3 cr. ; A-F or Audit; Spring Odd Year)

Permutations, combinations, binomial coefficients, inclusion-exclusion, recurrence relations, ordinary and exponential generating functions, Catalan numbers, selected topics from designs, finite geometries, Polya's enumeration formula. prereq: 3355 with a grade of C- or better

**MATH 5371. Abstract Algebra I.** (3 cr. ; A-F or Audit; Every Fall)

Introduction to groups and rings and their applications. prereq: 3355 or 4326 with a grade

of C- or better or grad standing or instructor consent

**MATH 5372. Abstract Algebra II.** (3 cr. ; A-F or Audit; Every Spring)

Polynomial rings, divisibility in integral domains, field extensions, finite fields, special topic, and applications. prereq: 5371 with a grade of C- or better or instructor consent

**MATH 5810. Linear Programming.** (3 cr. ; A-F or Audit; Spring Odd Year)

Motivation problems, modeling, theory of simplex method, duality and sensitivity analysis, large-scale problems, complexity, and Karmarkar algorithm. prereq: 3280 or 4326f with a grade of C- or better

**MATH 5830. Numerical Analysis:**

**Approximation and Quadrature.** (4 cr. ; Student Option; Every Fall)

Error analysis, interpolation and approximation, numerical integration, solution of nonlinear systems. prereq: 3280 or 4326 with a grade of C- or better, proficiency in FORTRAN or C or C++

**MATH 5840. Numerical Analysis: Systems and Optimization.** (4 cr. ; Student Option; Spring Even Year)

Solution of systems of linear equations; elimination and factorization methods; iterative methods; error analysis; eigenvalue/eigenvector approximation; unconstrained optimization; nonlinear least squares. prereq: 3280 or 4326 with a grade of C- or better, proficiency in FORTRAN or C or C++

**MATH 5850. Numerical Differential Equations.** (4 cr. ; A-F or Audit; Spring Odd Year)

Computational differencing techniques as applied to initial- and boundary-value problems. Introduction to variational formulations of differential equations and general technique of weighed residuals. prereq: 3280 with a grade of C- or better, proficiency in FORTRAN or C or C++

**MATH 5991. Independent Study.** (1-4 cr. [max 8 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Directed individual reading and/or research in mathematics; must be arranged with instructor and department head before registration. prereq: department consent; Maximum 6 credits to a grad program.

**MATH 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

## Mechanical Engineering (ME)

**ME 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**ME 2105. Introduction to Material Science for Engineers.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Structures and properties of engineering materials, emphasizing metals, composites, polymers, and ceramics. prereq: Chem 1151

or 1153 and 1154; credit will not be granted if previously given for Engr 2110 or IE 2105.

**ME 2211. Thermodynamics.** (SUSTAIN; 3 cr. ; A-F or Audit; Every Fall & Spring)

Thermodynamics, thermodynamic properties of liquids and gases, 1st and 2nd laws of thermodynamics, irreversibility and entropy. Carnot systems, work producing systems, combustion engine cycles, work absorbing systems, refrigeration cycles, psychrometrics. prereq: PHYS 2013; credit will not be granted if already received for ME 3211

**ME 2226. Dynamics.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Review of particle dynamics. Mechanical systems and rigid-body model. Kinematics and dynamics of plane systems. prereq: CE 2017 and Math 3280 (concurrent registration allowed)

**ME 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**ME 3010. Fundamentals of Machining and Manufacturing.** (3 cr. ; A-F or Audit; Every Summer)

Machining theory and laboratory work using mill, lathe, and drill press. Design drawings, tolerances, fits and finishes. Manufacturing processes and scheduling prereq: ENGR 1222, ME 2105, BSME or BSIE candidate

**ME 3111. Fluid Mechanics.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Mass and energy balances, Bernoulli's Equation, momentum balance, laminar and turbulent flow, boundary layer theory, flow through porous media. prereq: Engr 2026 or ME 2226, ME 2211 or 3211, BSME candidate or instructor consent; credit will not be granted if already received for ChE 3111 or CE 3221

**ME 3140. System Dynamics and Control.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Mathematical modeling of mechanical, electrical, thermal, fluid, and hybrid systems. System response using numerical integration and Laplace transforms. Fourier transform and convolution. Transfer functions and frequency response. Classical control theory. prereq: CS 1121 or 1411 or 1511 or 2121, EE 2006, ME 2226, Math 3280, BSME or BS IE or BSEP candidate or instructor consent

**ME 3222. Controls and Kinematics**

**Laboratory.** (2 cr. ; A-F only; Every Fall & Spring)

Perform computer simulations and hands-on laboratory exercises to explore effective control systems design. Robotic programming exercises using industrial robots will be performed. Design and construction of mechatronic devices will be completed. prereq: 3140 with a grade of C- or better and 3230 (concurrent registration allowed)

**ME 3230. Kinematics and Mechatronics.** (3 cr. ; A-F only; Every Fall & Spring)

Classical closed and open form kinematics modeling will be developed. Use of Denavit Hartenberg structural analysis will be explored. Kinetic models of structures will be developed.

Explores the design and use of mechatronic devices. prereq: 3140, Math 3298

**ME 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ME 4050. Fundamentals of Nuclear Engineering.** ( ; 3 cr. ; A-F or Audit; Spring Even Year)  
Introduction to the fundamentals of nuclear engineering including atomic and nuclear physics, fission, fusion, isotopes, radioactivity, nuclear reactions, radiation detection, criticality, and reactor kinetics. Overview of types of reactors and some operational considerations. prereq: Chem 1151 or Chem 1153 and 1154, Math 3280, Phys 2012 or 2015 and 2016; no grad credit

**ME 4060. Machine Vision and Image Based Robot Control.** (3 cr. ; A-F or Audit; Fall Even Year)  
Senior-level course on vision and control. In this course, students will be introduced to the up-to-date techniques of autonomous image-based robot control. The covered topics include algorithms on image acquisition, camera calibration, object identification, and visual servoing. The methods and concepts introduced will be combined with engineering applications such as obstacle avoidance in traffic safety, image-guided robotic surgery, and human-robot interaction in life support. Through this course, student will acquire both hardware and software development experiences on vision-based robot control, which could be directly applied to their future engineering career or advanced academic pursuit. prereq: CS 1511, Math 3280, ME 3140 or equivalent; no grad credit

**ME 4112. Heat and Mass Transfer.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Theory and practice of heat and mass transfer. Fundamentals of diffusion, conduction, convection, and radiation with application to the design of heat and mass transfer equipment and systems. prereq: 3111, Math 3298, BSME or BSChE candidate or instructor consent

**ME 4122. Heat Transfer, Thermodynamics and Fluid Mechanics Laboratory.** (2 cr. ; A-F or Audit; Every Fall & Spring)  
Heat transfer and Thermo-Fluids lab, experimental evaluation of conductive, convective and radiation heat transfer, and analysis of performance of various energy systems such as compressors, turbines, fans, refrigerators and combustion engines. prereq: Must be taken after or concurrently with ME 4112 or ChE 3112 or instructor consent, BSME candidate

**ME 4135. Robotics and Controls.** (3 cr. ; A-F or Audit; Periodic Fall)  
Exploration of Forward and Inverse Kinematics models for individual robots. Study of robot motion trajectories at the micro- and macroscopic level. Study of PE, PD and PID controllers for robots. Exploration of efficient methods for developing stable controllers for various geometric configurations. prereq: ME 3140, 3230, ENGR 2026 or ME 2226, BSME or BSIE or BSEP candidate or instructor consent

**ME 4145. CAD/CAM.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Description of hardware for CAD/CAM, principles of solid modeling, data structures, visualization, calculation of mass properties, surface modeling. Introduction to FEM usage, lab use of CAD/CAM system for solid modeling, cutter path generation, and FEM problems in vibration, stress analysis. prereq: IE 1225 or Engr 1222, Engr 2016 or CE 2017, BSME or BSEP candidate, or instructor consent; credit will not be granted if already received for IE 4145

**ME 4175. Machine Design.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Analysis of mechanical components as used in mechanical devices. Theories of material failures, lubrication, and corrosion. Design of machinery considering performance, safety, packaging, wear, and recycling. prereq: Engr 2016 or CE 2017 and ME 2105, BSME or BSIE or BSEP candidate or instructor consent; credit will not be granted if already received for IE 4175

**ME 4196. Cooperative Education I.** (1 cr. [max 2 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Practical work experience with employer closely associated with student's academic area; arranged by mutual agreement among student, department, and employer. Biweekly status reports and final written report must be submitted to department. prereq: BSME candidate, instructor consent, no grad credit

**ME 4197. Mechanical Engineering Internship.** ( ; 1 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Advanced practical work experience with employer closely associated with student's academic area; arranged by mutual agreement among student, department, and employer. Biweekly status reports and final written report must be submitted to department. Requires more than 15 hours per week of company work. pre-req: Upper division, instructor consent, no grad credit

**ME 4255. Multidisciplinary Senior Design.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Capstone design course in mechanical engineering. Project Management, problem definition, root cause analysis, baseline analysis, alternative solutions, analysis, reporting. Societal, economic, ethical, environmental, political considerations. Oral and written reports. Work is in teams focused on industrial, research or competition-based projects. prereq: EMGT4110 and [(ME4112 & ME3230) or (ME4112 & ME4175) or (ME3230 & ME4175)] or instructor consent, no grad credit

**ME 4296. Cooperative Education II.** ( ; 2 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Advanced practical work experience with employer closely associated with student's academic area; arranged by mutual agreement among student, department, and employer. Biweekly status reports and final written report must be submitted to department. prereq: 4196 or IE 4196; no grad credit

**ME 4297. Mechanical Engineering Internship.** ( ; 2 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Advanced practical work experience with employer closely associated with student's academic area; arranged by mutual agreement among student, department, and employer. Biweekly status reports and final written report must be submitted to department. Requires more than 15 hours per week of company work. pre-req: Upper division, instructor consent, no grad credit

**ME 4365. Global Sustainability Experience in Design/Manufacturing in Africa.** (3 cr. ; A-F or Audit; Every Summer)  
Sustainability within the manufacturing and design context will be taught and explored. As we live in a global economy, this course exposes students to some of the leaders in sustainability, alternative businesses, and manufacturing methods, reinforced by visits to local manufacturing facilities, art centers, museums, and historical villages in Ghana. Cultural activities including: cultural dance, keyboarding, textile dying, and basketweaving are also integrated into the experience. Students will design and manufacture products, such as a bicycle or water faucet, using local environmentally friendly materials like bamboo. An Eco-tool audit software is used to analyze and select material and manufacturing processes at design state that have low environmental impact and are energy efficient. prereq: 2105, IE 3130

**ME 4375. Pipeline Engineering.** (3 cr. ; A-F or Audit; Periodic Spring)  
Overview of basic elements of pipeline transportation. Multi-disciplined introduction to concepts and methods of Pipeline Engineering. Topics include Mechanical, Electrical and Geotechnical Design, Hydraulics, Route Selection, Materials Selection, Construction, Operation and Maintenance. prereq: ME 3111 or ChE 3111 or CE 3221

**ME 4491. Independent Study in Mechanical Engineering.** (1-4 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)  
Directed study of special interest topics not available in standard curriculum. Must be arranged with instructor before registration. May include readings, research and/or special projects. prereq: Senior standing in engineering discipline, instructor consent

**ME 4495. Special Topics: (Various Titles to be Assigned).** ( ; 1-4 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Topics not available in regular department curriculum. May involve specialties of department or visiting faculty. prereq: BSME candidate or instructor consent, no grad credit

**ME 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ME 5050. Fundamentals of Nuclear Engineering.** (3 cr. ; A-F or Audit; Every Fall)  
Introduction to the fundamentals of nuclear engineering including atomic and nuclear physics, fission, fusion, isotopes, radioactivity,

nuclear reactions, radiation detection, criticality, and reactor kinetics. Overview of types of reactors and some operational considerations. A discussion of radiation types and safety. pre-req: SCSE graduate student or instructor consent

**ME 5060. Machine Vision and Image Based Robot Control.** (3 cr. ; A-F or Audit; Every Fall)

This course will introduce the up-to-date techniques of autonomous image-based robot control. The covered topics include algorithms on image acquisition, camera calibration, object identification, and visual servoing. The methods and concepts introduced will be combined with engineering applications such as obstacle avoidance in traffic safety, image-guided robotic surgery, and human-robot interaction in life support. Through this course, students will acquire both hardware and software development experiences on visual servoing, which could be directly applied to their future engineering career or advanced academic pursuance. pre-req: CS 1511, MATH 3280, ME 3140 or equivalent or instructor consent

**ME 5110. Analytic Techniques in Mechanical Engineering.** (3 cr. ; A-F or Audit; Every Fall)

Fundamental mezzanine course on analytic techniques as applied in Mechanical Engineering, and required for the Mechanical Engineering MS degree. Topics covered include tensor analysis of linear and nonlinear elasticity, nonlinear analysis and complex variable techniques in control systems, and special functions for solution of thermodynamics and fluid-dynamics partial differential equations in a variety of coordinate systems. Computational analytic tools and techniques will be incorporated as appropriate. pre-req: BSME major with B or better in MATH 3280 and 3298 or graduate student or instructor consent

**ME 5120. Advanced Dynamics and Control.** (3 cr. ; A-F or Audit; Every Spring)

This course covers modeling and control of linear and nonlinear mechanical and electro-mechanical systems. Topics include lumped-parameter and Lagrangian nonlinear modeling of mechanical and electro-mechanical systems, time domain response of dynamic systems, Lyapunov stability, and controller design for linear and non-linear systems. pre-req: BSME major with B or better in ME 3140 and MATH 3280 or graduate student or instructor consent.

**ME 5122. Heating, Ventilation, Air Conditioning and Refrigeration Fundamentals.** (3 cr. ; A-F or Audit; Fall Odd, Spring Even Year)

HVAC&R systems are critical to our comfort in building indoor environments. They contribute significantly to the total energy used in residential and commercial sectors. This course will develop the student's knowledge of the principles required for the design and sizing of heating, ventilation, air-conditioning and refrigeration systems. The course covers: Introduction to HVAC&R, Psychometrics and Conditioning Processes, Thermodynamics

and Refrigeration cycles, Comfort and Indoor Air Quality, Heat Transmission in Buildings, Heating and Cooling Loads, Energy Calculations and Building Simulation, Sustainability Considerations in HVAC&R. pre-req: ME2211, ME4112 and BSME or MSME

**ME 5210. Advanced Thermal Fluid Sciences.** (3 cr. ; A-F or Audit; Every Spring)

This course covers heat transfer in fluid flowing around bodies and in tubes/ducts, energy, forced/natural convection, laminar/turbulent flow regimes, turbulent transport and modeling, high-speed flows, viscous dissipation, variable property effects, application to heat exchange devices, and convective mass transfer. pre-req: BSME major with B or better in ME 4112 or graduate student or consent of instructor

**ME 5220. Advanced Mechanics of Materials.** (3 cr. ; A-F or Audit; Every Spring)

This course will cover the concepts related to advanced mechanics of materials including stress, strain, material properties, energy methods including Castiglione's Theorem, elasticity problems, advanced topics including plasticity and creep. Throughout the term of the semester students will solve engineering problems relating to these topics and will be also be exposed to the numerical techniques used to solve these problems. pre-req: BSME major with B or better in MATH 3280 and MATH 3298 and ENGR 2016 or CE 1017; or graduate student or instructor consent

**ME 5305. Computational Fluid Dynamics.** (3 cr. ; A-F only; Spring Even Year)

Finite-difference methods for steady and transient diffusion and convection-diffusion problems. Finite-volume technique for the solution of multi-dimensional fluid flow, and heat and mass transfer problems. Utilize CFD software to solve complex problems. pre-req: 4112 (concurrent registration allowed) or ChE 3112, BSChE, or BSME or BSIE candidate or instructor consent

**ME 5315. Nondestructive Evaluation of Engineering Materials.** (; 3 cr. ; A-F only; Periodic Fall)

Fundamentals of Ultrasonic and Acoustic Emission NDE are considered including wave propagation, experimental measurement systems, flaw detection and characterization, and material characterization. Labs are used to support the study of ultrasonic and acoustic emission NDE. Other NDE techniques including magnetics, penetrants, eddy currents, thermography, are surveyed. pre-req: 3140

**ME 5325. Sustainable Energy System.** (3 cr. ; A-F only; Spring Odd Year)

A comparison of different energy systems will be made in terms of economic, environmental and political implications. Specific energy alternatives will include coal, oil, geothermal, bioenergy, solar, wind, fission, fusion, hydrogen, fuel cell. pre-req: 3211, BSChE or BSEE or BSIE or BSME candidate

**ME 5335. Introduction to Finite Element Analysis.** (3 cr. ; A-F only; Fall Even Year)  
An introduction to finite element analysis, including theoretical and applied components

in mechanical and thermal systems. pre-req: BSME or BSIE or MSEM candidate or instructor consent

**ME 5345. Smart Materials and Structures.** (; 3 cr. ; A-F or Audit; Spring Even Year)

Introduction to smart materials and structures, such as piezoelectric materials, shape memory alloys, magnetostrictive materials, adaptive structures, and active vibration control systems. The course will cover their material properties, modeling methods, and engineering applications in sensors, actuators, energy harvesting, and biomedical devices. pre-req: 3140, 3222

**ME 5355. Gas Turbines.** (3 cr. ; A-F or Audit; Fall Even Year)

Gas turbine cycles, regenerations, 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. pre-req: 3111, 3211 and BSME or MEng or MSEM or instructor consent

**ME 5365. Introduction to Medical Device Development.** (3 cr. ; A-F or Audit; Spring Odd Year)

This course will cover the concepts related to the development of medical devices including biocompatibility of materials, prototyping medical devices, identifying unmet clinical needs, regulatory requirements, intellectual property protection, and reimbursement. Throughout the term of the semester students will apply these concepts to a project where they will develop a medical device concept to address an unmet clinical need. pre-req: ME 2105, BSME or BSIE upper division or MSEM or MSME candidate, or instructor consent

**ME 5991. Independent Study in Mechanical Engineering.** (1-4 cr. [max 6 cr.]; Student Option; Periodic Fall, Spring & Summer)

Directed study of special interest topics not available in standard curriculum. Must be arranged with instructor before registration. May include readings, research and/or special projects. pre-req: MSEM candidate, department consent

**ME 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Mechanics and Materials (MM)

**MM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent



**MM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Medical/Molecular Physiology (PHSL)

**PHSL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHSL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHSL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHSL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHSL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Medicine (MED)

**MED 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MED 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MED 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MED 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MED 5085. Medical Research Ethics, Responsible Conduct of Research.** (1 cr. ; S-N only; Every Fall)  
Designed for postdoctoral fellows and graduate and undergraduate students to define and investigate ethical behavior in research. The potential pitfalls encountered when doing medical research also will be emphasized. Topics include morality and ethics; rationale for training in responsible conduct of research; definition of research misconduct; fabrication and falsification; conflict of interest; financial misconduct; authorship; grant writing; peer review; mentorship; animal research issues; human research issues; technology transfer; gender/race issues; and whistleblowing prereq: instructor consent

**MED 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Military Science (MS)

**MS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Museum (MUSM)

**MUSM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MUSM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MUSM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MUSM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MUSM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Museum Studies (MST)

**MST 1100. Introduction to Museums.** (3 cr. ; A-F or Audit; Every Fall)  
Students will be introduced to the history of museums and the field of museum studies. Issues of theory and practice will be examined as they relate to development, care, and use of museum and systematic collections; museum education; museum administration, exhibition development; research; and evaluation. Particular attention will be given to issues of diversity and multiculturalism; relationship of museums to changing populations and disciplinary trends legal and ethical implications of development and use of collections; and examination of diverse types of collection.

**MST 1200. Introduction to Public History.** (3 cr. ; A-F or Audit; Every Spring)  
This course is designed to introduce students to the theory, methods, and practice of history outside the classroom. In this course, we will investigate the challenges of historical work in historic sites, museums, archives, mass media, cultural resource management, historic preservation, and other public history settings.

**MST 3097. Internship.** (3 cr. [max 9 cr.]; A-F only; Every Fall, Spring & Summer)  
This internship is a specialized class where students enrich their education through experiential learning at a cultural/heritage institution or site approved by the Museum Studies Program. pre-req: MST 1100 or 1200 and department consent

**MST 3100. Introduction to Museum Education.** (3 cr. ; A-F or Audit; Every Spring)  
This course examines the progression of learning theories that have shaped the development of museum programs and exhibits

over the years. To understand the wide variety of ways visitors can learn in museums we also explore how museum education has evolved since the origin of public museums over two hundred years ago. Accessibility, learning styles, and the social responsibility of museums are among the topics included. prereq: MST 1100

**MST 3397. International Internship.** (GLOBAL PER; 3 cr. [max 9 cr.]; A-F or Audit; Every Fall, Spring & Summer)  
This international internship is a specialized class where students enrich their education through experiential learning at a cultural/heritage institution or site approved by the Museum Studies Program. pre-req: MST 1100 or MST 1200 and admission to an approved study abroad program requires consent from the International Programs and Services Office

## Music (MU)

**MU 1001. Introduction to Music.** (FINE ARTS,GLOBAL PER; 3 cr. ; Student Option; Every Fall & Spring)  
The course aims to allow students to develop life-long skills of focused listening with an emphasis on the appreciation of music that reflects the underlying social and geo-political situations of composers from around the world in both today's world and previous eras. prereq: Not for music majors or minors

**MU 1004. Music in Film.** (FINE ARTS; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Music in Film explores several aspects of music in motion pictures including its connection to other orchestral music styles, modern and historical, and how it aids in the entertainment of the film. This course examines how many modern films use musical storytelling techniques to add to the film's narrative.

**MU 1005. Jazz Studies.** (CDIVERSITY,FINE ARTS; 3 cr. ; A-F only; Every Fall & Spring)  
Evolution of jazz: social problems in America that fostered its origin and continue to shape its development.

**MU 1006. Music and the Brain.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
This course facilitates understanding of basic musical and neurophysiological processes underlying perception, cognition, and performance toward mindful, intentional application of music in everyday life. The course provides a common basis of music and scientific knowledge to then explore the implications for the intersection of music and brain science.

**MU 1007. Cultural Diversity in the United States through the History of Rock and Roll.** (CDIVERSITY; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Cultural Diversity in the United States as told through the lens of the history of Rock and Roll music. This course will identify the roots of rock and roll, and discuss its important role in shaping United States culture throughout its development. Special attention will be paid to African-American, Latino, and Women

contributions to the idiom, as well as issues of social justice as told through the music.

**MU 1111. Tonal Harmony I.** (; 3 cr. ; A-F or Audit; Every Fall)  
Rudimentary study of triadic harmony from the 17th and 18th centuries. Exploration of methods of composition and analysis, harmonic functions and non-harmonic tones. prereq: Music major or music minor; credit will not be granted if already received for Mu 1010 or Th 1114

**MU 1112. Ear-Training and Sight-Singing I.** (; 1 cr. ; A-F only; Every Fall)  
Introduction to ear-training and sight-singing of tonal music. prereq: Music major or minor; co-enrollment in or prior successful completion of MU 1111 (or equivalent placement exam score)

**MU 1121. Tonal Harmony II.** (LOGIC & QR; 3 cr. ; A-F only; Every Spring)  
Continued study of Common Practice harmony with an introduction to species counterpoint and four-part writing. A focus on progressions and the development of phrase structures. prereq: Music major or minor and MU 1111

**MU 1122. Ear-Training II.** (; 1 cr. ; A-F only; Every Spring)  
Continued study of ear-training and sight-singing of tonal music. prereq: Music major or minor; MU 1111 & 1112; co-enrollment in or prior successful completion of MU 1121 (or equivalent placement exam score)

**MU 1311. Voice-Major.** (; 2-3 cr. [max 18 cr.] ; A-F only; Every Fall & Spring)  
Individual lesson weekly plus arranged group lessons. prereq: Music major, department consent, performance majors register for 3 cr. in major instrument only, all others register for 2 cr.

**MU 1312. Voice-Non Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual lesson one half hour weekly. prereq: Non-music major or music major secondary instrument; may be repeated

**MU 1321. Piano-Major.** (; 2-3 cr. [max 18 cr.] ; A-F only; Every Fall & Spring)  
Individual lesson weekly plus arranged group lessons. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1322. Piano-Non Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual lesson one half hour weekly. prereq: Non-music major or music major secondary instrument; may be repeated

**MU 1325. Jazz Piano-Major.** (; 2-3 cr. [max 18 cr.] ; A-F only; Every Fall & Spring)  
Individual lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1326. Jazz Piano-Non Major.** (; 1 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)  
Individual lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1327. Jazz Applied.** (; 2 cr. [max 20 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual instruction in jazz music, focusing on jazz literature, jazz improvisation and jazz styles. For jazz studies majors only. prereq: 2803, instructor consent

**MU 1331. Organ-Major.** (2-3 cr. [max 18 cr.] ; A-F only; Every Fall & Spring)  
Individual lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr, all others register for 2 cr.

**MU 1332. Organ-Non Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual lesson one half hour weekly. prereq: Non-music major or music major secondary instrument; may be repeated

**MU 1350. Violin - Non-Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual violin lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1351. Violin - Major.** (; 2-3 cr. [max 18 cr.] ; A-F only; Every Fall & Spring)  
Individual violin lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1352. Viola - Non-Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual violin lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1353. Viola - Major.** (2-3 cr. [max 18 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual viola lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1354. Cello - Non-Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual cello lesson one half hour weekly. prereq: Non-music major or music secondary instrument

**MU 1355. Cello - Major.** (; 2-3 cr. [max 18 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual cello lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1356. Harp - Non-Majors.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual harp lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1357. Harp - Major.** (2-3 cr. [max 18 cr.] ; A-F only; Every Fall & Spring)  
Individual harp lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1358. Bass - Non-Majors.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual bass lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1359. Bass - Major.** (; 2-3 cr. [max 18 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual bass lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1360. Clarinet - Non-Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual clarinet lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1361. Clarinet - Major.** (2-3 cr. [max 18 cr.] ; A-F only; Every Fall & Spring)  
Individual clarinet lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1362. Saxophone - Non-Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual saxophone lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1363. Saxophone - Major.** (; 2-3 cr. [max 18 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual saxophone lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1364. Flute - Non-Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual flute lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1365. Flute - Major.** (; 2-3 cr. [max 18 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual flute lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1366. Oboe - Non-Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual oboe lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1367. Oboe - Major.** (; 2-3 cr. [max 18 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual oboe lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1368. Bassoon - Non-Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Individual bassoon lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1369. Bassoon - Major.** (2-3 cr. [max 18 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Individual bassoon lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1370. Trumpet - Non-Major.** (1 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Individual trumpet lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1371. Trumpet - Major.** (; 2-3 cr. [max 12 cr.]; A-F only; Every Fall & Spring)

Individual trumpet lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1372. Trombone - Non-Major.** (1 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Individual trombone lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1373. Trombone - Major.** (; 2-3 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Individual trombone lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1374. French Horn - Non-Major.** (1 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Individual French Horn lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1375. French Horn - Major.** (; 2-3 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Individual French Horn lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1376. Tuba - Non-major.** (1 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Individual tuba lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1377. Tuba - Major.** (; 2-3 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Individual tuba lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all other register for 2 cr.

**MU 1378. Euphonium - Non-Major.** (; 1 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Individual euphonium lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1379. Euphonium - Major.** (; 2-3 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Individual euphonium lesson weekly plus arranged group lesson. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1381. Percussion-Major.** (2-3 cr. [max 12 cr.]; A-F only; Every Fall & Spring)

Individual lesson weekly plus arranged group lessons. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1382. Percussion - Non-Major.** (; 1 cr. [max 12 cr.]; A-F or Audit; Every Fall & Spring)

Individual lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1391. Classical Guitar-Major.** (2-3 cr. [max 12 cr.]; A-F only; Every Fall & Spring)

Individual lesson weekly plus arranged group lessons. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1392. Classical Guitar - Non-Major.** (; 1 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Individual lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1395. Jazz Guitar-Major.** (2-3 cr. [max 12 cr.]; A-F only; Every Fall & Spring)

Individual lesson weekly plus arranged group lessons. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 1396. Jazz Guitar - Non-Major.** (; 1 cr. [max 12 cr.]; A-F or Audit; Every Fall, Spring & Summer)

Individual lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1398. Pop Styles Guitar- Non Major.** (; 1 cr. [max 12 cr.]; A-F only; Every Fall, Spring & Summer)

Individual lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 1411. Diction: Italian and English.** (; 1 cr. ; A-F or Audit; Every Fall)

Proper enunciation of English and Italian as applied to vocal literature. prereq: Principal instrument voice or instructor consent

**MU 1412. Diction: German.** (1 cr. ; A-F or Audit; Spring Even Year)

Proper enunciation of German as applied to vocal literature. prereq: 1411 or instructor consent

**MU 1413. Diction: French.** (1 cr. ; A-F or Audit; Spring Odd Year)

Proper enunciation of French as applied to vocal literature. prereq: 1411 or instructor consent

**MU 1421. Piano Class I.** (; 1 cr. ; A-F or Audit; Every Fall)

This course in keyboard musicianship is the first of a two semester sequence of

class piano. The course focuses on the development and improvement of keyboard skills in the areas of technique, performance, improvisation, harmonization, transposition, sight-reading, and elementary ensemble skills. The course is intended to develop basic keyboard competency while reinforcing students' musicianship skills. prereq: Music major, music minor, musical theatre major or instructor consent

**MU 1422. Piano Class II.** (1 cr. ; A-F or Audit; Every Spring)

This course in keyboarding musicianship is the second of a two-semester sequence of class piano. It is a continuation of MU 1421, focusing on developing increased ability with regard to technical ability, artistry, musicianship, and fundamental skills. Successful course completion is achieved with basic keyboard competency of early intermediate to intermediate levels. prereq: MU 1421, equivalent CE or instructor consent

**MU 1423. Piano Class III.** (; 1 cr. ; A-F or Audit; Every Fall & Spring)

This is a continuation course to Piano Class I/II (MU 1421/1422). Included in the course are studies in basic keyboard skills (scales/arpeggios/chords/progressions), harmonization, transposition, sight-reading, accompanying, repertoire, and score-reading. pre-req: Music major and passing grades in MU 1421 and 1422 or by instructor consent following proficiency/placement exam.

**MU 1424. Piano Class IV.** (1 cr. ; A-F or Audit; Every Fall & Spring)

This is a continuation course to Piano Class I/II/III (MU 1421/1422/1423). Included in the course are studies in basic keyboard skills (scales/arpeggios/chords/progressions), harmonization, transposition, sight-reading, accompanying, repertoire, and score-reading. pre-req: Music major and passing grades in MU 1421, 1422 and 1423 or by instructor consent following proficiency/placement exam.

**MU 1440. Survey of Instrumental**

**Techniques.** (1 cr. ; A-F or Audit; Every Spring)

Beginning group instruction of pedagogy, technique and tone production principles on percussion, brass woodwinds and strings. prereq: Music major or instructor consent

**MU 1441. Vocal Techniques.** (1 cr. ; Student Option; Every Spring)

Beginning group instruction in voice and vocal pedagogy; principles of vocal acoustics. prereq: Music major or instructor consent

**MU 1442. Percussion Techniques.** (; 1 cr. ; A-F or Audit; Every Fall)

Beginning group instruction and pedagogy on instruments in the percussion family; principles of percussion acoustics. prereq: Music major or instructor consent

**MU 1501. Concert Band.** (FINE ARTS; 1 cr. [max 12 cr.]; Student Option; Every Fall & Spring)

Study and performance of transcribed and original concert literature. prereq: Instructor determines placement

**MU 1502. Symphonic Wind Ensemble.**

(FINE ARTS; 1 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)  
Study and performance of symphonic wind ensemble and contemporary band literature by a select group. prereq: Instructor determines placement

**MU 1503. Symphony Orchestra.** (FINE

ARTS; 1 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)  
Rehearsal and performance of representative musical literature for symphony orchestra. prereq: Instructor determines placement

**MU 1504. Chamber Orchestra.** (FINE ARTS;

1 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)  
Rehearsal and performance of chamber orchestra literature. repeatable: Allow up to 12 repetitions totalling up to 12 credits.

**MU 1505. Jazz Ensemble.** (FINE ARTS; 1

cr. [max 12 cr.] ; Student Option; Every Fall & Spring)  
Study and performance of large jazz ensemble literature. prereq: Instructor determines placement

**MU 1510. Concert Chorale.** (FINE ARTS; 1

cr. [max 12 cr.] ; Student Option; Every Fall & Spring)  
Rehearsal and performance of representative choral literature from a variety of periods and cultures. prereq: Instructor determines placement

**MU 1511. University Singers.** (FINE ARTS; 1

[max 12 cr.] ; Student Option; Every Fall & Spring)  
An auditioned chorus performing music from a wide spectrum of historical periods, cultures, and languages. Registration is open to all undergraduate students. Successful audition during the first week of the term is required to determine placement. Contact the Music Department for details. repeatable: Allow up to 12 repetitions totalling up to 12 credits.

**MU 1512. Chamber Singers.** (FINE ARTS; 1

cr. [max 12 cr.] ; Student Option; Every Fall & Spring)  
A choir performing vocal chamber music and music for smaller ensembles. Registration is open to all undergraduate students. Successful audition during the first week of the term is required to determine placement. Contact the Music Department for details. pre-req: concurrent registration in MU 1511 or 4511 repeatable: Allow up to 12 repetitions totalling up to 12 credits.

**MU 1513. Vocal Jazz Ensemble.** (FINE

ARTS; 1 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)  
Study and performance of music for vocal jazz ensemble. prereq: Instructor determines placement

**MU 1515. Percussion Ensemble.** (1 cr. [max

10 cr.] ; A-F or Audit; Every Fall & Spring)  
Study and performance of diverse repertoire for the percussion ensemble: historically significant works, contemporary works, world music, popular music, and new works. For both music

majors and non-majors. prereq: maximum of 10 credits between MU 1515 and 4515 repeatable: Allow up to 10 repetitions totalling up to 10 credits.

**MU 1516. Piano Ensemble.** (1 cr. [max 12

cr.] ; A-F or Audit; Every Fall & Spring)  
In this course, students will work on piano ensemble repertoire and refine their ability to play with other musicians.

**MU 1541. Chamber Music.** (; 1 cr. [max 12

cr.] ; A-F or Audit; Every Fall & Spring)  
Study and performance of chamber music literature, classical and/or jazz. prereq: Instructor determines placement

**MU 1999X. Non Direct Equivalent.** (0-999

cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MU 2001. Ethnic and Folk Music of the**

**World.** (FINE ARTS; 3 cr. ; Student Option; Every Fall & Spring)  
Introductory course to the music of the world. This class will introduce you to a diverse musical repertoire and non-traditional approaches to music. We will study the music of a variety of cultures and societies as an expression of meaningful human interaction.

**MU 2003. Survey of American Music.** (FINE

ARTS,CDIVERSITY; 3 cr. ; Student Option; Every Fall & Spring)  
Examines the history and evolution of musical cultures in the United States. Music, as well as other artistic traditions and social customs, of Native Americans, African Americans, European Americans, and Mexican Americans will be studied throughout the course.

**MU 2005. African Roots of American Music.**

(; 3 cr. ; Student Option; Every Spring)  
This course defines and examines the musical and cultural significance of West Africa and its indelible impression on Western music and culture (particularly in America). Music and culture is traced from West Africa, through South America and Latin America, and on to North America. Class material ranges from historical West African tradition through today's American popular music.

**MU 2105. Composition I.** (; 2 cr. [max 4 cr.] ;

A-F or Audit; Every Fall & Spring)  
Beginning music composition technique leading to creation of original works. prereq: 1121 or 1122

**MU 2110. Jazz Theory.** (; 2 cr. ; A-F or Audit;

Every Spring)  
Introduction to jazz harmony, chord/scale relationships, and jazz piano skills. prereq: 1111, 1421 or instructor consent

**MU 2111. Tonal Harmony III.** (; 3 cr. ; A-F

only; Every Fall)  
Continued study of tonal theory with an emphasis on late 18th and early 19th century methods of composition and analysis. prereq: Music major or minor and MU 1121

**MU 2112. Ear-Training III.** (; 1 cr. ; A-F only;

Every Fall)  
Continued study of ear-training and sight-singing of tonal music. prereq: Music major

or minor; MU 1121 & 1122; co-enrollment in or prior successful completion of MU 2111 (or equivalent placement exam score)

**MU 2121. Tonal Harmony IV.** (; 3 cr. ; A-F

only; Every Spring)  
Continued study of tonal theory with an emphasis on 19th century methods of composition and an introduction to 20th century and contemporary modes of musical organization. prereq: Music major or minor and MU 2111

**MU 2122. Ear-Training, Sight Singing and**

**Improvisation.** (; 1 cr. ; A-F only; Every Spring)  
Continued study of ear-training and sight-singing of tonal music; introduction to post-tonal music and basic principles and techniques of improvisation. prereq: Music major or minor; MU 2111 & 2112; co-enrollment in or prior successful completion of MU 2121 (or equivalent placement exam score)

**MU 2443. Woodwind Techniques.** (; 1 cr. ; A-

F or Audit; Every Fall)  
Beginning group instruction of pedagogy, technique and tone production principles on woodwind instruments. prereq: Music major or instructor consent

**MU 2445. String Techniques.** (; 1 cr. ; A-F or

Audit; Every Spring)  
Beginning group instruction of pedagogy, technique and tone production principles on orchestral string instruments. prereq: Music major or instructor consent

**MU 2447. Brass Techniques.** (1 cr. ; A-F or

Audit; Every Spring)  
Beginning group instruction of pedagogy, technique and tone production principles on brass instruments. prereq: Music major or instructor consent

**MU 2605. Introduction to Music Education.**

(; 1 cr. ; A-F or Audit; Every Spring)  
Introduction to the music education profession. Includes career options, history of the profession, professional writings, and current research. prereq: Music Ed major or instructor consent

**MU 2802. Jazz Improvisation I.** (; 2 cr. ; A-F

or Audit; Every Fall)  
Beginning techniques and concepts. prereq: 2110

**MU 2803. Jazz Improvisation II.** (; 2 cr. ; A-F

or Audit; Every Spring)  
Study and development of improvisational facility as used in the jazz idiom. prereq: 2101, 2802 or instructor consent

**MU 2999X. Non Direct Equivalent.** (0-999

cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MU 3101. Form and Analysis.** (; 2 cr. ; A-F or

Audit; Every Fall)  
Overview of form in music; structure from Renaissance through 20th-century. prereq: 2121, 2122

**MU 3105. Composition II.** (; 2 cr. [max 4 cr.] ;

A-F or Audit; Every Fall & Spring)

Continued study of musical composition techniques leading to creation of original works. prereq: 2105

**MU 3201. Music History I.** (; 3 cr. ; A-F or Audit; Every Fall)

Survey of Medieval, Renaissance, Baroque, and Classical eras of Western music, with an emphasis on the cultural, literary, religious and socio-political contexts in which master composers developed. prereq: Mu 1121/1122 or instructor consent

**MU 3202. Music History II.** (; 3 cr. ; A-F or Audit; Every Spring)

Survey of Romantic, Modern and Contemporary eras of music, emphasizing the increasingly non-Western influences and cross-cultural connections on the development of European artistic values into a global aesthetic. prereq: 3201 or instructor consent

**MU 3211. Art Song Literature.** (; 2 cr. ; A-F or Audit; Fall Odd Year)

Survey of art song, emphasizing German, French, and English compositions and composers. prereq: Mu [1121, 1122], music major or instructor consent

**MU 3212. Opera Literature.** (2 cr. ; A-F or Audit; Fall Even Year)

Survey of opera solo and ensemble literature from Italian, German, French, English, and American traditions. prereq: [1121, 1122], music major or instructor consent

**MU 3300. Junior Recital.** (1 cr. [max 3 cr.] ; A-F or Audit; Every Fall & Spring)

Preparation and presentation of a solo performance. For performance majors required to complete a recital in the next-to-final year of their program. prereq: department consent, may be repeated

**MU 3350. Half-Recital.** (; 0 cr. ; S-N or Audit; Every Fall & Spring)

Preparation and public presentation of approximately 25 minutes of music appropriate to the student's principal instrument. Primarily for music education majors.

**MU 3510. Opera Studio.** (FINE ARTS; 1 cr. [max 10 cr.] ; A-F or Audit; Every Fall & Spring)

Production techniques and performances of solo and ensemble opera literature. prereq: instructor consent

**MU 3600. Music in the Elementary Classroom.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Functional skills, methods, and materials for teaching music in elementary school classrooms: Music notation, elements of music, philosophies and methodologies, curriculum design and implementation, integrated arts experiences. prereq: Successful completion of IESE 1010; credit will not be granted if already received for MU 1601 and 3601

**MU 3606. Field Experience: Classroom Music Pre K-8.** (; 1 cr. ; A-F or Audit; Every Fall)

Observations and micro-teaching in general music classrooms grades Pre-K through 8. Supervised by music education faculty member

from the department of music, in cooperation with general music teachers. prereq: 45 cr, music ed major, concurrent registration in Mu 3608

**MU 3607. Instrumental Music Methods.** (3 cr. ; A-F or Audit; Every Spring)

Methods and materials for teaching instrumental students in the secondary setting: role and extent of instrumental music in the school curriculum, philosophies and current trends in instrumental music education, recruiting, scheduling, administrative tasks, literature, organizing and training athletic bands. prereq: music major or instructor consent

**MU 3608. Teaching Elementary Music.** (; 3 cr. ; A-F or Audit; Every Fall)

Philosophy, theory, techniques of instruction for general classroom music, grades K-8. prereq: 45 cr, music ed major or instructor consent; credit will not be granted if credit was received for 3605.

**MU 3627. Art of Accompanying: Vocal Music.** (2 cr. ; A-F or Audit; Fall Even Year)

Vocal accompanying (art song, recitative and aria, choral music, and functional skills (e.g., score reading, keyboard harmony). Vocal coaching techniques, listening to standard vocal repertoire, performance. prereq: instructor consent

**MU 3628. Art of Accompanying: Instrumental Music.** (2 cr. ; A-F or Audit; Spring Odd Year)

Instrumental accompanying (strings, brass, and woodwinds) and functional skills (e.g., score reading, keyboard harmony). Rehearsal techniques, listening to standard instrumental repertoire, performance. prereq: instructor consent

**MU 3701. Choral Conducting and Methods I.** (; 3 cr. ; A-F or Audit; Every Fall)

Fundamental conducting, choral techniques, communication skills, and repertoire related to teaching and directing choral ensembles. prereq: MU 2121 or instructor consent

**MU 3702. Choral Conducting and Methods II.** (3 cr. ; A-F or Audit; Every Spring)

Continuation of MU 3701, emphasizing choral conducting techniques, organization, rehearsal planning, repertoire, style, and pedagogy for choral ensembles. prereq: MU 3701

**MU 3703. Choral Conducting.** (; 1 cr. ; A-F or Audit; Every Fall)

Conducting techniques and score interpretation applied to choral ensembles. Not for students in the vocal music education emphasis. prereq: 2121 or instructor consent; credit will not be granted if credit already received for MU 3701 or 3702

**MU 3705. Instrumental Conducting I.** (; 1 cr. ; A-F or Audit; Every Fall)

Intermediate techniques, reading, and interpretation of full and condensed orchestral, band, and vocal scores; lab practice in rehearsal procedures.

**MU 3706. Instrumental Conducting II.** (1 cr. ; A-F or Audit; Every Spring)

Advanced techniques, reading, and interpretation of full and condensed orchestral, band, and vocal scores; lab practice in rehearsal procedures. prereq: 3705 or instructor consent

**MU 3805. Jazz Writing I.** (2 cr. ; A-F or Audit; Fall Even Year)

Transpositions, voicings, and arranging concepts for large and small jazz ensembles; development of composition in jazz idiom. prereq: Mu [2121, 2122] or instructor consent

**MU 3806. Jazz Writing II.** (; 2 cr. ; A-F or Audit; Spring Odd Year)

Continuation of arranging concepts for large and small jazz ensembles; further development of composition in jazz idiom. prereq: Mu 3805 or instructor consent

**MU 3807. Jazz Literature.** (; 2 cr. ; A-F or Audit; Fall Even Year)

Learn and memorize standard jazz repertoire. prereq: Music majors or instructor consent.

**MU 3991. Independent Study.** (1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Directed study in area of student interest arranged with instructor before registration. prereq: instructor consent

**MU 3995. Special Topics: (Various Titles to be Assigned).** (; 1-3 cr. [max 9 cr.] ; A-F or Audit; Periodic Summer)

Selected topics defined by type, period, or composer. prereq: instructor consent

**MU 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**MU 4101. Instrumental Arranging.** (; 2 cr. ; A-F or Audit; Every Fall)

Idiomatic scoring for instruments; individual assignments in problems and possibilities of various instrument combinations. prereq: Mu 2121, 2122 or instructor consent

**MU 4103. Contrapuntal Techniques.** (; 2 cr. ; A-F or Audit; Every Spring)

Study of, and practice in, use of polyphonic devices in Western art music. prereq: Mu 2121, 2122 or instructor consent

**MU 4105. Composition III.** (; 2 cr. [max 4 cr.] ; A-F or Audit; Every Fall & Spring)

Advanced creative composition; individual assignments in various contexts. prereq: 3105

**MU 4200. Advanced Music History.** (2 cr. ; A-F or Audit; Every Spring)

Advanced study, critique, and analysis of selected areas in music literature. pre-req: MU 3101, 3202 or instructor consent

**MU 4201. Piano Literature.** (2 cr. [max 3 cr.] ; A-F or Audit; Fall Even Year)

The objective of this course is to study selected keyboard repertoire from the Middle Ages through Classical Period. prereq: MU 3201, 3202 and Music major

**MU 4202. Piano Literature II.** (2 cr. ; A-F or Audit; Fall Odd Year)

The objective of this course is to the study selected keyboard repertoire from the Romantic Period through the Contemporary/

Present period. pre-req: MU 4201 and Music major

**MU 4300. Senior Recital.** (; 1 cr. [max 2 cr.] ; A-F or Audit; Every Fall & Spring)  
Preparation and public presentation of a solo performance of at least 50 minutes of music appropriate to the student's principal instrument or principal compositional media. This is the capstone requirement for students in music performance or theory-composition.

**MU 4311. Voice-Major.** (2-3 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)  
Individual lesson weekly plus arranged group lessons. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 4312. Voice - Non-Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual lesson one half hour weekly. prereq: Non-Music major or music major secondary instrument

**MU 4321. Piano-Major.** (; 2-3 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)  
Individual lesson weekly plus arranged group lessons. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 4322. Piano - Non-Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4325. Jazz Piano-Major.** (; 2-3 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)  
Individual lesson weekly plus arranged group lessons. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 4331. Organ-Major.** (2-3 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)  
Individual lesson weekly plus arranged group lessons. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 4332. Organ - Non-Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4350. Violin - Non-Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual violin lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4351. Violin - Major.** (; 2-3 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)  
Individual violin lesson weekly plus arranged group lessons. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.; MU 300

**MU 4352. Viola - Non-Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Individual viola lesson; one-half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4353. Viola - Major.** (2-3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual viola lesson weekly plus arranged group lessons. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.; MU 300

**MU 4354. Cello - Non-Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual cello lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4355. Cello - Major.** (; 2-3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual cello lesson weekly plus arranged group lessons. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.; MU 300

**MU 4356. Harp - Non-Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual harp lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4357. Harp - Major.** (2-3 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)  
Individual harp lesson weekly plus arranged group lessons. prereq: Music major, MU 300; performance majors register for 3 cr., all others register for 2 cr.

**MU 4358. Bass - Non-major.** (; 1 cr. [max 12 cr.] ; Student Option; Every Fall & Spring)  
Individual bass lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4359. Bass - Major.** (; 2-3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual bass lesson weekly plus arranged group lessons. prereq: Music major, MU 300; performance majors register for 3 cr., all others register for 2 cr.

**MU 4360. Clarinet - Non-Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual clarinet lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4361. Clarinet - Major.** (2-3 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)  
Individual clarinet lesson weekly plus arranged group lessons. prereq: Music major, MU 300; performance majors register for 3 cr., all others register for 2 cr.

**MU 4362. Saxophone - Non-Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual saxophone lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4363. Saxophone - Major.** (; 2-3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual saxophone lesson weekly plus arranged group lessons. prereq: Music major, MU 300; performance majors register for 3 cr., all others register for 2 cr.

**MU 4364. Flute - Non-Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual flute lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4365. Flute - Major.** (; 2-3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual flute lesson weekly plus arranged group lessons. prereq: Music major, MU 300; performance majors register for 3 cr., all others register for 2 cr.

**MU 4366. Oboe - Non-major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual oboe lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4367. Oboe - Major.** (; 2-3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual oboe lesson weekly plus arranged group lessons. prereq: Music major, MU 300; performance majors register for 3 cr., all others register for 2 cr.

**MU 4368. Bassoon - Non-Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual bassoon lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4369. Bassoon - Major.** (2-3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual bassoon lesson weekly plus arranged group lesson. prereq: Music major, MU 300; performance majors register for 3 cr., all others register for 2 cr.

**MU 4370. Trumpet - Non-Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual trumpet lesson one half hour weekly. prereq: non-music major or music major secondary instrument

**MU 4371. Trumpet - Major.** (; 2-3 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)  
Individual trumpet lesson weekly plus arranged group lessons. prereq: Music major, MU 300; performance majors register for 3 cr., all others register for 2 cr.

**MU 4372. Trombone - Non-Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual trombone lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4373. Trombone - Major.** (; 2-3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual trombone lesson weekly plus arranged group lesson. prereq: Music major, MU 300; performance major register for 3 cr., all others register for 2 cr.

**MU 4374. French Horn - Non-Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual French Horn lesson one half hour weekly. prereq: non-music major or music major secondary instrument

**MU 4375. French Horn - Major.** (; 2-3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual French Horn lesson weekly plus arranged group lessons. prereq: Music major,

MU 300; performance majors register for 3 cr., all others register for 2 cr.

**MU 4376. Tuba - Non-Major.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual tuba lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4377. Tuba - Major.** (; 2-3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual tuba lesson weekly plus arranged group lessons. prereq: Music major, MU 300; performance majors register for 3 cr., all others register for 2 cr.

**MU 4378. Euphonium - Non-Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual euphonium lesson one half hour weekly. prereq: non-music major or music major secondary instrument

**MU 4379. Euphonium - Major.** (; 2-3 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual euphonium lesson weekly plus arranged group lessons. prereq: Music major, MU 300; performance majors register for 3 cr., all others register for 2 cr.

**MU 4381. Percussion-Major.** (2-3 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)  
Individual lesson weekly plus arranged group lessons. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 4382. Percussion - Non-Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4391. Classical Guitar-Major.** (2-3 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)  
Individual lesson weekly plus arranged group lessons. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 4392. Classical Guitar-Non Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Individual lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4395. Jazz Guitar-Major.** (2-3 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)  
Individual lesson weekly plus arranged group lessons. prereq: Music major; performance majors register for 3 cr., all others register for 2 cr.

**MU 4396. Jazz Guitar - Non-Major.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Individual lesson one half hour weekly. prereq: Non-music major or music major secondary instrument

**MU 4501. Concert Band.** (; 1 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
Study and performance of transcribed and original concert literature. prereq: Instructor determines placement

**MU 4502. Symphonic Wind Ensemble.** (; 1 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Study and performance of symphonic wind ensemble and contemporary band literature by a select group. prereq: Instructor determines placement

**MU 4503. Symphony Orchestra.** (; 1 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
Rehearsal and performance of representative literature for symphony orchestra. prereq: Instructor determines placement

**MU 4504. Chamber Orchestra.** (; 1 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
Study and performance of chamber orchestra literature. prereq: Instructor determines placement

**MU 4505. Jazz Ensemble.** (; 1 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
Study and performance of large jazz ensemble literature. prereq: Instructor determines placement

**MU 4510. Concert Chorale.** (; 1 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
Study and performance of representative choral literature from various style periods and cultures. prereq: Instructor determines placement

**MU 4511. University Singers.** (; 1 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
An auditioned chorus performing music from a wide spectrum of historical periods, cultures, and languages. Open by audition to all university students. pre-req: Audition and instructor consent

**MU 4512. Chamber Singers.** (1 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
A choir performing vocal chamber music and music for smaller ensembles. pre-req: concurrent registration in 1511 or 4511; instructor consent

**MU 4513. Vocal Jazz Ensemble.** (; 1 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
Study and performance of music for vocal jazz ensemble. prereq: Instructor determines placement

**MU 4515. Percussion Ensemble.** (; 1 cr. [max 10 cr.] ; A-F or Audit; Every Fall & Spring)  
Study and performance of diverse repertoire for the percussion ensemble: historically significant works, contemporary works; world music; popular music; and new works. For both music and non-majors. prereq: Instructor consent; maximum of 10 credits between MU 1515 and 4515

**MU 4516. Piano Ensemble.** (1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
In this course, students will work on piano ensemble repertoire and refine their ability to play with other musicians. No grad credit

**MU 4541. Chamber Music.** (; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Study and performance of chamber music literature, classical and/or jazz. prereq: instructor consent

**MU 4600. Vocal Pedagogy.** (; 1 cr. ; A-F or Audit; Every Fall)  
In-depth exploration of healthy vocal production: anatomy, mechanics of breath

management, laryngeal function, resonance, and vocal registration. Related topics are teaching methods, solutions to typical vocal problems, and repertoire for the beginning students. This course prepares vocal performance students to register for Applied Music Teaching MU 4601, in a subsequent semester. prereq: Vocal Performance majors, MU 300, minimum 90 credits; no grad credit

**MU 4601. Applied Music Teaching.** (1 cr. [max 2 cr.] ; A-F or Audit; Every Fall & Spring)  
Procedures and materials for class and individual instruction in approved fields of applied music; evaluation of solo literature; discussion of approved and experimental pedagogical practice; lesson observation; and supervised student teaching. prereq: instructor consent

**MU 4606. Special and Adaptive Methods in Music Education.** (CDIVERSITY; 3 cr. ; A-F or Audit; Every Spring)  
Examination of exceptionality in classroom music for pre-service music education majors. Topics include adaptive instructional strategies, characteristics of students, special methods in music education, and differentiated instruction. pre-req: MU 2605 and instructor consent

**MU 4621. Piano Pedagogy and Practicum I.** (; 2 cr. ; A-F or Audit; Fall Odd Year)  
Principles and materials for teaching elementary piano students; supervised practice teaching. prereq: Music major or instructor consent

**MU 4622. Piano Pedagogy and Practicum II.** (2 cr. ; A-F or Audit; Spring Even Year)  
Principles and materials for teaching intermediate piano students; supervised practice teaching. prereq: Mu 4621 or instructor consent

**MU 4623. Piano Techniques and Style.** (3 cr. ; A-F or Audit; Fall Even Year)  
Technical and stylistic considerations for teaching and performing advanced piano literature. prereq: 1321 or instructor consent

**MU 4803. Jazz Pedagogy.** (; 2 cr. ; A-F or Audit; Fall Odd Year)  
Techniques and materials necessary to organize and develop a jazz band in junior and senior high school. prereq: Mu [2121, 2122]

**MU 4807. Music Industry.** (2 cr. ; A-F or Audit; Spring Even Year)  
Study of developing commercial applications and trends in the music industry, including basic concepts of business and marketing. prereq: instructor consent

**MU 4991. Independent Study.** (1-3 cr. [max 6 cr.] ; A-F only; Every Fall & Spring)  
Independent study in area of student interest arranged with instructor before registration. pre-req: instructor consent

**MU 4997. Internship in Music.** (1-2 cr. [max 4 cr.] ; A-F or Audit; Every Fall & Spring)  
Participation in music tutoring or recognized campus/community activity related to student's musical program and career objectives. prereq: department consent



**MU 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**MU 5201. Advanced Music History.** (2 cr. ; A-F or Audit; Every Fall)  
Advanced study, critique, and analysis of selected areas in music literature. prereq: MU 3201, 3202 or instructor consent

**MU 5203. Advanced Choral Literature.** (2 cr. ; A-F or Audit; Periodic Fall & Spring)  
Study of representative choral literature from various periods of music history. prereq: 3702 or instructor consent

**MU 5204. Instrumental Ensemble Literature.** (; 2 cr. ; A-F or Audit; Periodic Fall & Spring)  
Study of major works for large wind and orchestral ensembles. prereq: Grad Student or instructor consent

**MU 5205. Instrumental Solo Literature.** (1 cr. [max 3 cr.] ; A-F or Audit; Periodic Fall & Spring)  
Survey of instrumental solo literature within the student's applied field of study. prereq: Grad student or instructor consent

**MU 5206. Vocal Solo Literature.** (; 1-2 cr. ; A-F or Audit; Periodic Fall & Spring)  
A historical survey of standard repertoire for solo voice in art song, opera, and oratorio; focus varies by semester. prereq: Grad student or instructor consent

**MU 5207. Instrumental Chamber Music Literature.** (1 cr. ; A-F or Audit; Periodic Fall & Spring)  
Study of chamber music literature with emphasis on student's major applied area. prereq: Grad student or instructor consent

**MU 5208. Vocal Chamber Literature.** (1 cr. ; A-F or Audit; Periodic Fall & Spring)  
A survey of standard repertoire for solo voice with chamber ensembles. prereq: Grad student or instructor consent

**MU 5210. The Professional Singer: Entrepreneurship for Opera Singers.** (1 cr. ; A-F or Audit; Periodic Spring)  
The study and application of audition skills for the opera singer. pre-req: Music major with concurrent registration in MU 4311 or 8301 and instructor consent

**MU 5211. Piano Literature I.** (2 cr. ; A-F or Audit; Fall Even Year)  
The objective of this Piano Literature course is to study selected keyboard repertoire from the Middle Ages through Classical Period. pre-req: Music majors with instructor consent

**MU 5212. Piano Literature II.** (2 cr. ; A-F or Audit; Spring Odd Year)  
The objective of this Piano Literature course is to study selected keyboard repertoire from the Romantic Period through the Contemporary/ Present Period. pre-req: Music majors with instructor consent

**MU 5510. Opera Studio.** (1 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
Opera production techniques; performance of solo and ensemble opera literature. prereq:

3510 or equivalent, Grad student or instructor consent

**MU 5621. Piano Pedagogy I.** (2 cr. ; A-F or Audit; Fall Odd Year)  
The goal of this piano pedagogy course is to provide an in-depth study of the techniques and materials needed to teach elementary piano students. pre-req: registered music majors with the instructor's consent

**MU 5622. Piano Pedagogy II.** (2 cr. ; A-F or Audit; Spring Even Year)  
The goal of this piano pedagogy course is to provide an in-dept study of the techniques and materials needed to teach intermediate and advanced piano students. pre-req: registered music majors with the instructor's consent

**MU 5627. Art of Accompanying: Vocal Music.** (2 cr. ; A-F or Audit; Fall Even Year)  
Vocal accompanying art song, recitative and aria, choral music, and functional skills (e.g., score reading, keyboard harmony). Vocal coaching techniques, listening to standard vocal repertoire, and performance. prereq: Graduate Enrollment; credit will not be granted if already received for MU 3627

**MU 5628. Art of Accompanying: Instrumental Music.** (2 cr. ; A-F or Audit; Spring Odd Year)  
Instrumental accompanying (string, brass, and woodwinds) and functional skills (e.g., score reading, keyboard harmony). Rehearsal techniques, listening to standard instrumental repertoire, performance. prereq: Graduate enrollment; credit will not be given if already received for MU 3628

**MU 5991. Independent Study.** (1-3 cr. [max 9 cr.] ; A-F or Audit; Every Fall & Spring)  
Directed study in areas of student interest arranged with instructor before registration. prereq: Min 60 cr or Grad Student or instructor consent; can apply max 6 cr to a Grad program

**MU 5995. Special Topics: (Various Titles to be Assigned).** (; 1-3 cr. [max 6 cr.] ; A-F or Audit; Periodic Summer)  
Selected studies in topics defined by type, period, or composer. prereq: instructor consent

**MU 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Music Education (MUED)

**MUED 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Music Education (MUS)

**MUS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Music Education (MUED)

**MUED 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Music Education (MUS)

**MUS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Music Education (MUED)

**MUED 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Music Education (MUS)

**MUS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Music Education (MUED)

**MUED 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Music Education (MUS)

**MUS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Music Education (MUED)

**MUED 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Music Education (MUS)

**MUS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### NATS (NATS)

**NATS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NATS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NATS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NATS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NATS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### NCSI (NCSI)

**NCSI 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NCSI 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NCSI 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NCSI 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NCSI 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## NS (NS)

**NS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## NSG (NSG)

**NSG 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NSG 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NSG 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NSG 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NSG 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## NURS (NURS)

**NURS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NURS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NURS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NURS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NURS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## NUTR (NUTR)

**NUTR 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NUTR 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NUTR 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NUTR 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NUTR 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Natural Science (NSCI)

**NSCI 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NSCI 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NSCI 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NSCI 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**NSCI 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## OE (OE)

**OE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## OJB (OJB)

**OJB 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OJB 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OJB 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OJB 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OJB 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## OR (OR)

**OR 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OR 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OR 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OR 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OR 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## ORIE (ORIE)

**ORIE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ORIE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ORIE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ORIE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**ORIE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Office Administration (OA)

**OA 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OA 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OA 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**OA 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHOT (PHOT)**

**PHOT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHOT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHOT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PH (PH)**

**PHOT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHOT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHS (PHS)**

**PHS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHI (PHI)**

**PHI (PHI)**

**PHS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## PHY (PHY)

**PHY 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHY 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## PHL (PHL)

**PHY 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHY 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHY 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## PIAN (PIAN)

**PIAN 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PIAN 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PIAN 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PIAN 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PIAN 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## PS (PS)

**PS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## PSCH (PSCH)

**PSCH 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSCH 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSCH 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSCH 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSCH 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## PSY1 (PSY1)

**PSY1 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSY1 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSY1 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSY1 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**PSY1 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## PSY3 (PSY3)

**PSY3 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSY3 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSY3 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSY3 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSY3 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## PSYC (PSYC)

**PSYC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSYC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSYC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSYC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSYC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## PYS (PYS)

**PYS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PYS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PYS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PYS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PYS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Pathology and Lab Medicine (PATH)

**PATH 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PATH 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PATH 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PATH 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PATH 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Personal Orientation (PO)

**PO 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PO 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PO 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PO 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PO 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Pharmacology (PHCL)

**PHCL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHCL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHCL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHCL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHCL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## 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.** (3 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. This is a completely online, self-paced course but runs on an accelerated 10-week schedule each Fall, Spring, and Summer term. For more information, contact phar1002@umn.edu or 612-624-7976.

**PHAR 1003. Nonprescription Medications and Self-Care: Treating Minor Conditions.** (3 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.** (3 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 cannot 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 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 phar1004@umn.edu or 612-624-7976.

**PHAR 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**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 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**PHAR 3206. Foundations of Health Literacy.** (SOC SCI; 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 3208. Directed Study: Wellness Communication and Behavior Change in Patient Populations.** (3 cr. ; Student Option; Every Fall & Spring)

Health behavior change is key for the management of and cure of preventable diseases. While most healthcare professionals try to encourage patients to make these changes, they are only occasionally successful. This course examines issues associated with behavior change and wellness in patient populations. The first part of the course examines theories and models of health education and individual behavior change. The second part of the class examines factors that impact health and habitual behavior. The third part of the class focuses on solutions -- creation health campaigns and patient compliance.

**PHAR 3501. Introduction to Epidemiology.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Introduction to epidemiology, the basic science of public health. Epidemiology provides a systematic approach for acquiring and evaluating information on the distribution and causes of disease and other health outcomes in populations. Topics include the history of epidemiology, overview of epidemiologic methods (e.g., study design, measure of disease distribution and association, interpretation), and the application of epidemiology research to the development and evaluation of disease prevention and control strategies. Current or historically relevant infectious and chronic disease will be explored through lecture, interactive exercise, and independent assignments. Students will gain a greater appreciation for the complexities of disease processes in populations and the application of epidemiological methods to clinical and basic science, population health, and public health policy. Prior or concurrent completion of an undergraduate statistics course is recommended. prereq: Prior completion or concurrent enrollment in an undergraduate statistics course is recommended but not required.

**PHAR 3700. 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 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 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 [phar3700@umn.edu](mailto:phar3700@umn.edu) or 612-624-7976. Prereq: Medical terminology recommended

**PHAR 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHAR 4204. Drugs and the U.S. 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 understand how their choices, ethics and behavior affect societal decisions surrounding the availability of medications in the US 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. 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 and Spring term. For more information, contact [phar4200@umn.edu](mailto:phar4200@umn.edu) or 612-624-7976.

**PHAR 4293. Directed Research I for Undergraduates.** (1-5 cr. ; Student Option; Every Fall, Spring & Summer)  
Students work with College of Pharmacy faculty. prereq: undergrad, instructor 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, instructor consent

**PHAR 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHAR 5100. Pro-Seminar.** (1 cr. ; A-F only; 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.

**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 anatomy/physiology

**PHAR 5204. Drugs and the U.S. Healthcare System.** (; 3 cr. ; Student Option; Every Fall & Spring)  
Being an empowered patient is important when discussing ethics-driven issues within the U.S. health care system. This course will expose students to current controversial issues surrounding medications and national health care 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 health care. During this course, students will understand how their choices, ethics and behavior affect societal decisions surrounding the availability of medications in the US and what their rights are as a citizen-participant during the health care debate. This is a completely online course with weekly due dates offered each Fall and Spring term. For more information, contact [phar4200@umn.edu](mailto:phar4200@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](mailto: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 5220. Regulatory Issues in Drug Research.** (1-2 cr. ; Student Option; Every Spring)  
Regulatory issues encountered in conducting drug research trials. Performing different aspects of clinical trials. Lectures, readings, small group discussions, homework assignments. prereq: Pharm D. professional student and instructor consent

**PHAR 5230. Principles of Clinical Pharmacology Research.** (2 cr. ; A-F only; Every Fall)  
Topics related to drug therapy investigation are emphasized. Topics include experimental design of drug studies in human research subject volunteers (e.g. to learn appropriate dose, interval, drug-drug interactions, etc.). In the era of Personalized Medicine, this course will address topics related to individualization of therapy including effects of genetic polymorphisms, demographic variables, physiologic variables, and age on drug disposition treatment outcomes. prereq: 3rd Year Pharmacy Student or by instructor permission

**PHAR 5270. Therapeutics of Herbal and Other Natural Medicinals.** (2 cr. ; A-F or Audit; Every Spring)  
Herbal products/supplements. Pharmacology, clinical indications, and drug interactions of most commonly used products in nontraditional complementary health care. Historical significance and evidenced-based role of these products in health care. Case studies of clinical applications. prereq: Organic chemistry, pathophysiology of disease states, 3rd or 4th yr pharmacy student

**PHAR 5300. Directed Study: Providing Care to Patients with Addiction.** (2 cr. ; Student Option; Every Fall & Spring)  
In this course students will analyze stereotypes of addiction and examine the differences between addiction of controlled prescription agents versus other agents. Students will learn origins of addiction and apply practical strategies in simulated scenarios.

**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 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.

**PHAR 5620. Drug Metabolism and Disposition.**

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

**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 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Philosophy (PHIL)

**PHIL 1001. Introduction to Philosophy.**

(HUMANITIES; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Introduction to philosophical heritage through examination of several classic philosophical problems such as the existence of God, nature of knowledge, free will versus determinism, and the relation of mind to body.

**PHIL 1003. Ethics and Society.**

(HUMANITIES,CDIVERSITY; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Classic theories addressing questions of whether morality is subjective or objective, cultural relativism versus universal rules, how right and wrong should be determined. Moral issues such as euthanasia, the environment, population and birth control, nuclear deterrence, alternative life styles, and capital punishment in their international dimension. prereq: credit will not be granted if already received for CLA 1101

**PHIL 1005. Philosophy through Dialogue and Debate.**

(COMM & LAN; 3 cr. ; A-F or Audit; Every Spring)  
Oral communication has always been an essential part of Philosophy, both in the development of philosophical positions and in their rigorous evaluation and revision. This course will prepare students to communicate

effectively in the oral communication methods most frequently used in Philosophy: dialogue, debate, presentation with question-and-answer, panel forum and open discussion. We will engage with foundational issues in the philosophical tradition, including: the nature and ethical aspects of communication and persuasion, questions of personal identity, arguments for and against the existence of God, among others.

**PHIL 1007. Philosophy and World Religions.**

(HUMANITIES,GLOBAL PER; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Comparative philosophical examination of teachings and practices of several major world religions selected from ancient polytheism, Christianity, Judaism, Islam, Taoism, Buddhism, Hinduism, and various Native American and African religions.

**PHIL 1008. Critical Thinking.**

(LOGIC & QR; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Patterns of reasoning encountered in everyday life, including advertising, editorials, and politics. Use of language in formulating arguments; differences between deductive and inductive arguments; how to detect and avoid mistakes in reasoning.

**PHIL 1018. Logic.**

(LOGIC & QR; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to symbolic logic. Nature of language, species of arguments, informal versus formal arguments, techniques of translation, methods of sentential logic, and methods of predicate logic.

**PHIL 1021. Classical Mythology.**

(HUMANITIES; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Readings in Greek and Roman myths, especially in those that have influenced Western culture.

**PHIL 1025. Introduction to Cognitive Science.**

(NAT SCI; 3 cr. ; A-F or Audit; Every Fall)  
The Cognitive Sciences investigate the mind from an interdisciplinary perspective using resources from such diverse disciplines as psychology, philosophy, computer science, and neuroscience. This class provides a general introduction to prominent theories/themes from Cognitive Sciences as well as a more detailed investigation of various select topics.

**PHIL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHIL 2001. Existential Philosophy and the Arts.**

(HUMANITIES; 3 cr. ; A-F or Audit; Periodic Spring)  
This course examines themes of absurdity, alienation, freedom, nihilism, and death through philosophical writings, short stories, plays, novels, animation, music, and film. The works of thinkers and artists like De Beauvoir, Beckett, Camus, Calvino, The Cohen Brothers, Dostoyevsky, Ellison, Fincher, Hertzfeld, Jarmusch, Kafka, Kierkegaard, Malick, and Sartre will be analyzed.

**PHIL 2011. Philosophy of Language.** (SOC SCI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Introduction to theories of meaning and truth and the structure of language. Relation of language to thought and the world; semantics and syntax; speech acts and performative utterances; descriptions and reference; and structuralism and the possibility of objective knowledge. prereq: Course in logic or literary analysis or human communication or CS or math or instructor consent

**PHIL 2021. Science and Pseudo-Science: Thinking about Weird Things.**

(HUMANITIES; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
A critical introduction to the nature of knowledge and belief by focusing on contemporary issues, such as UFOs, ESP, mysticism, creationism and evolution, and near-death experiences, which explains the differences between rational beliefs and articles of faith and between science and pseudo-science.

**PHIL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHIL 3025. Philosophy of Race and Racism.**

(CDIVERSITY; 4 cr. ; A-F or Audit; Periodic Spring)  
This course will examine the origins, current causes, and consequences of racism but only after addressing these more fundamental questions: Is race a biological phenomenon? What is it if it is not biological? Is race nothing at all? Given the real facts about race, how should we approach questions about racism? It will examine various metaphysical positions that have been offered to explain race - realist, constructivist, relativist, and nihilist - and the moral/political ramifications of each of these types of theories. prereq: minimum 30 credits or instructor consent

**PHIL 3195. Special Topics: (Various Titles to be Assigned).**

(3-9 cr. ; A-F or Audit; Periodic Fall & Spring)  
In-depth examination of a particular philosopher or problem in philosophy. Specific course announced in [Class Schedule]. prereq: 1001 or instructor consent

**PHIL 3222. Medical Ethics.**

(4 cr. ; A-F or Audit; Periodic Spring)  
Values underlying the health care professions and ethical dilemmas in medical contexts. Patients' rights and autonomy, medical paternalism, confidentiality, truth-telling, euthanasia.

**PHIL 3231. Law and Punishment.**

(4 cr. ; A-F or Audit; Every Spring)  
Nature of law, natural law theory, and legal positivism and their relationship to traditional and contemporary theories of punishment; deterrence, reform, retribution, rehabilitation, social defense, restitution. prereq: 1001 or SOC 1301 or CRIM 1301

**PHIL 3242. Values and Technology.**

(HUMANITIES; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Problems related to science and technology. Application of moral theory to issues raised by technology, such as distribution of power,



effects on environment, labor and social life, privacy, intellectual property rights, product liability, and professional codes of ethics. prereq: 60 cr or instructor consent

**PHIL 3245. Philosophy of Art.** (3 cr. ; A-F or Audit; Spring Odd Year)

Possibility of definition of art or of the aesthetic experience examined through survey of classic aestheticians; philosophy of art criticism.

prereq: Min 45 cr or instructor consent, credit will not be granted if already received for 5245

**PHIL 3252. Philosophy of Science.** (; 3 cr. ; A-F only; Periodic Fall & Spring)

Introduction to the central issues in philosophy of science, such as the nature of scientific explanation, laws of nature, induction, prediction, evidence, confirmation, intertheoretic reduction, empiricism, and scientific realism. prereq: 1001 or 45 cr

**PHIL 3281. Ethical Theory.** (; 4 cr. ; A-F or Audit; Fall Even Year)

Characteristics and criteria of value statements; justification of moral standards; some 20th-century ethical theories. prereq: 1001 or 1003 or instructor consent; credit will not be granted if already received for CLA 1101

**PHIL 3291. Current Social Political**

**Philosophy.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Detailed philosophical analysis of recent writings about social and political concepts such as freedom, democracy, socialism, communism, fascism, and anarchy. prereq: 1001 or 1003 or instructor consent

**PHIL 3301. Greek Philosophy.** (4 cr. ; A-F or Audit; Every Fall)

Greek philosophy from the pre-Socratic era through Socrates, Plato, and Aristotle to Neoplatonism and the rediscovery of Aristotle. Philosophy of nature, theories of persons, possibility of human knowledge, happiness, and the good life. prereq: 30 cr or instructor consent

**PHIL 3303. The Birth of Modern Philosophy.** (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Impact of science and secularity on the rationalism of Descartes, Spinoza, Leibniz and the empiricism of Locke, Berkeley, and Hume. prereq: 30 cr, course in phil, hist, pol sci or lit or instructor consent

**PHIL 3319. 19th Century Philosophy.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Survey of the main issues and philosophers of the 19th century. prereq: Min 30 cr or instructor consent

**PHIL 3320. 20th Century Philosophy.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Survey of the main issues and philosophers of the 20th century. prereq: Min 30 cr or instructor consent

**PHIL 3325. Environmental Ethics.**

(HUMANITIES,SUSTAIN; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Moral dimension of relationship between humans and earth's natural environment. Pollution, energy policy, economics, law, and environment; endangered species; rights of

nonhumans; preservation and conservation; obligations toward future generations; ethical theory and environment. prereq: 30 cr or instructor consent

**PHIL 3421. Eastern Philosophy.** (4 cr. ; A-F or Audit; Fall Odd Year)

Overview of Hinduism, Buddhism, Confucianism, and Taoism, including their accounts of the meaning of life, community versus the individual, the role of religion, ethics, metaphysics, and other topics. Analysis of basic concepts of Indian and Chinese civilizations. prereq: minimum 30 credits

**PHIL 3570. Philosophy of Psychology.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

Current philosophical issues surrounding psychology: behaviorism, dualism, mind/brain identity theories, computer models of cognition, and functionalism. prereq: 1001 or Psy 1003, 60 cr or instructor consent

**PHIL 3575. Philosophy and Cognitive Science.** (3 cr. ; A-F or Audit; Spring Odd Year)

This course will explore various topics at the intersection of Philosophy and Cognitive Science. In some cases, these topics may be about how various theories and ideas from Philosophy have influenced work in the Cognitive Science. For instance, certain ideas about the nature and limits of computation from Philosophical Logic lay down the theoretical foundations for treating the mind as a type of computer, while various influential Philosophical arguments against computational models of the mind continue to shape the discussion of topics such as consciousness and rationality. In other cases, topics explored in the class may be about how various theories and experimental results from Cognitive Science have influenced Philosophical theorizing. (For instance, certain experimental results from neuroscience have called into question that claim that we free will and recent evidence from both neuroimaging and developmental psychology have influenced Philosophical work being done on the nature of morality.) pre-req: 1025

**PHIL 3655. Theory of Knowledge.** (4 cr. ; A-F or Audit; Spring Even Year)

Introduction to theory of knowledge interpreted broadly to encompass perceptual, deductive, inductive, and other modes of knowledge. Beginning with standard conception of knowledge as warranted true belief, explores strengths and weaknesses of alternative accounts.

**PHIL 3900. Colloquium for Majors.** (1 cr. ; S-N only; Every Fall & Spring)

Students are advised to register for this course after completing 9 of the 12 colloquium presentations (department approved lectures/discussions) or during their last semester. prereq: department consent

**PHIL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**PHIL 4900. Seminar in Philosophy.** (4 cr. [max 12 cr.] ; A-F or Audit; Every Fall)

Detailed examination of major topics or philosophical works. See department for details. prereq: 12 cr Phil or instructor consent; no grad credit

**PHIL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**PHIL 5991. Independent Study.** (1-3 cr. [max 10 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Work in problems of special interest to student arranged with instructor before registration. Written work required. May be taken in conjunction with another philosophy course. Prereq: instructor consent

**PHIL 5997. Intern Teaching Assistantship.**

(2 cr. [max 4 cr.] ; A-F or Audit; Every Fall, Spring & Summer) Practical experience in assisting teaching of philosophy. Application deadline one week before beginning of registration for the following semester. prereq: instructor consent

**PHIL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

## Physical Educ Professional (PEP)

**PEP 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**PEP 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**PEP 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**PEP 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**PEP 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

## Physical Education (PE)

**PE 1220. Technical Swimming.** (; 1 cr. ; Student Option; Every Fall & Spring)

This is an advanced competitive stroke class tailored to improve each student's technical swimming skills, fitness level, and kinesthetic knowledge. All competitive skills will be integrated into a weekly training schedule. An advanced skill level of swimming is recommended. The course is not intended for non-swimmers.

**PE 1300. Ballroom Dance.** (; 1 cr. ; Student Option; Every Fall & Spring)

Development of the basic steps and patterns for ballroom dance. Development of technical and choreographic skill for personal expressive communication through movement.

**PE 1402. Tennis.** (; 1 cr. ; Student Option; Every Fall & Spring)

Development of personal skills in tennis. Understanding of strategies and concepts for participation in the game.

**PE 1414. Bowling.** (; 1 cr. ; Student Option; Every Fall & Spring)  
Development of personal skills in bowling. Understanding of concepts and strategies for participation in the game.

**PE 1500. Cross-Country Skiing.** (; 1 cr. ; Student Option; Every Spring)  
Development of personal skills in cross country skiing. Understanding of the techniques and concepts for participation in the sport.

**PE 1502. Alpine Skiing.** (; 1 cr. ; A-F or Audit; Every Spring)  
Development of personal skills in alpine skiing. Understanding of the techniques and concepts for participation in the sport.

**PE 1507. Introduction to River Kayaking.** (; 1 cr. ; Student Option; Every Fall & Spring)  
River kayaking techniques. History, safety, kayak design, basic braces, paddle strokes, and maneuvering for river conditions.

**PE 1508. Flatwater Canoeing.** (; 1 cr. ; Student Option; Every Fall)  
Basic skills and terminology relevant for safe canoeing on flatwater and slow-stream conditions.

**PE 1511. Sea Kayaking.** (; 1 cr. ; A-F or Audit; Every Fall)  
Sea kayaking techniques; history, safety, kayak design, basic braces, paddle strokes, and maneuvering in large water conditions.

**PE 1512. Fishing Skills.** (; 1 cr. ; Student Option; Every Fall)  
Development of personal skills in fishing. Acquisition of understanding, techniques, and patterns for participation in the activity.

**PE 1530. Rock Climbing.** (; 1 cr. ; Student Option; Every Fall & Spring)  
History, techniques and safety, equipment, knots, basic belay systems, route finding, face and crack climbing, identification of environmental hazards.

**PE 1531. Intermediate Rock Climbing.** (1 cr. ; Student Option; Periodic Spring)  
Intermediate rock climbing skills and knowledge including use of and placement of anchor systems, top rope set-up, introductory lead climbing and climb site risk management. This course builds upon basic rock climbing skills and techniques which are prerequisite for this course. prereq: PE 1530 or instructor consent

**PE 1600. Physical Fitness.** (; 1 cr. ; Student Option; Every Fall)  
Development of personal skills related to physical fitness. Understanding and application of factors and participation patterns contributing to enhanced physical fitness.

**PE 1601. Aerobics.** (; 1 cr. ; Student Option; Every Fall & Spring)  
Knowledge of cardiovascular fitness, including aerobic exercise and hydro-aerobics. Physical development through cardiovascular training, muscle strengthening, and stretching.

**PE 1614. Self Defense.** (; 1 cr. ; Student Option; Every Spring)  
Development of personal skills related to self defense. Understanding of concepts, strategies, and skills for developing a personal system of self defense.

**PE 1615. Jujutsu.** (1 cr. [max 3 cr.] ; Student Option; Every Fall, Spring & Summer)  
Students will learn practical self-defense skills framed within traditional Japanese jujutsu. Jujutsu is a complete martial art, derived from the unarmed combat style of Japanese Samurai. It includes grappling, throwing, striking, and a mind-body relationship that develops confidence and perfection of character. Students will develop physical skills as well as an understanding and appreciation for the history and culture that produced jujutsu. Students will also learn how to teach kinesthetic skills to other students.

**PE 1616. Weight Training.** (; 1 cr. ; Student Option; Every Fall & Spring)  
Development of personal skills related to weight training. Understanding of principles, concepts, and conditioning regimens for participation in weight training.

**PE 1702. Soccer.** (; 1 cr. ; A-F or Audit; )  
Development of personal skills in soccer. Understanding of strategies, concepts, and skills for participation in the sport of soccer.

**PE 1706. Volleyball.** (; 1 cr. ; Student Option; Every Fall)  
Development of personal skills in volleyball. Understanding of strategies, concepts, and skills for participation in volleyball.

**PE 1708. Basketball.** (; 1 cr. ; Student Option; Every Spring)  
Development of personal skills in basketball. Understanding of strategies, concepts, and skills for participation in the sport.

**PE 1900. Varsity Sports.** (1-6 cr. ; S-N or Audit; Every Fall & Spring)  
Participation in intercollegiate varsity sport competition. pre-req: department consent

**PE 1901. Varsity Football.** (1 cr. [max 4 cr.] ; S-N only; Every Fall)  
Participation in intercollegiate football competition. prereq: instructor consent

**PE 1903. Varsity Soccer.** (1 cr. [max 4 cr.] ; S-N only; Every Fall)  
Participation in intercollegiate soccer competition. prereq: instructor consent

**PE 1905. Varsity Basketball.** (1 cr. [max 4 cr.] ; S-N only; Every Fall & Spring)  
Participation in intercollegiate basketball competition. prereq: instructor consent

**PE 1907. Varsity Ice Hockey.** (1 cr. [max 4 cr.] ; S-N only; Every Fall & Spring)  
Participation in intercollegiate ice hockey competition. prereq: instructor consent

**PE 1913. Varsity Cross Country.** (1 cr. [max 4 cr.] ; S-N only; Every Fall)  
Participation in intercollegiate cross country competition. prereq: instructor consent

**PE 1917. Varsity Volleyball.** (1 cr. [max 4 cr.] ; S-N only; Every Fall)

Participation in intercollegiate volleyball competition. prereq: instructor consent

**PE 1919. Varsity Track.** (1 cr. [max 4 cr.] ; S-N only; Every Spring)  
Participation in intercollegiate track competition. prereq: instructor consent

**PE 1921. Varsity Tennis.** (1 cr. [max 4 cr.] ; S-N only; Periodic Spring)  
Participation in intercollegiate tennis competition. prereq: instructor consent

**PE 1925. Varsity Baseball.** (1 cr. [max 4 cr.] ; S-N only; Every Spring)  
Participation in intercollegiate baseball competition. prereq: instructor consent

**PE 1927. Varsity Softball.** (1 cr. [max 4 cr.] ; S-N only; Every Spring)  
Participation in intercollegiate softball competition. prereq: instructor consent

**PE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PE 2240. Lifeguarding Today.** (1 cr. ; Student Option; Every Fall & Spring)  
Provides knowledge and skills necessary to qualify as a non-surf lifeguard. Meets current American Red Cross standards. Includes CPR and first aid instruction. prereq: Ability to swim 500 yards, instructor consent

**PE 2244. Water Safety Instructor.** (; 2 cr. ; A-F or Audit; Every Fall & Spring)  
Knowledge, skills, and strategies to teach American Red Cross swimming and water safety courses. prereq: 1240, 17 yrs old, knowledge and skill based on Emergency Water Safety Standard

**PE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Physical Education Teacher (PETE)

**PETE 1000. Introduction and Foundations of Physical Education.** (3 cr. [max 4 cr.] ; A-F or Audit; Every Fall)  
Introduction on the profession of teaching physical education. Presents professional standards for practitioners and outcomes for K-12 physical education programs. Addresses the history, philosophy, and psycho-social basis of physical education with additional context focuses upon the scientific foundations supporting the discipline. prereq: Pre-PE major or instructor consent

**PETE 1001. Teaching Fundamental Movement Skills.** (2 cr. ; A-F or Audit; Every Fall)

Addresses basic skill progressions; teaching strategies; skill development; and analysis for teaching manipulative skills, games, and activities. In addition, emphasis will be placed upon student development of personal competence in the activity. prereq: Pre or PE major

**PETE 1002. Teaching Team Sport Activities.** (; 2 cr. ; A-F or Audit; Every Fall)

Addresses basic skill progressions, teaching strategies, skill development activities, and skill analysis for teaching team sport activities. Emphasis placed upon student development of personal competence in the activity. prereq: Pre PE

**PETE 1003. Teaching Outdoor Activities in Physical Education.** (2 cr. ; A-F or Audit; Every Spring)

Focus is on teaching physical educators how to implement outdoor activities as part of the K-12 physical education curriculum. Included are such activities as hiking, backpacking, climbing, skiing, primitive camping, canoeing, snowshoeing, and biking. Emphasis is on risk management and common pedagogical knowledge and skills which cut across activities. Students participate in the scope and sequence for skill development in two outdoor activities, and plan for a third outdoor activity. prereq: Pre-Physical Education Major

**PETE 1004. Teaching Lifetime and Outdoor Activities.** (3 cr. ; A-F or Audit; Every Spring)

Basic skill progression, teaching strategies, skill development activities, and skill analysis for teaching recreational lifetime, and outdoor activities; emphasis placed upon student development of personal competence in the activity. prereq: Pre-Physical Education major

**PETE 1005. Teaching Physical Fitness**

**Activities.** (; 2 cr. ; A-F or Audit; Every Spring) Basic skill professional, teaching strategies, skill development activities, and skill analysis for teaching physical fitness activities. Emphasis placed upon student development of personal competence in the activity.

**PETE 1006. Teaching Aquatic and Adapted Activities.** (; 3 cr. ; A-F or Audit; Every Fall)

Basic skill progressions, teaching strategies, skill development activities, and skill analysis for teaching aquatics and adapted activities. Emphasis placed upon student development of personal competence in aquatics. prereq: Pre-Physical Education or Developmental Adapted Physical Education minor, HLTH 1600; credit will not be granted if already received for both PE 2240 and 2244.

**PETE 1008. Teaching Dance and Rhythmic Activities.** (; 3 cr. ; A-F or Audit; Every Fall)

Addresses basic skill progressions, teaching strategies, skill development activities and analysis for teaching dance and rhythmic activities. Emphasis placed upon student development of personal competence in the activity of rhythmic and dance activities. prereq: Pre PE minor

**PETE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**PETE 2400. Applied Exercise Science.** (; 3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)

Anatomical, physiological and biomechanical principles of physical training and conditioning. prereq: Pre pe major or coaching minor; credit will not be granted if already received for PEP 3035 or CC 3101 or ESAT 2400

**PETE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**PETE 3100. Curricular Approaches in Physical Education.** (; 3 cr. ; A-F or Audit; Every Fall)

Exploration of a variety of curricular models and their applications in a physical education setting. Content includes the scope and sequence of educational programming, national and state standards, and a review and comparison of a variety of currently used curricular approaches. prereq: Pre-Physical Education

**PETE 3200. Developmental Movement: Concepts and Experiences.** (3 cr. ; A-F or Audit; Every Spring)

Theories, knowledge and practices involving human motor development; theories of motor development, recognition of the states of development, factors influencing growth and development, factors affecting motor learning and skills acquisition, and the evaluation and assessment of motor development and motor behavior will be presented. pre-req: PSY 2021, PE major, minimum 30 credits; credit will not be granted if already received for ESAT 3200

**PETE 3400. Adapted Physical Education.** (3 cr. ; A-F or Audit; Every Fall)

Developmental/adapted physical education for children with disabilities. prereq: PE major or candidate or instructor consent

**PETE 3450. Teaching Students with Disabilities.** (3 cr. ; A-F or Audit; Every Spring)

Strategies, theories and best practice for teaching physical education to students with cognitive, emotional/behavioral, sensory or orthopedic disabilities. Class will include appropriate programming suggestions across disability groups as well as evidence-based classroom behavior management strategies. pre-req: Declared Developmental Adapted PE Minor, PETE 3400

**PETE 3500. Student Assessment in Physical Education.** (3 cr. ; A-F or Audit; Every Fall)

Key components of student assessment for physical education teacher education candidates. prereq: PE Major or Candidate or instructor consent

**PETE 3501. Teaching Cross-Country Skiing.**

(1 cr. ; A-F or Audit; Every Spring) Basic skills, teaching strategies, practice, drills, and skill analysis for teaching cross-country skiing. prereq: PE 1500 or instructor consent

**PETE 3505. Teaching Outdoor Skills I.** (2 cr. ; A-F or Audit; Every Fall)

Fall course in basic skills, teaching strategies, practice, drills, and skill analysis for teaching

outdoor recreation skills with an emphasis on teaching canoeing; includes canoe skills, camp craft, back country travel, and safety. Field trips and skill development experiences are required beyond scheduled class hours. prereq: ENED 1201 or 1203, ENED 1202 or 1204, PE 1508, and Environmental & Outdoor Educ major or minor or instructor consent; Wilderness First Responder Certificate preferred.

**PETE 3507. Teaching Outdoor Skills II.** (2 cr. ; Student Option; Every Spring)

Spring course in basic skills, teaching strategies, practice, drills, and skill analysis for teaching outdoor recreation skills; includes navigation, camp craft, backpacking, back country travel, and safety. prereq: Environmental Outdoor Education or PE major and ENED 1201 or 1203 and ENED 1202 or 1204, and ENED 2300; credit will not be granted if already received for 1507

**PETE 3550. Assessment and Evaluation in Adapted Physical Education.** (2 cr. ; A-F or Audit; Every Fall)

Theories, knowledge and practices involving assessment in adapted physical education; including types, purposes, and adaptation of measurement tools, legal and ethical issues as related to assessment and communication techniques. pre-req: Developmental / Adapted Physical Education Minor; minimum 30 credits

**PETE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**PETE 4100. Elementary Physical Education Methods.** (4 cr. ; A-F or Audit; Every Spring)

Methods, instructional techniques and strategies, classroom management, lesson planning, developmental levels, elementary curriculum and standards. prereq: 3400, 3500, Secondary Teacher Education Program (STEP), instructor consent; PETE 4125 (concurrent registration allowed)

**PETE 4125. Apprenticeship: Elementary.** (2 cr. ; A-F or Audit; Every Spring)

Supervised clinical teaching experience with responsibilities that include planning, managing, and implementing instructional experiences for elementary school children. prereq: Secondary Teacher Education Program (STEP), pre or co-req PETE 4100 and instructor consent; no grad credit

**PETE 4200. Secondary Physical Education Methods.** (4 cr. ; A-F only; Every Fall)

Methods, instructional techniques and strategies, classroom management, lesson planning, developmental levels, secondary curriculum and standards. prereq: 1006, 4100, concurrent registration 4225, Secondary Teacher Education Program (STEP) or instructor consent

**PETE 4225. Apprenticeship: Secondary.** (2 cr. ; A-F only; Every Fall)

Supervised teaching experience with responsibilities that include planning, managing, and implementing instructional experiences for secondary school children. prereq: 1006, 4100, 4200 concurrent registration, Secondary Education Teacher

Program (STEP) or instructor consent; no grad credit

**PETE 4250. Supervised Teaching College I: Planning for Instruction.** (1 cr. [max 2 cr.] ; A-F only; Every Fall & Spring)  
Physical education teacher education majors plan and prepare materials to teach a college level physical education activity class. Implementation of this planned instruction occurs during PETE 4255 Supervised Teaching College II: Implementation and Management prereq: 4100 or 4200, Secondary Teacher Education Program (STEP), instructor consent; no grad credit

**PETE 4255. Supervised Teaching College II: Implementation and Class Management.** (1 cr. ; A-F or Audit; Every Fall & Spring)  
Faculty supervised teaching experience in a collegiate setting. Physical education teacher education majors teach and manage a college level physical education activity class under the daily supervision of a departmental faculty member. Implementation of planned instruction completed during PETE 4250 Supervised Teaching College I Planning for Instruction. prereq: 4250 and instructor consent; no grad credit

**PETE 4600. Seminar in Physical Education.** (1 cr. ; A-F or Audit; Every Fall & Spring)  
Professional development seminar for physical education teacher education candidates. Course will address decision making, reflective teaching, and professional and specific concerns of student teachers. Candidates will finalize development of a professional portfolio. prereq: Physical Education candidate; no grad credit

**PETE 4991. Independent Study.** (1-4 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)  
Research or study in selected noncurricular area of exercise science or physical education. prereq: PE or Exer Sci major and instructor consent; no grad credit

**PETE 4992. Directed Readings.** (1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
Study of varying topics by reading specific books, journal articles, etc. Topics selected based on student interests or academic preparation. prereq: instructor consent; no grad credit

**PETE 4996. Internship in Adapted Physical Education.** (2 cr. ; A-F or Audit; Every Fall)  
Supervised clinical teaching experience with responsibilities that include planning, managing, and implementing instructional experiences for students receiving adapted physical education services. pre-req: Declared Developmental / Adapted Physical Education minor. Completed the following courses: PETE 1006, PETE 3400, PETE 3450, PETE 3550, PETE 4100, PETE 4125; instructor consent

**PETE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PETE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Physical Education for Men (PEM)

**PEM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PEM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PEM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PEM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PEM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Physics (PHYS)

**PHYS 1001. Introduction to Physics I.** (NAT SCI; 5 cr. ; A-F or Audit; Every Fall & Spring)  
Noncalculus general physics course primarily for certain preprofessional fields. Topics in mechanics, heat, and sound. prereq: Algebra, trig

**PHYS 1002. Introduction to Physics II.** (5 cr. ; A-F or Audit; Every Fall & Spring)  
Noncalculus general physics course primarily for certain preprofessional fields. Topics in light, electricity, magnetism, and modern physics. prereq: 1001 or 1013 or 1017

**PHYS 1011. Conceptual Physics.** (NAT SCI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Descriptive, nonmathematical survey of basic concepts in physics from Newton to present. Instructor has considerable latitude regarding content. Primarily for liberal arts students; not for preprofessional preparation. prereq: Will not satisfy major or minor requirements in phys

**PHYS 1012. Conceptual Physics Lab.** (1 cr. ; A-F or Audit; Every Fall & Spring)  
Laboratory covering basic physics principles including mechanics, waves, and optics. prereq: previous or concurrent registration in PHYS 1011

**PHYS 1021. Exploring Current Topics in Physics.** (1 cr. ; A-F or Audit; Every Fall)  
Introduction to current topics in the field of physics, with emphasis on recent research developments and local research activities.

**PHYS 1033. Cosmology, String Theory and the Death of the Universe.** (3 cr. ; A-F or Audit; Every Spring)  
A qualitative introduction to cosmology and string theory; the structure, evolution, and death of the universe, and of the galaxies, stars and planets it contains; fundamental theories for the structure, including extra dimensions, supersymmetry, and string dualities; extinction-level events ranging in scale from planetary to universal.

**PHYS 1035. Energy.** (NAT SCI,SUSTAIN; 3 cr. ; A-F only; Periodic Spring)

Energy as a fundamental topic for understanding both the natural and man-made world. Will discuss concepts of human production, transmission, storage, and utilization of energy, as well as how these processes interact with natural pathways of energy such as the carbon cycle.

**PHYS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PHYS 2013. General Physics I.** (NAT SCI; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Calculus-based introduction to Newtonian Mechanics, fluid mechanics, and heat. The companion laboratory, PHYS 2014 should be taken concurrently. The combination of PHYS 2013 and 2014 meets liberal education category 4. prereq: previous or concurrent registration in PHYS 2014. Prerequisite of Math 1290 or 1296 or 1596; credit will not be granted if already received for PHYS 2011.

**PHYS 2014. General Physics Lab I.** (NAT SCI; 1 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Calculus-based introduction to Newtonian Mechanics, fluid mechanics, and heat exemplified by laboratory study. This laboratory accompanies lecture PHYS 2013 and should be taken concurrently. The combination of PHYS 2013 and 2014 meets liberal education category 4. prereq: previous or concurrent enrollment in PHYS 2013 or 2017

**PHYS 2015. General Physics II.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Calculus-based introduction to electricity, magnetism and optics. The companion laboratory, PHYS 2016, should be taken concurrently. prereq: previous or concurrent registration in 2016. Prerequisite of 2011 or 2013 and 2014, Math 1297 or 1597; credit will not be granted if already received for PHYS 1202, 1204 or 1212.

**PHYS 2016. General Physics Lab II.** (1 cr. ; A-F or Audit; Every Fall & Spring)  
Calculus-based introduction to electricity, magnetism and optics exemplified by laboratory study. This laboratory accompanies lecture PHYS 2015 and should be taken concurrently. prereq: Previous or concurrently enrollment in PHYS 2015 or 2018.

**PHYS 2017. Honors: General Physics I.** (NAT SCI; 4 cr. ; A-F or Audit; Every Fall)  
Advanced coverage of General Physics topics that include Newtonian Mechanics, fluid mechanics, and heat. Mathematically and conceptually demanding problem solving techniques. The companion laboratory, PHYS 2014, should be taken concurrently. The combination of PHYS 2014 and PHYS 2017 meets liberal education natural science with lab. prereq: Previous or concurrent registration in PHYS 2014. Previous or concurrent registration in Math 1290 or Math 1296 or 1596, or physics major or instructor permission. Credit will not be granted if already received for PHYS PHYS 2011 or PHYS 2013.

**PHYS 2018. Honors General Physics II.** (4 cr. ; A-F or Audit; Every Spring)

Advanced coverage of calculus-based introduction to electricity magnetism and optics. Mathematically and conceptually demanding problem solving techniques. The companion laboratory, PHYS 2016 should be taken concurrently. Prerequisites: Previous or concurrent registration in PHYS 2016; PHYS 2013 or 2017; co-registration in or prior completion of Math 1287 or 1597 or instructor permission. Credit will not be granted if already received for PHYS 2012 or 2015.

**PHYS 2021. Relativity and Quantum Physics.** (4 cr. ; A-F or Audit; Every Spring) Descriptive course; relativity, quantum mechanics, hydrogen atom, multielectron atoms, molecular structure, quantum statistics, thermal radiation, solid state physics, nuclear physics. prereq: 2015 and 2016 or 2018 and 2016 (or 2012)

**PHYS 2022. Classical Physics.** (4 cr. ; A-F or Audit; Every Fall) Survey of various topics in classical physics: vector angular momentum, AC circuits, oscillatory motion, waves, physical optics. prereq: 2015 or 2018 and 2016 as pre or co-req

**PHYS 2033. Classical and Quantum Physics Lab.** (2 cr. ; A-F or Audit; Every Spring) Experiments and computer simulations selected to provide experience with both concepts and techniques in classical and quantum physics. prereq: 2021 and 2022 (concurrent registration is allowed)

**PHYS 2199. Physics Tutoring.** (1-2 cr. [max 4 cr.] ; S-N or Audit; Every Fall & Spring) Tutoring students in 1xxx- and 2xxx-level physics courses. prereq: 2012 or 2015 and 2016, department consent

**PHYS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**PHYS 3033. Analytical Methods in Physics.** (3 cr. ; A-F or Audit; Every Fall) A survey of analytical methods for the solution of fundamental equations of physics, such as those of Newton, Schrodinger, and Maxwell, and of the underlying mathematics, including complex variables, linear algebra, vector analysis, and ordinary and partial differential equations. prereq: 2021, 2022, Math 3280 and 3298

**PHYS 3061. Instrumentation.** (3 cr. ; A-F or Audit; Fall Even Year) Introduction to electronics for scientific applications. DC and AC circuits, linear and nonlinear devices, integrated circuits. Analog electronics. Transducers. Digital electronics. Applications of microcomputers to lab data acquisition. prereq: 2022 and one semester programming

**PHYS 3091. Independent Study.** (1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring) Directed individual study. prereq: department consent

**PHYS 3094. Physics Research.** (1-6 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Supervised research. prereq: department consent

**PHYS 3561. Astrophysics I Stellar Astrophysics.** (3 cr. ; A-F or Audit; Fall Even Year) The application of physical laws to the understanding of astrophysical objects: celestial mechanics, energy transport, stellar structure and evolution, the interstellar medium, and stellar remnants. prereq: AST 2050, PHYS 2021

**PHYS 3562. Astrophysics II: Galaxies and the Universe.** (3 cr. ; A-F or Audit; Spring Odd Year) The application of physical laws and processes to the understanding of physics objects: galactic structure and dynamics, large scale structure and cosmology. prereq: AST 2050, PHYS 2021

**PHYS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**PHYS 4001. Classical Mechanics.** (4 cr. ; A-F or Audit; Every Fall) Theoretical mechanics, including Lagrangian and Hamiltonian functions, symmetries, and conservation laws. prereq: 2022, Math 3280

**PHYS 4011. Electromagnetic Theory.** (4 cr. ; A-F or Audit; Every Spring) Electric and magnetic fields, Maxwell's equations and applications, radiation. prereq: 3033

**PHYS 4021. Quantum Physics II.** (4 cr. ; A-F or Audit; Every Fall) Quantum wave mechanics with applications; Schrodinger equation, angular momentum, hydrogen atom, symmetries, identical particles. prereq: 3033

**PHYS 4031. Thermal and Statistical Physics.** (4 cr. ; A-F or Audit; Every Spring) Elements of thermodynamics; principles of statistical physics applied to equilibrium properties of classical and quantum systems. prereq: 2021

**PHYS 4052. Computational Methods in Physics.** (3 cr. ; A-F or Audit; Fall Even Year) Applications of numerical methods to problems in classical and quantum physics, emphasizing ordinary and partial differential equations. Computer modeling of physical systems and experimentation with simulations of physical systems. pre-req: PHYS 2021, MATH 3280

**PHYS 4071. Quantum Computation.** (3 cr. ; A-F or Audit; Periodic Spring) Quantum mechanics in Heisenberg formalism, Quantum information theory, Shor's factoring algorithm, Grover's search algorithm, quantum communication and quantum cryptography. prereq: MATH 3280 or PHYS 2021; no grad credit

**PHYS 4090. Undergraduate Physics Seminar.** (1 cr. ; A-F or Audit; Every Spring) Preparation and presentation of oral reports on approved physics topics, research projects, and journal articles. Discussion of professional

ethics. Not for graduate credit. pre-req: minimum 90 credits

**PHYS 4095. Special Topics: (Various Titles to be Assigned).** (2-4 cr. [max 16 cr.] ; A-F or Audit; Periodic Fall & Spring) Topics in Physics not covered in regular curriculum. Topics announced before course offered. pre-req: PHYS 2021 or instructor consent

**PHYS 4110. Physics for Science Teachers.** (2 cr. ; A-F or Audit; Every Spring) Preparation for teaching physics at the high school level. Review of physics concepts important at the high school level. Methods for effective presentation, including problem solving, discussions, demonstrations and lab experiments. prereq: 1002 or 2012 of 2015 and 2016, no grad credit

**PHYS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**PHYS 5033. Introduction to Particle Physics.** (3 cr. ; A-F or Audit; Periodic Fall) A survey of particle physics, including physics beyond the Standard Model. Topics include symmetries and conservation laws, quark models, quantum electrodynamics and chromodynamics, Feynman diagrams, and neutrino oscillations. prereq: 2021, 2022, MATH 3280, 3298

**PHYS 5041. Optics.** (3 cr. ; A-F or Audit; Spring Even Year) Fundamentals of physical optics. prereq: 2022

**PHYS 5052. Computational Methods in Physics.** (3 cr. ; A-F or Audit; Fall Odd Year) Applications of numerical methods to problems in classical and quantum physics, emphasizing ordinary and partial differential equations. Computer modeling of physical systems and experimentation with simulations of physical systems. prereq: 2021, 1 sem programming, Math 3280

**PHYS 5053. Data Analysis Methods in Physics.** (3 cr. ; A-F or Audit; Fall Even Year) Problems of data analysis in the context of dynamical models. Emphasis will be placed on large datasets that arise in astrophysics, particle dynamics, physical oceanography and meteorology. (2 hr lect & 2 hr lab) prereq: 2012 or 2015 or 2018 and 2016, 1 sem programming, lab or field experience beyond 2012/2015 and 2016

**PHYS 5061. Experimental Methods.** (3 cr. ; A-F or Audit; Spring Odd Year) Instruction and practice in methods of experimental physics; microcomputer-based data acquisition; vacuum techniques. prereq: 2033 and 3061

**PHYS 5063. Theoretical Methods.** (3 cr. ; A-F or Audit; Spring Odd Year) Selection of theoretical methods used in physics including variational calculus. Lie groups and algebra path integrals, perturbation theory, renormalization group, differential geometry. pre-req: grad student or instructor consent

**PHYS 5071. Quantum Computation.** (3 cr. ; A-F or Audit; Periodic Spring)  
Quantum mechanics in Heisenberg formalism, Quantum information theory, Shor's factoring algorithm, Grover's search algorithm, quantum communication and quantum cryptography. prereq: Math 3280 or PHYS 2021 or graduate student

**PHYS 5090. Physics Seminar.** (; 1 cr. [max 2 cr.] ; A-F or Audit; Every Spring)  
Preparation and presentation of oral reports on approved physics topics, research projects, and journal articles. prereq: Sr or grad student

**PHYS 5501. Advanced Classical Mechanics.** (; 3 cr. ; A-F or Audit; Fall Odd Year)  
Hamiltonian and Lagrangian formulations for discrete systems, canonical transformations, nonlinear dynamics, and chaos theory. prereq: 4001

**PHYS 5511. Electrodynamics.** (; 3 cr. ; A-F or Audit; Spring Odd Year)  
Maxwell's equations, relativity and electrodynamics, radiation and scattering of electromagnetic waves, relativistic particles in electromagnetic fields, and radiation reaction. prereq: 4011

**PHYS 5521. Quantum Mechanics I.** (3 cr. ; A-F or Audit; Fall Even Year)  
Schrödinger equation, operator formulation, angular momentum, symmetries. prereq: 4021

**PHYS 5522. Quantum Mechanics II.** (; 3 cr. ; A-F or Audit; Spring Odd Year)  
Identical particles, perturbation theory, scattering, interaction with electromagnetic field. prereq: 5521

**PHYS 5531. Introduction to Solid State Physics.** (; 3 cr. ; A-F or Audit; Spring Even Year)  
Solid structure, thermal, and electronic properties of solids and solid surfaces. prereq: 4021, 4031

**PHYS 5541. Fluid Dynamics.** (; 3 cr. ; A-F or Audit; Spring Odd Year)  
Analytic and numeric treatment of dynamics of fluids. Rotating, stratified fluids, with applications in limnology, oceanography, and meteorology. prereq: 2022 or 2001, Math 3280

**PHYS 5551. General Relativity.** (; 4 cr. ; A-F or Audit; Fall Even Year)  
Differential geometry, tensors, metrics, curvature, Einstein's equation, Newtonian limit, Killing vectors, cosmology, perfect fluids, Schwarzschild and Kerr solutions, observational tests, black holes. prereq: 4001

**PHYS 5561. Astrophysics I Stellar Astrophysics.** (3 cr. ; A-F or Audit; Fall Even Year)  
The application of physical laws to the understanding of astrophysical objects: celestial mechanics, energy transport, stellar structure and evolution, the interstellar medium, and stellar remnants. prereq: AST 2050 and PHYS 2021

**PHYS 5562. Astrophysics II: Galaxies and the Universe.** (3 cr. ; A-F or Audit; Spring Odd Year)

The application of physical laws and processes to the understanding of physics objects: galactic structure and dynamics, large scale structure and cosmology. pre-req: AST 2050 and PHYS 2021

**PHYS 5591. Independent Study.** (1-3 cr. [max 6 cr.] ; S-N or Audit; Every Fall & Spring)  
Special studies, useful in individual graduate programs, not available in regular course offerings. prereq: Consent of director of graduate studies, instructor consent

**PHYS 5594. Physics Research.** (1-3 cr. [max 6 cr.] ; S-N or Audit; Every Fall, Spring & Summer)  
Physics Research prereq: instructor consent

**PHYS 5595. Special Topics in Physics.** (2-4 cr. [max 16 cr.] ; A-F or Audit; Periodic Fall & Spring)  
Topics not covered in regular curriculum. Topics announced before course offered. pre-req: Physics BS or Engineering Phys or Physics MS student, minimum 60 credits or instructor consent

**PHYS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Political Science (POL)

**POL 1011. American Government and Politics.** (SOC SCI; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Principles of American national government. Survey of American governmental system, structure, operations, and services; constitutionalism, federalism, civil liberties, parties, pressure groups, and elections.

**POL 1050. International Relations.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to contemporary international politics: levels of analysis; the international system; nation-state behavior; foreign policy decision making; economic and defense policy issues.

**POL 1500. Introduction to Comparative Politics.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Survey of the politics of countries selected to reflect alternative styles of politics and forms of government; examples of Western liberal democratic, Communist and post-Communist, and Third World systems.

**POL 1610. Introduction to Political Theory.** (HUMANITIES; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to the history of political thought from a thematic perspective such as freedom and citizenship, democracy and its critics, political obligation and justice, diversity and inequality. Close attention to method of interpretation and argument.

**POL 1800. Mock Trial.** (3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
Mock trial covers the procedures, evidentiary rules, and functioning of the judiciary at the trial court level. Students apply their classroom training as attorneys and witnesses

in American Mock Trial association sanctioned tournaments. The course increases student skills in critical thinking, analysis, and oral and written expression and argument. prereq: Students may take this course twice for a maximum of 6 credits. Political Science majors and minors may only apply one attempt towards the major or minor. Political Science majors and minors may only take the course once.

**POL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Political Science (PSCI)

**PSCI 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Political Science (POLS)

**POLS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Political Science (POL)

**POL 2700. Methodology and Analysis.** (LOGIC & QR; 4 cr. ; A-F or Audit; Every Fall)  
Theory and methods of conducting political research: theory construction, concept formulation, survey research and sampling design, basic statistical analysis, and measurement of relationships.

**POL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Political Science (PSCI)

**PSCI 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Political Science (POLS)

**POLS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Political Science (POL)

**POL 3001. American Public Policy.** (3 cr. ; A-F or Audit; Periodic Fall)  
Approaches to policy study, context of policy process, and discussion of policy issues. prereq: 1011 and 30 earned or in-progress cr or instructor consent

**POL 3015. State and Local Government.** (4 cr. ; A-F or Audit; Periodic Spring)  
State and local governments in the United States; governmental institutions and processes; intergovernmental relations. Special reference to Minnesota. prereq: 1011 and 30 earned or in-progress credits or instructor consent

**POL 3025. Popular Culture and Politics.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Summer)

Evaluation of the presentation of political institutions, officials, and policy issues in various forms of mass media and entertainment, including newspapers, magazines, films, television/cable, radio, video, podcasts, weblogs, and social media sites. How accurate are the portrayals and how effective are they at influencing attitudes, opinions, policy choices, and selection of public officials?

**POL 3040. Women and Politics.** (; 3 cr. ; A-F or Audit; Periodic Spring)

Women's political status; implications of women's role in political process; women as political actors; feminist critique and vision of politics. prereq: 30 earned or in-progress credits or instructor consent

**POL 3080. Environment and Politics.** (3 cr. ; A-F or Audit; Periodic Fall)

American natural resource problems with special attention to conservation activities on national, state, and local levels; development of conservation agencies in Minnesota. prereq: 1011 and 30 earned or in-progress credits or instructor consent

**POL 3097. Government Internship.** (1-6 cr. ; S-N only; Every Fall, Spring & Summer)

Scheduled work assignments with direct supervision in performance of governmental functions; full- or part-time employment. Only 4 cr from POL 3097 and 3197 may be applied toward the political science major. Allow up to 6 repetitions totalling up to 6 credits. prereq: minimum 60 cr earned and instructor consent

**POL 3100. Contemporary Issues in American Politics.** (3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Detailed examination and analysis of important and evolving contemporary issues in state, local, and national government, law, public policy and/or public administration. Policy recommendations dealing with each issue. prereq: POL 1011

**POL 3120. Congress and the Presidency.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Functioning and structure of the United States Congress and Presidency. Members of Congress and the Presidency: their characteristics, their selection, roles they play, how they interact with each other as well as with others in the policy-making process. prereq: 1011 and 30 earned or in-progress credits or instructor consent

**POL 3131. Judicial Politics and Policy Making.** (; 3 cr. ; A-F or Audit; Spring Odd Year)

An examination of the characteristics and behavior of judicial institutions, emphasizing the interaction with other policy-makers and social and political problems. Investigates the policy roles of state and lower federal courts and the U.S. Supreme Court.

**POL 3141. Pol Parties & Polarization.** (; 3 cr. ; A-F only; Spring Odd Year)

Covers the development of political parties in the United States and the role of political

parties in government. Examines the causes and consequences of political party polarization in areas like law-making, elections and representation.

**POL 3142. Voting, Campaigning, and Elections.** (3 cr. ; A-F only; Periodic Fall)

Covers theories of voting, including how they explain who votes and vote choice. Examines how campaign money, policy issues, the media, and campaign advertising play a role in presidential and congressional elections. Typically offered in the fall during national election years. prereq: 1011 and 30 earned or in-progress credits or instructor consent

**POL 3143. Political Psychology.** (; 3 cr. ; A-F or Audit; Periodic Spring)

Study how political opinion formation and behavior of citizens and political elites is shaped by psychological factors, including personality, attitudes, values, and emotions. Study opinion formation, mass media, identity, and culture. prereq: 30 earned or in-progress credits or instructor consent

**POL 3150. American Constitutional Law I.** (; 3 cr. ; A-F or Audit; Every Fall)

Institutional powers and civil rights: judicial review; authority of Congress and President; powers in war and foreign affairs; power of national and state governments; property rights; civil rights and equal protection (race, gender, and other groups); anti-discrimination; affirmative action. prereq: 1011 and 30 earned or in-progress credits or instructor consent

**POL 3151. American Constitutional Law II.** (; 3 cr. ; A-F or Audit; Every Spring)

Civil liberties: incorporation of the Bill of Rights; Due Process clause; freedom of religion; freedom of speech; freedom of press; privacy rights; rights of the accused; search and seizure; rights before the Courts; cruel and unusual punishment. prereq: 1011 and 30 earned or in-progress credits or instructor consent

**POL 3152. Law and Politics of the Administrative State.** (; 3 cr. ; A-F or Audit; Periodic Spring)

Investigation of the intersection of constitutional and statutory law and politics as applied at the national level to the policies, procedures, and overall operation of the American bureaucratic/regulatory system. Includes exploration of the historical and contemporary relationship between administrative agencies and Congress, the President, and federal courts. This course should be of special interest to students planning careers in the law and/or politics of government service.

**POL 3195. Special Topics: (various titles to be assigned).** (; 3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Political science topics not included in regular curriculum.

**POL 3197. Nongovernmental Internship.** (1-6 cr. ; S-N only; Every Fall, Spring & Summer)

Supervised, scheduled work assignments in performance of political functions in nongovernmental organizations; full- or part-

time employment. Not all outside work is eligible. Only 4 cr max from POL 3097 and 3197 may be applied toward the political science major. Allow up to 6 repetitions totalling up to 6 credits. prereq: minimum 60 cr and instructor consent

**POL 3311. Public Opinion and Polling**

**Methods.** (; 3 cr. [max 4 cr.] ; A-F only; Periodic Spring)

Formation of public opinion; attitudes and nonattitudes; polls in the media; role of public opinion in democracy; measurement of opinion; survey methods; questionnaire construction; sampling techniques. prereq: 1011 and 30 earned or in-progress credits or instructor consent

**POL 3400. Contemporary Issues in World Politics.** (4 cr. [max 8 cr.] ; A-F or Audit; Periodic Fall)

Detailed examination and analysis of selected contemporary issues in world politics and international relations. Policy recommendations dealing with each issue. Students can repeat this course for a maximum total of 8 credits. prereq: 1050 and 30 earned or in-progress credits or instructor consent

**POL 3403. American Foreign Policy.** (; 3 cr. ; A-F only; Periodic Fall)

Various influences on the making of American foreign policy; understanding why particular foreign policy choices are made and the effects of a changing international environment on American foreign policy. prereq: 1011 or 1050 and 30 earned or in-progress credits or instructor consent

**POL 3410. Politics of International Law.** (; 3 cr. ; A-F or Audit; Spring Odd Year)

Investigation of development, operations, and significance of international organization and law in contemporary international politics. prereq: minimum 30 credits or instructor consent

**POL 3420. International Organization and Global Governance.** (; 3 cr. ; A-F or Audit; Periodic Spring)

Explores the role of international organizations in world politics and the evolution of global governance systems. Includes examinations of state sovereignty, methods for achieving cooperation, and whether international organizations are effective means for achieving global collective goods. prereq: 1050 and 30 earned or in-progress credits or instructor consent

**POL 3451. Theories of International Relations.** (4 cr. ; A-F or Audit; Periodic Spring)

Historical and contemporary theories of international relations. Views of contending theorists are analyzed and assessed. prereq: 30 earned or in-progress credits or instructor consent

**POL 3456. International Security: War and More.** (4 cr. ; A-F or Audit; Periodic Spring)

Introduction to a variety of different aspects of International Security, including warfare, terrorism, human rights, environmental justice, and women and violence worldwide. Includes discussion of efforts to ensure and barriers to



achieving international security in its various forms. prereq: 30 earned or in-progress credits or instructor consent

**POL 3458. International Negotiation & Bargaining: Negotiating Across Cultures.** (; 3 cr. ; A-F or Audit; Periodic Fall)

Cultural understanding and misunderstanding can determine the outcome of international negotiation and bargaining. Word choice becomes particularly significant in global negotiations. In this class, we explore how international solutions in various areas, such as the environment, business, politics, and human rights, are produced through negotiation and influenced by culture, language, and behavior. pre-req: minimum 30 credits

**POL 3511. Politics of South Asia.** (3 cr. [max 4 cr.] ; A-F or Audit; Periodic Fall & Spring)  
Comparative study of five South Asian countries (namely India, Pakistan, Bangladesh, Sri Lanka, and Nepal). It analyzes the history and impact of colonialism in South Asia; state formations in South Asia; and controversies in recent South Asian politics over issues like globalization, democratization, religious fundamentalism, nuclearism, and gender. Policy solutions to these problems will be considered. prereq: 1500 or instructor consent

**POL 3515. Theories of Comparative Politics.** (3 cr. [max 4 cr.] ; A-F or Audit; Periodic Fall)  
Introduces the theoretical, methodological, and substantive debates in the discipline of comparative politics. prereq: 1500 and 30 earned or in-progress credits or instructor consent

**POL 3517. Western European Political Systems.** (4 cr. ; A-F or Audit; Periodic Fall)  
Comparative analysis of development and operation of political-governmental institutions and processes in selected Western European countries: political and ideological patterns and trends; problems of democratic politics; policy issues in advanced industrial societies; and the future of the "welfare state." prereq: 30 earned or in-progress credits or instructor consent

**POL 3518. Transitional Politics of Asia.** (; 3 cr. ; A-F only; Spring Odd Year)  
This class is a comparative study of the states in Asia namely India, China, Japan, and others. The class will explore the historical trajectories of these states; will study how these histories have given rise to different forms of their current state formations; will explore their contemporary political systems; economies; their socio-cultural and gender dynamics; and contemporary policy issues faced by these states. The class will also analyze the geo-strategic significance of Asia to the West/ United States in the contemporary eras of globalization. pre-req: POL 1500 or instructor's consent

**POL 3530. Comparative Constitutional Law and Judicial Politics.** (; 3 cr. ; A-F or Audit; Periodic Spring)  
A cross-national examination of the intersection of law and politics in the development of constitutional law, especially in newly emerging democracies. Includes an investigation of the relationship between globalization and

constitutional development and the role that law plays in social control, dispute resolution, protection of minority rights, social change, and economic development. prereq: 30 earned or in-progress credits or instructor consent

**POL 3570. Politics of Developing Nations.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Nature of political development; individual and institutional causes and consequences of development; political economy of the Third World. prereq: 1050 or 1500 and 30 earned or in-progress credits or instructor consent

**POL 3575. Latin American Politics and Development.** (; 3 cr. [max 4 cr.] ; A-F or Audit; Periodic Spring)  
A comparative examination of politics and development in the Latin American region. Topics of this course include transition to democracy, democratic consolidation, rule of law, human rights, the military and politics, women and politics, executive-legislative relations, civil society, and economic development. prereq: 30 earned or in-progress credits or instructor consent

**POL 3580. Central American Politics.** (; 3 cr. [max 4 cr.] ; A-F or Audit; Periodic Spring)  
Explores the history, politics, culture, and modern problems in Central America. Includes examination of the differences and similarities in colonial history among Central American countries, the role of U.S. influence on Central American politics and the economy, and legacies of civil wars. Then, it focuses on modern problems of violence against women, gangs, violent crime, and governance, and how international and local organizations and individuals can (or cannot) contribute to alleviating these problems. prereq: 1050 and 30 earned or in-progress credits or instructor consent

**POL 3600. Political Concepts.** (3 cr. [max 4 cr.] ; A-F or Audit; Periodic Fall)  
Fundamental political themes and concepts in political theory, including but not limited to justice, liberty, equality, power, democracy, political obligation, and community. Perspectives of diverse political philosophies and cultures may be addressed. prereq: 30 earned or in-progress credits or instructor consent

**POL 3610. Political Economy: An Introduction.** (; 3 cr. ; A-F or Audit; Periodic Spring)  
Relationship between politics and economics and ways they affect each other, focusing on political and economic values/goals and their role in shaping public policy; policies and policy making in selected national systems; and the international economy. prereq: 30 earned or in-progress credits or instructor consent

**POL 3652. Modern Political Thought.** (; 4 cr. [max 12 cr.] ; A-F or Audit; Periodic Spring)  
Advanced survey of political thought from Enlightenment to the present; course topic may include one or more of the following traditions of political theorizing: English (e.g. Hobbes, Locke, Burke, Bentham, Mill, Wollstonecraft), German (e.g. Kant, Hegel, Marx, Nietzsche, Habermas) or French (e.g. Montesquieu,

Rousseau, Tocqueville, Foucault, Derrida). Students can repeat this course for a maximum total of 12 credits. prereq: 1610 or instructor consent

**POL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Political Science (PSCI)

**PSCI 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Political Science (POLS)

**POLS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Political Science (POL)

**POL 4190. Senior Seminar.** (; 4 cr. ; A-F only; Every Fall & Spring)  
Supervised research and writing in current areas or issues of politics and political science, subject matter varying with instructor. recommended prereq: 6 cr in relevant upper division political science courses prereq: instructor consent

**POL 4191. Independent Study.** (1-4 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)  
Advanced study and research under supervision of a faculty member. Student must consult with faculty member before registration. Students can repeat this course for a maximum total of 6 credits. recommended prereq: 8 cr in political science and 6 cr in other social sciences prereq: instructor consent

**POL 4195. Special Topics: (various titles to be assigned).** (; 3 cr. [max 9 cr.] ; A-F or Audit; Periodic Fall & Spring)  
Political science topics not included in the regular curriculum. Students can take a maximum of three different topics. Students can repeat this course for a maximum total of 9 credits. prereq: 30 earned or in-progress credits or instructor consent

**POL 4910. Teaching Assistantship in Political Science.** (1-2 cr. [max 3 cr.] ; S-N only; Every Fall & Spring)  
Practical experience in teaching beginning courses in the department. Students serve as intern teachers assisting the instructor in administration of the course. Application deadline is one week before the beginning of registration for the following semester. Students can repeat this course for a maximum total of 3 credits. recommended prereq: 90 earned or in-progress credits and political science major prereq: instructor consent; no graduate credit

**POL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Political Science (PSCI)

**PSCI 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Political Science (POLS)

**POLS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Political Science (POL)

**POL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Political Science (PSCI)

**PSCI 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Political Science (POLS)

**POLS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Psychoeducational Studies (PSYS)

**PSYS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSYS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSYS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSYS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSYS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Psychology (PSY)

**PSY 1003. General Psychology.** (SOC SCI; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Scientific study of behavior; current knowledge of biological, social, and cognitive areas of psychology. Assessment, research methods, human development, personality, mental disorders, and therapy.

**PSY 1100. Living Your Best Life: Applying Positive Psychology.** (CDIVERSITY; 3 cr. ; A-F or Audit; Every Fall)  
This course fulfills the UST 1000 requirement. Facilitate the successful transition into college learning and student life at UMD; applications of positive psychology across cultures and positive behavior change; the examination of diverse perspectives in positive psychology; the promotion of student well-being, community and inclusivity, and time-

stress-management techniques. pre-req: less than 30 credits

**PSY 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSY 2003. Psychology: Discipline and Profession.** (1 cr. ; A-F only; Every Fall, Spring & Summer)  
Orientation to psychology: the major, discipline, and professions available. Subfields of psychology, ethical issues, careers, preparation for graduate school, and opportunities for professional development. Introduction to research, available resources, and preparation for writing assignments required in upper-division psychology courses. prereq: Pre-psychology or psychology major

**PSY 2020. Introduction to Statistics and Research Methods.** (3 cr. ; A-F or Audit; Periodic Fall)  
Scientific method and designs used in published psychological research including quasi-experimental and survey designs accompanied by inferential statistics used to test research questions (including correlation and analysis of variance). prereq: psychology minor or Social Work major

**PSY 2021. Developmental Psychology.** (SOC SCI,CDIVERSITY; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Major processes in human development, conception through lifespan; biological and cultural influences on physical-motor, cognitive, social, and emotional development; effects of diverse cultural traditions and values; social policy implications.

**PSY 2023. Marriages and Families Worldwide.** (GLOBAL PER; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Family functions and structures worldwide; impact of expectations, gender roles, race, culture, and values on partner and parenting; love, sex, communication, power, abuse, stress, and satisfaction; small group experiences with focus on strengthening families.

**PSY 2223. Gender in Society.** (CDIVERSITY; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Sociocultural, historical, and developmental formations of men's and women's roles and experiences in society. Effects on personality, interpersonal relationships, and life choices.

**PSY 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSY 3010. Internship Preparation.** (2 cr. ; A-F only; Every Fall & Spring)  
For psychology majors preparing to complete an internship. Includes career development, site selection, exploration of community or business organizations, and study of ethics. prereq: Psychology major or instructor consent

**PSY 3011. Internship in Psychology.** (3 cr. [max 6 cr.]; A-F only; Every Fall & Spring)  
Internship with a school, community agency or business. Nine hours supervised experience on site and one hour on campus per week.

Students complete an internship contract, weekly log, relevant readings, and paper or presentation. Includes direct contact with clients and staff. prereq: 3010 or instructor consent

**PSY 3020. Statistical Methods.** (4 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Descriptive statistics; introduction to correlational analysis and regression; sampling techniques and statistical inference; applications of simple and factorial design analysis of variance and other parametric and nonparametric hypothesis-test statistics in the behavioral sciences. prereq: Math ACT 21 or higher or MATH 1005

**PSY 3021. Experimental Design and Methodology.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to problems and methods of experimentation in psychology; logical and scientific basis of experimental psychology; problems and techniques of designing, conducting, and reporting experiments. prereq: 2003, 3020, Psychology major prereq: 2003, 3020, Psychology major

**PSY 3022. Applied Methods and Measurement.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Designing, conducting, and reporting experiments; constructing, choosing, and interpreting psychological instruments; experimental procedures and research findings from various areas within psychology. prereq: psychology major, PSY 3020, 3021 or instructor consent prereq: psychology major, PSY 3020, 3021 or instructor consent

**PSY 3051. Cross-cultural Psychology.** (3 cr. ; A-F or Audit; Periodic Spring & Summer)  
Role of culture on behavior. Universal versus culture-specific aspects of psychological principles. Definition of culture, methodology, development of self and others, cognition, attitudes, emotions, applications in organizations, therapy, well-being. prereq: 1003 or instructor consent

**PSY 3061. Physiological Psychology.** (4 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Physiological basis of behavior, including central and peripheral nervous systems, sensory processes as they relate to perception, cognition, emotion, motivation, intelligence, and learning. prereq: 1003 or instructor consent

**PSY 3081. History and Systems of Psychology.** (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Survey of historical development and current status of contemporary systems and theories in psychology. prereq: 1003 or instructor consent

**PSY 3111. Theories of Personality.** (3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
Basic concepts, issues, and methods involved in study of human personality; introduction to selected theories on motives, dynamics, development, and description of human nature. prereq: 1003 or instructor consent

**PSY 3121. Abnormal Psychology.** (4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Mental disorders, including DSM-IV classification system, etiology, and treatment. prereq: 1003 or instructor consent

**PSY 3122. Child and Adolescent Abnormal Psychology.** ( ; 3 cr. ; A-F only; Periodic Fall, Spring & Summer)

Overview of psychological disorders common among children and adolescents, including theoretical approaches, diagnostic criteria, developmental trajectory and framework, etiology, risk and protective factors, and treatment. Ethical considerations, research methodology, and diversity considerations in child clinical psychology will also be covered. prereq: PSY 1003 and PSY 2021 or instructor consent

**PSY 3201. Social Psychology.** ( ; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

How thoughts, feelings, and behavior of individuals are affected by others. Social influence and interaction. Attitude measurement and change, conformity, impression formation, attribution theory, aggression, and prosocial behavior. prereq: 1003 or instructor consent

**PSY 3211. Group Dynamics.** ( ; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Principles and processes of interaction in groups; structure and functioning of groups; leadership, communication, decision making, social influence; aspects of sensitivity training. prereq: 1003 or instructor consent

**PSY 3215. Topics in Human Sexuality.** ( ; 3 cr. ; A-F or Audit; Every Fall & Spring)

Biological and psychosocial factors relating to human sexuality, sexual functioning, gender, and related issues. Group discussion of societal factors, values, and attitudes and their impact on behavior. prereq: 1003 or instructor consent

**PSY 3231. Psychology of Drug Use.** ( ; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Basic understanding of drug effects: tolerance and withdrawal; commonality among drugs of abuse; how antischizophrenic, antimanic, antianxiety, and antidepressant drugs are thought to work; reward centers in brain. prereq: 1003 or instructor consent

**PSY 3371. Child and Adolescent**

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

Growth of individual and social forms of human behavior. Interaction of heredity and environment on physical, intellectual, social, and emotional changes from conception to adulthood. prereq: PSY 1003 or instructor consent

**PSY 3381. Adult Development and Aging.** ( ; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Change and continuity in physiological, psychological, and sociocultural development in early, middle, and late adulthood; theories and research on effects of demographics, cohort, race, ethnicity, gender, culture, family, friends, work, health, education, housing, public policies; dying, grief, bereavement. prereq: PSY 1003 or instructor consent

**PSY 3445. Transpersonal Psychology.** ( ; 3

cr. ; A-F or Audit; Every Fall, Spring & Summer) Branch of psychology that studies spiritual and transcendental experiences. Concerned with the whole of being, it recognizes potential for a variety of states of consciousness; it acknowledges developmental psychology and draws further insights from the spiritual dimensions of human beings. Lab fee. prereq: 1003 or instructor consent

**PSY 3520. Introduction to Industrial/Organizational Psychology.** ( ; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Introduction to the field of industrial/organizational psychology. Major content areas within the field will be covered, including selection, training, performance evaluation, motivation, work stress, organizational culture, teams, and leadership. prereq: 1003 or instructor consent

**PSY 3524. Basic Helping Skills.** ( ; 4 cr. ; A-F

or Audit; Periodic Fall, Spring & Summer) Rationale for and practice of basic skills needed for effective interpersonal helping.

**PSY 3525. Behavior Analysis in the Workplace.** ( ; 3 cr. ; A-F or Audit; Periodic

Fall, Spring & Summer) Introduction to performance management in the context of understanding workplace behavior using a non-traditional approach to management, based on principles derived from the field of behavior analysis. Major content areas within the field will be covered, including measurement of performance and results of performance; analysis of performance data and environments in which performance occurs; and the design, implementation, and evaluation of practical solutions to produce positive, effective workplace performance change. prereq: PSY 1003 or instructor consent

**PSY 3601. Psychology of Personal**

**Development.** ( ; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Focuses on discovery of self and spiritual journey. Examines personal development by exploring ways to change, grow, and achieve creative potential. Individual and group counseling experiences required to increase self-awareness and self-knowledge. prereq: 1003 or instructor consent

**PSY 3611. Learning and Behavior.** ( ; 4 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Study of basic learning and behavior processes including the evolution of behavior, pavlovian conditioning, instrumental learning, and elementary cognitive processes. prereq: 1003 or instructor consent

**PSY 3613. Applied Behavior Analysis and Behavior Change.** ( ; 4 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Overview of diverse topics and application of the principles of the science of behavior known as behavior analysis. The philosophical system known as behaviorism that underlies this area of study will be explored, as well as the application of behavioral principles to a number of areas of society, including interpersonal relationship, parenting, clinical applications and

treatments for persons with intellectual and other disabilities, business and management, animal behavior, health, sustainability, and more. Students will learn techniques for utilizing the principles of behavior in their own lives, conducting functional behavior assessments, as well as the social benefits associated with the incorporation of behavioral principles into educational, rehabilitative, organizational, and other settings. prereq: 1003

**PSY 3621. Cognition.** ( ; 4 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

An overview of cognitive processes, using historical, philosophical, biological, and experimental perspectives. Course topics include attention, perception, knowledge representation memory, language, thinking, reasoning, and decision-making. prereq: 1003 or instructor consent

**PSY 3631. Cognitive Development: Ways of Knowing.** ( ; 3 cr. ; A-F or Audit; Periodic Fall)

Development of cognitive processes from infancy through adolescence. Perception in infancy; development of information processing capacities; constructing understandings; language, culture and thinking; thinking as theory building; thinking about self and others. Impact of research on child rearing, education, public policy.

**PSY 3661. Psychology of Language.** (3 cr. ; A-F or Audit; Periodic Fall)

Psychological processes underlying comprehension, production, and acquisition of language(s); cognitive, social, biological, and educational perspectives on language and their applications. prereq: 1003 or instructor consent

**PSY 3697. Sensation and Perception.** ( ; 4

cr. ; A-F or Audit; Every Fall & Spring) Theories, methods, and findings in study of sensory and perceptual processes; psychophysics and psychophysiology of visual, auditory, gustatory, olfactory, cutaneous, kinesthetic, vestibular, and pain senses; analysis of perceptions of constancy, illusion, space, time, motion, and form. pre-req: PSY 1003 or instructor consent

**PSY 3701. Personnel Psychology.** ( ; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Introduction to personnel psychology. Testing, selection, performance appraisal, job analysis, job evaluation, validity issues in organizational settings, discrimination, and affirmative action programs. prereq: PSY 1003 or instructor consent

**PSY 3707. Organizational Psychology.** ( ; 3

cr. ; A-F or Audit; Every Fall & Spring) Overview of organizational topics within industrial/organizational psychology. Leadership, job satisfaction, motivation theories, goal setting, organizational behavior, organizational development, and industrial relations. prereq: PSY 1003 or instructor consent

**PSY 3986. Honors Project.** ( ; 1-6 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Advanced project demonstrating either the application of psychological principles or an empirical investigation proposed and

conducted by the student. Project or empirical investigation must be based on theoretical and research foundations. A psychology faculty adviser and a written and/or oral report is required. prereq: psychology major, 3.00 GPA overall; 3.25 GPA Psychology

**PSY 3989. Directed Instruction.** (1-4 cr. ; Student Option; Every Fall & Spring)  
Students work with department faculty in planning and helping teach an undergraduate course. prereq: instructor consent

**PSY 3991. Projects in Psychology.** (1-4 cr. ; S-N or Audit; Every Fall & Spring)  
Supervised practical experience in University or community activities to gain experience in application of psychological principles and techniques. Written report required. prereq: psychology major or minor, instructor consent

**PSY 3994. Directed Research in Psychology.** (1-8 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Research problem in psychology chosen by either the instructor or the student. Written research report required. prereq: psychology major or minor, instructor consent

**PSY 3996. Pre-Professional Field Placement.** (1-4 cr. ; S-N only; Every Fall, Spring & Summer)  
Preprofessional field placement. For students wishing additional internship experience. Requires additional 3 hours per week of supervised experience on site for each credit. Must be taken with Psy 3011 Internship in Psychology. prereq: 3010, 3011, instructor consent

**PSY 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSY 4121. Foundations of Clinical Psychology.** (3 cr. ; A-F or Audit; Periodic Spring)  
An overview of clinical psychology as well as contemporary issues and trends within the field. Emphasizes areas in which clinical psychologists are principally involved, including assessment, treatment, and clinical research. prereq: PSY 3121 or instructor consent, no grad credit

**PSY 4500. Health Psychology.** (; 3 cr. ; A-F or Audit; Periodic Spring)  
Concepts, issues, and methods of health psychology; health maintenance and illness prevention integrating biological, psychological, and social factors; utilization of health psychological assessments; and interdisciplinary aspects of health psychology. prereq: 1003, min 60 cr or instructor consent

**PSY 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PSY 5021. Advanced Developmental Psychology.** (3 cr. ; A-F or Audit; Every Fall)  
Course format involved reading and discussion of reviews and journal articles about theories, research methodology, and topics central to the scientific study of human development

from conception through adulthood. The role of theory as a guide for research and practice, and classical as well as contemporary theories will be examined. Normative changes and individual differences will be examined. Theoretical frameworks in the domains of social, cognitive, language, and temperament/personality development will be examined. prereq: PSY graduate student or instructor consent

**PSY 5052. Advanced Statistics I.** (3 cr. ; A-F or Audit; Every Fall)  
Advanced statistics used for experimental and correlational research in psychology; analyze data from simple and complex research designs analysis of variance and linear regression techniques; hypothesis testing; nonparametric statistics; assumptions of tests and diagnosis of assumption violations; interpretations of results; use of common statistical software (e.g., SPSS or R). prereq: Math placement level 4 or MACT 23 or higher or graduate student in psychology or instructor consent required.

**PSY 5111. Advanced Personality Science and Research.** (3 cr. ; A-F or Audit; Spring Odd Year)  
Modern personality theory and the empirical research that supports it; emphasis on major issues that confront personality psychologists in the conceptualization and assessment of personality; relationship between personality and consequential outcomes (such as mental illness, physical health, interpersonal relationship quality, job performance, etc.); mixed designs for conducting research on interactions between traits and experimentally manipulated conditions. pre-req: Psychology graduate student or instructor consent

**PSY 5120. Career and Lifestyle Development.** (2 cr. ; A-F or Audit; Every Fall)  
Overview of career development and decision theories related to life planning and career choices. Methods and techniques involved in the career counseling process. prereq: Psychology graduate student or instructor consent

**PSY 5121. Psychopathology Over the Lifespan.** (3 cr. ; A-F or Audit; Every Fall)  
Psychopathology from integrative biopsychosocial and developmental psychopathology perspectives; adult and child psychopathologies including symptomatology, prevalence, etiological evidence, typical course and prognosis, associated features, cultural and social considerations, comorbidity and differential diagnosis. prereq: psychology graduate student or instructor consent

**PSY 5130. Evolutionary Psychology.** (3 cr. ; A-F or Audit; Fall Odd Year)  
Evolution and the theory of natural selection as it applies to behavioral processes, e.g., survival, mating strategies, parenting and family, cooperation and conflict. prereq: psychology graduate student or instructor consent

**PSY 5131. Mind-Body Connection.** (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Examination of interface between biological and psychological development associated with risks for substance abuse, depression, and conduct disorders; potential commonality of mechanisms. Topics may include communication between brain and endocrine systems, evolution of the brain, homosexuality, psychoneuroimmunology, and psychopharmacology.

**PSY 5155. Forensic Psychology.** (3 cr. ; A-F or Audit; Periodic Spring)  
Examines the application of psychology to the judicial system in such diverse areas as criminal diversion and rehabilitation; expert testimony; jury selection; police training; divorce mediation; and custody evaluations. prereq: 1003 or instructor consent

**PSY 5401. Advanced Social Psychology.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Examination of core content areas and topics within experimental social psychology with a focus on application within both clinical and industrial/organizational psychology. Topics include attitude formation and attitude change, attribution theory, the self, conformity, prejudice, aggression, and prosocial behavior. prereq: psychology grad student or instructor consent; credit will not be granted if already received for 3201

**PSY 5500. Behavioral Approaches to Worker Wellbeing.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Introduces factors contributing to total worker wellbeing and focuses on the work environments influence on health behavior. Emphasizes integrated approach to health protection and health promotion. Students will learn to design/redesign the work environment and to implement individual and organizational level interventions to overcome barriers and support successful health behavior change. Total worker wellbeing addresses issues such as stress, work/life balance, job satisfaction, safety, higher risk workers, optimal wellbeing, changing workforce demographics, management and leadership commitment, and injury prevention. Students will learn about the benefits integrated programs can have for both employees and employers, environmental assessment tools, empirically based intervention designs, workplace policy, supportive research, and real world examples. Students will engage in self-reflection of personal wellbeing and will design an empirical intervention-based research study to promote health behavior or reduce health risks. pre-req: Psy grad student or instructor consent

**PSY 5621. Cognition and Emotion.** (3 cr. ; A-F or Audit; Every Fall)  
Students in this course will read and discuss scholarly reviews and journal articles on theories, research methodology, and topics central to the scientific study of human cognition, emotion, and their applications. There will be discussions on the models of cognitive (perception, memory, language, thinking, and reasoning) and emotional processes and their interrelatedness. Consideration will be given to how these contemporary models are developed and

evaluated through empirical studies. Finally, how these theoretical models can be applied to educational, clinical, legal, and workplace settings will be examined. prereq: psychology graduate student or instructor consent

**PSY 5631. Biological Bases of Behavior.** (3 cr. ; A-F or Audit; Every Fall)  
Understanding how communication within the body (neuronal, endocrinological, immunological) affects behavior and psychological processes and how these systems interact to influence these processes. Examining how perturbations within these systems lead to mental illness and/or problematic behaviors. How psychoactive drugs affect these systems, with respect to clinical treatment and abuse. The neurological mechanisms of reward and drug dependence (withdrawal, cravings) will be investigated. prereq: psychology grad student or instructor consent

**PSY 5701. Advanced Personnel Psychology.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Students will apply theories and research finding to address issues of personnel recruitment, selection, and classification in the workplace. prereq: psychology graduate student or instructor consent; credit will not be granted if already received for 3701

**PSY 5702. Advanced Organizational Psychology.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
This course covers core contents in organizational psychology, with a focus on understanding of research findings to enhance organizational functioning and employee well-being. Topics include employee motivation, job attitudes, work stress, teams, leadership, and organizational justice and culture. prereq: psychology graduate student or instructor consent; credit will not be granted if already received for 3707

**PSY 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Public Health (PUBH)

**PUBH 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PUBH 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PUBH 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PUBH 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**PUBH 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## RDG (RDG)

**RDG 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RDG 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RDG 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RDG 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RDG 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## READ (READ)

**READ 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**READ 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**READ 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**READ 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**READ 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## REL (REL)

**REL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**REL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**REL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**REL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**REL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## RELS (RELS)

**RELS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RELS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RELS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

Non Direct Equivalent

**RELS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RELS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## RES (RES)

**RES 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RES 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RES 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RES 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RES 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Reading (RDNG)

**RDNG 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RDNG 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RDNG 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RDNG 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RDNG 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Recreation (REC)

**REC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**REC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**REC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**REC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**REC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**Russian (RUSS)**

**RUSS 1101. Beginning Russian I.** ( ; 4 cr. ; A-F or Audit; Every Fall)  
Grammar, reading, and conversation for students with no previous knowledge of Russian. prereq: Little or no prior formal study of this language, or instructor consent

**RUSS 1102. Beginning Russian II.** ( ; 4 cr. ; A-F or Audit; Every Spring)  
Grammar, reading, and conversation. prereq: 1101 or equiv or instructor consent

**RUSS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RUSS 2316. 19th Century Russian Literature in Translation: Dostoevsky, Gogol and Turgenev.** ( ; 4 cr. ; A-F or Audit; Periodic Spring)

This course examines texts by celebrated Russian prose authors from the nineteenth century. The short stories and novels of authors such as Nikolai Gogol, Ivan Turgenev and Feodor Dostoevsky confront their readers with a set of concerns that still remain relevant today. Through close readings and literary analysis, the course will offer students an opportunity to develop their abilities as writers and critical thinkers. In writing assignments, students will develop their abilities to present extended analyses and coherent argumentative strategies, while exploring some of the most significant developments in Russian literary culture. Taught in English.

**RUSS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RUSS 3405. Film and New Media in Russian Society.** ( ; 4 cr. ; A-F or Audit; Spring Odd Year)

This course introduces students to the transformative role that film and new media have played in Russian society, from the early beginning of film as a new art form to the dynamic role film and new media have come to play in the post-Soviet era. In this course students learn to reflect on film as an artistic medium, while also using their experiences with the films of the twentieth century to learn about the history of Russian society. Students also produce their own short films, practicing what they have learned from discussions and film analysis. Students compose screenplays and create their own films that reflect on the history of Russian film and the changing role of film as a medium in the twentieth century. Taught in English

**RUSS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RUSS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**RUSS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SE (SE)**

**SE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SEC (SEC)**

**SEC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SEC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SEC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SEC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SEC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SEM (SEM)**

**SEM 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SEM 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SEM 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SEM 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SEM 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPC (SPC)**

**SPC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPY (SPY)**

**SPY 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPY 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPY 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPY 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPY 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SST (SST)**

**SST 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SST 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SST 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SST 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SST 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**STA (STA)**

**STA 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**STA 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**STA 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**STA 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**STA 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

### Safety (SAFE)

**SAFE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SAFE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SAFE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SAFE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SAFE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### School of Business/Economics (SBE)

**SBE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SBE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SBE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SBE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SBE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Science (SCI)

**SCI 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SCI 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SCI 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SCI 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SCI 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Secondary Education (SEED)

**SEED 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SEED 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SEED 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SEED 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SEED 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Social & Phil Foundat of Educ (HED)

**HED 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HED 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HED 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HED 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**HED 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Social Science (SSCI)

**SSCI 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SSCI 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SSCI 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SSCI 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SSCI 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Social Work (SW)

**SW 1000. Introduction to Social Welfare.** (SOC SCI; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Contemporary social welfare problems and the historical development of social services programs designed to address them. Complex social problems, such as poverty, homelessness and child maltreatment examined, as well as the response of social institutions, social policies, and the profession of social work to these problems. Social justice

issues and the role of citizen involvement to create change.

**SW 1210. Global Issues.** (SOC SCI,GLOBAL PER; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Global problems of war, peace, national security; population, food, hunger; environmental concerns, global resources; economic and social development; human rights. Examines issues from a global problem-solving perspective. Value, race, class, gender differences.

**SW 1212. Honors Seminar: Global Issues.** (SOC SCI,GLOBAL PER; 3 cr. ; A-F or Audit; Every Spring)  
Focus on global problems of war, peace, and national security; population, food, and hunger; environmental concerns and global resources; economic and social development; human rights. Examination of issues from systems, problem solving, and futurist perspectives in honors seminar format. prereq: Honors student

**SW 1619. Race, Class, and Gender in the United States.** (SOC SCI,CDIVERSITY; 3 cr. ; A-F or Audit; Periodic Fall)  
Race, class, and gender as pivotal dimensions in American society. Similarities and differences between groups, dynamics of discrimination, and efforts to meet needs and achieve potential for all groups in America.

**SW 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SW 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SW 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SW 4051. School Social Work.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)  
The course provides an overview of social work practice in school settings. Course topics include theoretical models; local, state, and federal policies impacting schools and school funding; culturally responsive practice with students, families, and staff; the role of a school social worker in an interdisciplinary setting; and the ethical and professional practice considerations of a school social worker. pre-req: minimum 30 credits, SW 1000 or department consent; no grad credit

**SW 4100. Anti-Oppressive Social Work Practice.** (; 3 cr. ; A-F only; Every Spring)  
Examines societal issues generated by systemic discrimination and explores methods for reducing discrimination. Particular focus on advanced social work practice with diverse populations. prereq: admission to social work program, 4105 or instructor consent; no grad credit

**SW 4101. Human Behavior in Social Environment.** (; 3 cr. ; A-F only; Every Fall)  
Overview of social psychological and social systems concepts. Applications of concepts to social work and human service issues. Focus on individuals, human development,



families, groups, organization, communities, and society/culture. prereq: 1000 (concurrent registration is allow); admissions to Social Work major or instructor consent; no grad credit

**SW 4102. Introduction to Social Work Research.** (; 3 cr. ; A-F only; Every Spring)  
Introduction to social science research and its applications to social work and social welfare. Cultural competence and relation of practice and research. prereq: Admission to Social Work major; previously completed or concurrent registration with a statistics course (PSY 2020 or 3020 or STAT 1411 or 2411 or ECON 2030 or SOC 2155) or instructor consent; no grad credit

**SW 4103. Senior Capstone Project.** (2 cr. ; S-N only; Every Spring)  
This course will help students complete their ePortfolio which is the capstone project for the social work program. prereq: SW 4121 (concurrent registration is allowed); admission to Social Work major; or instructor consent; no grad credit

**SW 4104. Social Work Practice with Individuals and Families.** (; 3 cr. ; A-F or Audit; Every Fall)  
Introduction to generalist social work practice with individuals and families across all populations. This class has a strong focus on social work values and ethics and teaches students practice skills in engagement, assessment, evaluation and especially intervention strategies with individuals and families. pre-req: Admission into the BSW program or Department consent

**SW 4105. Social Work Practice with Groups.** (; 3 cr. ; A-F or Audit; Every Spring)  
Introduction to generalist social work practice with Groups. This class teaches students practice skills and approaches to group work, including engagement, assessment, evaluation and especially intervention strategies with groups centered in Social Work values and ethics. pre-req: SW 4104 or instructor consent

**SW 4111. Introduction to Individual, Family and Group Practice.** (; 3 cr. ; A-F only; Every Spring)  
Introduction to generalist social work practice, social work ethics, the ecological perspective, and the problem-solving model. prereq: Admission to social work program, 1000, 4101 or instructor consent; no grad credit

**SW 4112. Organization and Community Practice.** (; 3 cr. ; A-F only; Every Fall)  
Development of knowledge and skills for beginning-level macro social work practice. Topics include understanding human service organizations, promoting organizational change, using supervision, community advocacy, policy practice, ethics, and cultural competence. prereq: Admission to social work program, 4105 or instructor consent; no grad credit

**SW 4113. Introduction to Child Welfare Practice.** (3 cr. ; A-F only; Every Spring)  
Introduction to social work child welfare practice, with a focus on practice in public

sector county and tribal settings and a special emphasis on child protection. prereq: Admission to social work program, 1000 or instructor consent; no grad credit

**SW 4120. Community Volunteer Experience.** (; 1 cr. ; S-N only; Every Spring)  
Community volunteer experience with emphasis on working with vulnerable populations. Beginning experience in a social service setting to acquire skills in relationships building and to develop understanding of social work ethics, values, and roles in a diverse society. Seminars will focus on student exploration of self in relationship to helping. prereq: Admission to social work program, background check, C+ or better in SW 1619, SW 4101 and SW 4104 and instructor consent; no grad credit

**SW 4121. Senior Field Placement.** (5 cr. [max 10 cr.] ; S-N only; Every Fall & Spring)  
Practicum experience with emphasis on developing knowledge and skill base for generalist practice in a community agency. Concurrent seminar assists students in integrating classroom theories and intervention methodologies with field experiences. Application to diverse populations. prereq: Admission to social work program; C+ or better in SW 1619, SW 4101, SW 4102, SW 4104, SW 4104, SW 4201 and 'S' in SW 4120, instructor consent; no grad credit

**SW 4122. Cross-Cultural Exploration Through Learning Circles.** (; 1 cr. [max 2 cr.] ; S-N or Audit; Every Fall & Spring)  
In a small group (learning circle) students will learn about diverse groups, cross-cultural interactions and explore the concepts of individual and organizational cultural competence through the use of interactive and experimental methods, and applying new knowledge to practice in social work. pre-req: Admission into BSW program, SW 1619, SW 4100 or other diversity course, or instructor consent; no grad credit; credit will not be granted if already received for SW 5120

**SW 4144. Grief, Loss and Coping.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Students will gain conceptual understanding, advanced assessment and intervention skills, and competencies relative to grief, loss and coping and the clinical impact on client systems. Theory and perspectives are provided from various disciplines, and a spectrum of multicultural influences, with an emphasis on person-in-environment. Materials from lay people, social work and other professional disciplines are presented and critical reviewed to guide application of best social work practices and/or evidence-based assessment, interventions and evaluation. Interdisciplinary collaboration and application skills is emphasized. Self-reflection on personal experiences is part of this course to reinforce professional skills, boundaries and ethical conduct. pre-req: minimum 60 credits or instructor consent; no grad credit; credit will not be granted if already received for SW 5144

**SW 4190. American Indian Social Work Practice Issues.** (; 3 cr. ; A-F only; Every Fall)

Introduction to historical and contemporary social work practice issues with American Indians. Policy issues, cultural and sensitivity knowledge, and practice methods with American Indian clients and communities at micro and macro levels of intervention. prereq: 4105; admission to Social Work major or instructor consent; no grad credit

**SW 4201. Social Welfare Policy.** (; 3 cr. ; A-F only; Every Spring)  
Overview of major social welfare policies in the United States. Policy analysis from a historical, social, economic and political perspective. Focus on policy practice roles for social workers as policy analysts and advocates for social justice. pre-req: 1000 (concurrent registration is allowed); SW 4104, admission to Social Work major; or instructor consent; no grad credit

**SW 4215. Trauma Informed Practice with Children and Adolescents.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Course addresses the impact of psychological trauma on children and adolescents, particularly those in the child welfare system. An overview of screening, assessment and intervention strategies to address the mental health needs of children affected by trauma is provided, as well as guidelines for trauma informed practice. pre-req: undergraduate student, minimum 60 credits, no grad credit

**SW 4222. Intervention in Family Violence.** (; 3 cr. ; A-F or Audit; Periodic Fall & Summer)  
Current theory, research, and practice in the field of family violence. Multidisciplinary assessment and intervention skills for working with families with diverse backgrounds are emphasized. pre-req: minimum 30 credits, no grad credit; credit will not be granted if already received for SW 5222

**SW 4271. Women and Social Policy.** (; 3 cr. ; A-F or Audit; Periodic Spring & Summer)  
Policies affecting the well-being of women; strategies for better meeting women's needs. Focuses on policies that affect women's roles and statuses within the domestic unit and within larger economic and political spheres. pre-req: minimum 60 credits or instructor consent; no grad credit

**SW 4280. Substance Use trends and Interventions in Social Work.** (SOC SCI; 3 cr. ; Student Option; Every Fall, Spring & Summer)  
A multi-level systems perspective in examining the effects of substance use and abuse on individuals, families and other populations. Topics will include: epidemiology, etiology, current trends, screening, assessment, diagnosis, treatment options, specialized populations and various social work practice areas. pre-req: minimum 60 credits

**SW 4333. New Zealand Engaging and Empowering Maori Youth in Community Change.** (GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Summer)  
Through a short-term study abroad program in New Zealand, this course will provide students with an international perspective on

community-engaged strategies to address social justice issues, youth development, and human rights through culturally responsive practice with indigenous and diverse communities. through site visits and seminars with local experts in several cities and communities in New Zealand, students will learn approaches used by organizations engaged in collaborative work with indigenous youth to empower and promote social change through community development, macro practice, and advocacy. pre-req: minimum 30 credits, GPA of 2.5 or higher, instructor consent; no grad credit

**SW 4500. Healthcare, Social Work, and Interdisciplinary Care.** (; 3 cr. ; Student Option; Fall Odd, Spr & Summer Even Yr) This course focuses on skill building and knowledge of social work roles in assessment, interventions, values, skills and competencies relative to interdisciplinary social work in healthcare settings. Student learning outcomes include the comprehension of professional collaboration and competencies as well as theoretical foundations, research, policies, and ethics. The course emphasizes providing interdisciplinary collaboration in various settings such as chronic illness; oncology/palliative care; community and public health; gerontology; pediatrics; emergency services; grief and loss; and, the importance of responding to cultural context. Additional content includes navigating medical infrastructures, such as HIPAA, health insurance, disability resources, Medicare/Medicaid, family support, mental health needs, advocacy, and information/referral. pre-req: SW 1000, minimum of 60 credits or instructor consent; no grad credit

**SW 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SW 5032. Child Welfare and the Law.** (; 2 cr. ; A-F only; Every Fall, Spring & Summer) Intensive advanced course in the federal, state, and tribal laws and court processes regulating child welfare practice. Includes laws and procedures and the role of the social worker in legal proceedings. pre-req: master of social work student or instructor consent

**SW 5051. School Social Work.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer) The course provides an overview of social work practice in school settings. Course topics include theoretical models; local, state, and federal policies impacting schools and school funding; culturally responsive practice with students, families, and staff; the role of a school social worker in an interdisciplinary setting; and the ethical and professional practice considerations of a school social worker. pre-req: grad student or department consent

**SW 5091. Independent Study.** (1-4 cr. [max 8 cr.] ; Student Option; Every Fall, Spring & Summer) Directed reading, research, or other experiences leading to presentation of a report. pre-req: instructor consent

**SW 5095. Special Topics: (Various Titles to be Assigned).** (; 3 cr. [max 36 cr.] ; Student Option; Periodic Fall, Spring & Summer) Proseminar on contemporary topics of concern to students and faculty. Topics announced in Class Schedule.

**SW 5096. Special Project.** (1-4 cr. [max 8 cr.] ; S-N or Audit; Every Fall, Spring & Summer) Approval of faculty sponsor and field coordinator required to do a project in generalist or advanced generalist social work practice. Project may closely coordinate with another course or may be an independent area of interest. pre-req: instructor consent

**SW 5101. Human Behavior in the Social Environment.** (; 3 cr. ; A-F only; Every Fall) Overview of social psychological and social systems concepts. Applications of concepts to social work and human service issues. Focus on individuals, human development, families, groups, organizations, communities, and society/culture. pre-req: MSW student or instructor consent

**SW 5111. Grant Writing in the Human Services.** (; 3 cr. ; A-F only; Periodic Spring & Summer) Step-by-step development of grant planning and grant writing. Sources of grants: private foundations and public agencies. Needs assessment methodologies, budgeting, and program evaluation. pre-req: Jr or sr or Grad or instructor consent

**SW 5120. Cross-Cultural Exploration Through Learning Circles.** (1 cr. [max 2 cr.] ; S-N only; Every Fall & Spring) In a small group (learning circle) students will learn about diverse groups, cross-cultural interactions and explore the concepts of individual and organizational cultural competence through the use of interactive and experimental methods, and applying new knowledge to practice in social work pre-req: Admission into MSW, 8100 or instructor consent

**SW 5144. Grief, Loss and Coping in Social Work Practice.** (; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer) Students will gain conceptual understanding, advanced assessment and intervention skills, and competencies relative to grief, loss and coping and the clinical impact on client systems. Theory and perspectives are provided from various disciplines, and a spectrum of multicultural influences, with an emphasis on person-in-environment. Materials from lay people, social work and other professional disciplines are presented and critical reviewed to guide application of best social work practices and/or evidence-based assessment, interventions and evaluation. Interdisciplinary collaboration and application skills is emphasized. Self-reflection on personal experiences is part of this course to reinforce professional skills, boundaries and ethical conduct. pre-req: Social Work graduate student or instructor consent

**SW 5201. Social Welfare Policy.** (; 3 cr. ; A-F only; Every Fall)

Historical development of field of social welfare in the United States and emergence of social work profession. Social policy analysis techniques and ways to influence social policy and vulnerable/minority issues. pre-req: MSW student or instructor consent

**SW 5215. Trauma Informed Social Work Practice with Children and Adolescents.** (; 3 cr. ; A-F or Audit; Periodic Spring & Summer) Course addresses the impact of psychological trauma on children and adolescents, particularly those in the child welfare system. An overview of screening, assessment and intervention strategies to address the mental health needs of children affected by trauma is provided, as well as guidelines of informed practice. pre-req: Social Work graduate student or instructor consent

**SW 5222. Intervention in Family Violence.** (; 3 cr. ; A-F only; Periodic Fall & Summer) Current theory, research, and practice in field of family violence. Multidisciplinary assessment and intervention skills for working with families with diverse backgrounds. pre-req: Social Work grad student or instructor consent

**SW 5271. Women and Social Policy.** (; 3 cr. ; A-F only; Periodic Fall & Spring) Policies affecting the well-being of women; strategies for better meeting women's needs. Focuses on policies that affect women's roles and statuses within the domestic unit and within larger economic and political spheres. pre-req: Jr or sr or Grad or instructor consent

**SW 5280. Substance Use Trends and Interventions in Social Work.** (; 3 cr. ; Student Option; Every Fall, Spring & Summer) A multi-level systems perspective in examining the effects of alcohol problems on individuals, families and other populations. Topics will include: epidemiology, etiology, screening, assessment, diagnosis, treatment options, specialized populations, and various social work practice areas. Credit will not be granted if already received for SW 4280

**SW 5333. New Zealand Engaging and Empowering Maori Youth in Community Change.** (GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Summer) Through a short-term study abroad program in New Zealand, this course will provide students with an international perspective on community-engaged strategies to address social justice issues, youth development, and human rights through culturally responsive practice with indigenous and diverse communities. through site visits and seminars with local experts in several cities and communities in New Zealand, students will learn approaches used by organizations engaged in collaborative work with indigenous youth to empower and promote social change through community development, macro practice, and advocacy. pre-req: graduate student, GPA of 2.5 or higher, instructor consent;

**SW 5500. Healthcare, Social Work, and Interdisciplinary Care.** (; 3 cr. ; A-F or Audit; Fall Odd Year)

This course focuses on skill building and knowledge of social work roles in assessment, interventions, values, skills and competencies relative to interdisciplinary social work in healthcare settings. Student learning outcomes include the comprehension of professional collaboration and competencies as well as theoretical foundations, research, policies, and ethics. The course emphasizes providing interdisciplinary collaboration in various settings such as chronic illness; oncology/palliative care; community and public health; gerontology; pediatrics; emergency services; grief and loss; and, the importance of responding to cultural context. Additional content includes navigating medical infrastructures, such as HIPAA, health insurance, disability resources, Medicare/Medicaid, family support, mental health needs, advocacy, and information/referral. pre-req: MSW student or instructor consent

**SW 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Sociology (SOC)

**SOC 1080. Development of Social Selves.** (SOC SCI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Examines how the self develops. The primary focus is the socialization process, a process which continues throughout the life course. Special attention will be given to childhood and adolescent socialization. How do we learn? How do we understand behavior? What are the consequences of inadequate socialization?

**SOC 1101. Introduction to Sociology.** (SOC SCI,CDIVERSITY; 4 cr. ; A-F or Audit; Every Fall & Spring)  
This course will help students develop a 'sociological imagination' - that is, an understanding of the relationship between the individual and the wider society. Students are introduced to the discipline of sociology, which is the systematic study of social interaction, social organization, social institutions, and social change. The course covers the main concepts, theories, and methods of sociology that are used to explore everything from daily interactions to widespread social problems.

**SOC 1201. Sociology of the Family.** (SOC SCI,CDIVERSITY; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
The family as a basic social institution: similarities and variations in family systems, their interrelationships with other institutions, and patterns of continuity and change.

**SOC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SOC 2155. Introduction to Research Methods and Analysis.** (; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Principles/practice of research design, sampling, data collection including field observation/surveys. Data management, analysis, and reporting of quantitative/qualitative data. Ethics/administration in

sociological research. Introduction to SPSS statistical software. Lab

**SOC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SOC 3155. Quantitative Research Methods and Analysis.** (; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Descriptive statistics. Measures of central tendency, deviation, association. Inferential statistics focusing on probability and hypothesis testing. T-tests, Chi-square tests, analysis of variance, measures of association, introduction to statistical control. Statistical software (SPSS) used to analyze sociological data. Lab. prereq: 2155, crim major or soc major or URS major, min 30 cr

**SOC 3156. Qualitative Research Methods and Analysis.** (; 4 cr. ; A-F or Audit; Every Fall)  
Application of qualitative research methods to study of social structures. Emphasizes field techniques, secondary data analysis, and interpretation. Lab prereq: (2155 or anth major or urs major or cst minor), at least 60 cr or instructor consent

**SOC 3210. Sociology of Media.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course will apply the insights of sociology to the study of media and culture. It will examine the role media play in various social phenomena, including social interaction, social power, and the constitution of identity. It will combine this sociological perspective with a historical one, considering in turn the sociological dimensions of print, electronic, and digital media. Moreover, students will be encouraged to reflexively consider the role of media in their own lives. pre-req: SOC 1101, minimum 30 credits or instructor consent

**SOC 3306. Deviance.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Behaviors, beliefs, and physical characteristics defined as deviant; legal and other formal and informal reactions to deviance; subjective and objective effects of being defined as deviant. prereq: 1101 or CRIM 1301, min 15 cr

**SOC 3330. The U.S. Civil Rights Movement.** (SOC SCI,CDIVERSITY; 3 cr. ; A-F or Audit; Every Fall)  
Examination of theories and research relating to the U.S. civil rights movement, including precursors and influence on subsequent social movements. Role of organization, resources, leadership, recruitment, ideology and consciousness, gender, social control, and counter-movements.

**SOC 3595. Special Topics: (various titles to be assigned).** (; 3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall & Spring)  
Topics in sociology not included in the regular curriculum. Students may apply a maximum of two different topic courses with this course number towards their degree. prereq: Minimum 30 credits or instructor consent

**SOC 3701. Social Psychology.** (SOC SCI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Theory and research issues regarding relation of individual to society. Socialization, effects of social organization and disorganization, and interpersonal interaction. prereq: Min 30 cr or instructor consent

**SOC 3821. Sociology of Community.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Theoretical orientations and empirical investigations of community structure, processes, conflict, and change. Community components and types; community development strategies reviewed and applied. prereq: 1101, 30 cr

**SOC 3831. Organizations and Society.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Sociological examination of structure and processes of public and private formal organizations and patterns of adaptation to external social environments. Role of voluntary organizations in society. prereq: 60 cr or instructor consent

**SOC 3901. Social Change and Social Policy.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Social change and maintenance forces as they affect social life. Emphasis on social theory and research along with formation and implementation of social policy leading to both change and maintenance. prereq: 30 cr or instructor consent

**SOC 3945. Social Stratification.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Theories and research about the effects of economic inequality in people's lives. Social class formation and the effects of institutionalized power structures. Intersection of social class, gender and race/ethnicity. Primary focus on the United States but with international comparisons. prereq: 1101 or CRIM 1301 or CSt 1101 or Anth 1604, min 30 cr or instructor consent

**SOC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SOC 4111. Sociological Theory.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Analysis of classical and contemporary sociological theory. Major theorists, including Durkheim, Weber, and Marx; major paradigms and their importance to sociological thought. prereq: 1101, 30 cr, no grad credit; credit will not be granted if already received for SOC 2111.

**SOC 4222. Sociology of Space and Time.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course will explore the organization of space and time as fundamental features of social experience. A central proposition will be that space and time are not only physical realities but also socially constructed categories. Both will be considered in relation to dynamics of social interaction, social power, and the self. Classical and contemporary approaches will be addressed and integrated. Broadly, space will be examined in terms of its relation to meaning and experience on the one hand, and domination and resistance on the other; time will be treated as a basic organizing principle of work and leisure, itself subject to

contestation over power. Finally, the concept of social construction will be expanded to take into account sociohistorical construction, i.e., how the organization of space and time has shifted historically through 'premodern,' 'modern,' and 'late modern' stages. pre-req: minimum 30 credits or instructor consent

**SOC 4370. Sociology of Mental Health and Illness.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Examines mental health and illness from multiple sociological perspectives; particular emphasis placed on contemporary United States. Topics include theories and alternative understandings, differences in cultural perspectives, social determinants, deterrents, response to and consequences of mental illness and institutional contexts of mental illness and criminal justice. prereq: 60 credits or instructor consent; no grad credit

**SOC 4587. Internship Preparation.** (1 cr. ; A-F only; Every Fall & Spring)

Introduction to internship by learning about internship expectations, developing internship objectives, exploring internship opportunities, and identifying potential internship sites. After successfully completing SOC 4587, a student must wait at least one semester before registering for SOC 4597. prereq: CRIM majors - CRIM 1301, 2311, SOC 2155; SOC majors - SOC 1101, 2155; min 60 cr, no grad credit

**SOC 4597. Internship.** (; 6-8 cr. ; S-N only; Every Fall, Spring & Summer)

Supervised internship of at least 300 hours in a setting related to academic preparation and career interests. prereq: Internship coordinator consent, sociology or criminology major, 4587, WRIT 31xx; no grad credit

**SOC 4860. Environmental Sociology.**

(SUSTAIN; 3 cr. ; A-F or Audit; Spring Odd Year)

Examines the relationship between humans and the natural environment, including the role of science, technology, economics, religion, and culture. Emphasis on the social justice implications of environmental issues and contemporary topics, such as global warming and sustainable agriculture and energy. Considers the diverse positions and actions of environmental movements and possible solutions to environmental problems. prereq: 90 cr or grad student or instructor consent

**SOC 4910. Teaching Assistantship in Sociology.** (1-3 cr. ; A-F only; Every Fall & Spring)

Practical experience in teaching-related activities in sociology courses. prereq: 60 cr and instructor consent; no grad credit

**SOC 4925. Sociology of Rape.** (3 cr. ; A-F or Audit; Periodic Spring & Summer)

Social, moral, and legal definitions and implications of rape. prereq: ANTH 1604 or CRIM 1301 or SOC 1101 or WS 1000 and 60 cr earned, or instructor consent

**SOC 4935. Peace Studies.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course focuses on the field of peace, nonviolence, and conflict resolution studies.

We will study peacemaking theories and practices at all levels - from the interpersonal to the international. This includes the field of mediation, the history of nonviolent resistance, and contemporary examples of nonviolent political action. Throughout the course, we will consider how gender, race/ethnicity, economics, religion, and language influence peace and conflict resolution. You will learn from people in the local community who are actively involved in violence prevention, conflict transformation, and peacemaking. During class exercises and projects, you will practice applying peace theories and methods to current social problems and your life. prereq: 60 cr or grad student or instructor consent

**SOC 4947. Sociology of Gender.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Status and experiences in society through the exploration of gender identities, systems, and social structures. Topics include politics, discrimination, family, education, workplace, popular culture, and changing definitions of gender. Emphasis on the expectations and performance of masculinity/femininity and the intersection of gender, race, and class. Some consideration given to global explorations and international comparisons. prereq: 1101 or CRIM 1301 or ANTH 1604 or WS 1000, min 60 cr or instructor consent

**SOC 4949. Race and Ethnic Relations.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Overview of race and ethnic relations in America; conditions of major racial and ethnic minorities; formation of racial/ethnic identities, sources of prejudice, discrimination; intergroup conflict; assimilation, persistence of ethnicity; intergroup diversity; major racial and ethnic groups; the new immigrants. prereq: 1101 or CRIM 1301 or CSt 1101 or Anth 1604, 60 cr, or instructor consent

**SOC 4981. Social Movements, Protest and Change.** (4 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

This course provides a study of collective behavior and social movements. The course includes a survey of theories and phenomenon making up the "collective behavior" paradigm from which early studies of social movement were conducted. Here, the focus is on: fads, crazes, panics, riots, rumors, and mass hysterias. The bulk of the course is dedicated to the study of the emergence, structure, and dynamics of contemporary social movements and political protest. The range of their investigation extends from research on the dynamics of recruitment within social movements to the study of protest tactics to the policing of protests and counter-insurgency. prereq: 60 cr or grad student or instructor consent

**SOC 4982. Political Sociology and the Global Economy.** (; 4 cr. ; A-F or Audit; Every Fall)

Explores the field of power and economics, understanding the major theoretical debates and issues both past and present. Examines the nature of the state and economy, while also examining how class, race, and gender shape both the political and economic process.

Focuses on how power is constructed, legitimated, and delegitimated concentrating on state formation, expansion, rebellion, and revolution. prereq: 60 credits or instructor consent or grad student

**SOC 4985. Critical Animal Studies.** (4 cr. ; A-F or Audit; Periodic Fall & Spring)

This course explores the ways in which animal lives intersect with human lives, including the evolution of social, cultural, scientific, and religious attitudes toward animals. We will examine the dynamics of power and visualization in the ways animals are culturally framed and constructed. Students will also learn to critically analyze a variety of ethical debates about animals in society, such as the eating of animals, animal experimentation, zoos, hunting, ownership, and legal status. prereq: minimum 30 credits earned or instructor consent; no grad credit

**SOC 4991. Independent Study in Sociology.** (1-3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)

Directed reading, research, or involvement in social action leading to preparation of a paper or other product. prereq: instructor consent

**SOC 4999. Honors Project Sociology.** (; 1-4 cr. [max 8 cr.] ; A-F only; Every Fall, Spring & Summer)

Advanced individual project in any area of sociology, demonstrating sound theoretical and research foundations and resulting in a written report. prereq: 90 cr and instructor consent; no grad credit

**SOC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SOC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Spanish (SPAN)

**SPAN 1101. Beginning Spanish I.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Fall)

Conversation and communicative course for students with little or no previous study of Spanish. Cultivation of the four modalities of language acquisition speaking, listening comprehension, writing and reading comprehension. Development of intercultural competency. Taught primarily in Spanish. prereq: Little or no prior formal study of this language, or instructor consent

**SPAN 1102. Beginning Spanish II.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Fall & Spring)

Conversation and communicative course for students with limited study of Spanish, cultivation of the four modalities of language acquisition (speaking, listening comprehension, writing, and reading comprehension). Development of intercultural competency. Taught primarily in Spanish. prereq: 1-2 yrs high school Spanish or 1101 or instructor consent

**SPAN 1201. Intermediate Spanish I.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Fall)

Consolidation and enrichment of previously acquired abilities in the Beginning Spanish sequence. Further cultivation of the four modalities of language acquisition (speaking, listening comprehension, writing, and reading comprehension). Emphasis on oral and written production. Further development of intercultural competency as it relates to the diverse cultures of Latino and Spanish-speaking communities around the globe. Taught in Spanish. prereq: 3-4 yrs high school Span or 1102 or instructor consent

**SPAN 1202. Intermediate Spanish II.**

(COMM & LAN; 4 cr. ; A-F or Audit; Every Spring)

Consolidation and enrichment of previously acquired abilities in Intermediate Spanish. Further cultivation of the four modalities of language acquisition (speaking, listening comprehension, writing, and reading comprehension). Emphasis on oral and written production. Further development of intercultural competency as it relates to the diverse cultures of Latino and Spanish-speaking communities around the globe. Taught in Spanish. prereq: 4 yrs high school Span or 1201 or instructor consent

**SPAN 1999X. Non Direct Equivalent.** (0-999

cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**SPAN 2301. Advanced Spanish.** (COMM & LAN; 4 cr. ; A-F or Audit; Every Fall)

Development of Spanish literacy within a culturally authentic context. Strong emphasis on academic writing and formal oral and aural communication skills; cultivation of literary and filmic analysis abilities; intensive review of key grammar. Taught in Spanish. prereq: 5 yrs high school Span or 1202 or instructor consent

**SPAN 2540. Latino Literatures and Cultures.**

(CDIVERSITY,HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

The study of Latino communities in the United States, from the colonial period to the present. Topics covered include the Spanish legacy in the Southeast and Southwest, Caribbean communities on the East coast and demographic transition away from major metropolitan areas to the Midwest. Students will read travel narratives, fiction, poetry, and theater, and will have the opportunity to collect oral histories from Latinos in Minnesota. The course is open to all students and will be taught in English.

**SPAN 2550. Globalization and Sustainability in Latin America.** (SUSTAIN; 4 cr. ; A-F or Audit; Spring & Summer Odd Year)

The study of Latin America's natural resources, their cultural meaning and management across time and recent environmental movements in the region. Special focus on the indigenous practices that promote environmental, economic, political, social and cultural sustainability. The course may focus on Central America, the Caribbean, and Andes, the Southern Cone, the Amazon or any other geocultural region in Latin America. The course is open to all students and will be taught in English.

**SPAN 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**SPAN 3020. Advanced Spanish for Business.** (; 4 cr. ; A-F or Audit; Periodic Spring)

This class develops students' Spanish language abilities in order to function in business settings domestically and internationally. This course will enhance oral and written presentational skills within commercial and administrative contexts, and will cultivate students' geographic knowledge and cultural competence necessary to perform, interact and interrelate in professional situations and make informed choices in the vast and varied Spanish-speaking world. prereq: SPAN 2301

**SPAN 3042. Civilization, Cultures and Communities in Latin America.** (GLOBAL PER,HUMANITIES; 4 cr. ; A-F or Audit; Periodic Spring)

Historical overview and survey of key themes of Latin America until the present day. Analysis of key cultural (literary, filmic, artistic, architectural, and musical) texts. Strong focus on academic writing and research. Taught in Spanish. prereq: 2301 with C or better or instructor consent

**SPAN 3044. Civilization, Cultures and Communities of Spain.** (GLOBAL PER,HUMANITIES; 4 cr. ; A-F or Audit; Every Spring)

Historical overview and survey of key themes of the Iberian Peninsula from pre-history until the present day. Analysis of key cultural (literary, filmic, artistic, architectural, and musical) texts. Strong focus on academic writing and research. Taught in Spanish. prereq: 2301 with C or better or instructor consent

**SPAN 3097. Internship.** (1-3 cr. [max 6 cr.] ; S-N only; Every Fall, Spring & Summer) Supervised international or domestic internship related to the program. prereq: SPAN 2301 with a C or better, WRIT 31xx-Adv Writ and instructor consent

**SPAN 3190. Spanish Language and Culture for Business - Study Abroad.** (COMM & LAN,GLOBAL PER; 6 cr. ; A-F only; Periodic Summer)

Study abroad program for students not majoring or minoring in Spanish Studies. Designed for students interested in business with little to no previous Spanish language. Month-long summer study abroad program in Salamanca, Spain. Study of Spanish language, Spanish for business purposed, Spanish business culture (in English), Spanish history and culture at the University of Salamanca. Home stay with a Salamanca family. Other than the language component, taught in English. prereq: minimum 30 credits; admission to an approved study abroad program requires consent from the International Programs and Services Office.

**SPAN 3197. Internship in Language, Culture and Business - Study Abroad.** (GLOBAL PER; 6 cr. ; A-F or Audit; Periodic Summer)

Study abroad program and internship for students not majoring or minoring in Spanish Studies. Designed for students interested in business with little to no previous Spanish language. Month long summer study abroad and internship program in Salamanca, Spain. Study of Spanish language, an internship in health or science. Spanish history and culture at the University of Salamanca. Home stay with a Salamanca family. Other than the language component, taught in English. prereq: minimum 30 credits; admission to an approved study abroad program requires consent from the International Programs and Services Office.

**SPAN 3290. Spanish Language and Culture for Health and Science - Study Abroad.**

(COMM & LAN,GLOBAL PER; 6 cr. ; A-F or Audit; Periodic Summer)

Study abroad program for students not majoring or minoring in Spanish Studies. Designed for students interested in health and science with little to no previous Spanish language. Month-long summer study abroad program in Salamanca, Spain. Study of Spanish language, Spanish for business purposed, Spanish business culture (in English), Spanish history and culture at the University of Salamanca. Home stay with a Salamanca family. Other than the language component, taught in English. prereq: minimum 30 credits; admission to an approved study abroad program requires consent from the International Programs and Services Office.

**SPAN 3297. Internship in Language, Culture, Health and Science - Study Abroad.** (GLOBAL PER; 6 cr. ; A-F or Audit; Periodic Summer)

Study abroad program and internship for students not majoring or minoring in Spanish Studies. Designed for students interested in health and science with little to no previous Spanish language. Month-long summer study abroad and internship program in Salamanca, Spain. Study of Spanish language, an internship in health or science. Spanish history and culture at the University of Salamanca. Home stay with a Salamanca family. Other than the language component, taught in English. prereq: minimum 30 credits; admission to an approved study abroad program requires consent from the International Programs and Services Office.

**SPAN 3890. Language and Culture in Peru - Study Abroad.** (GLOBAL PER; 6 cr. ; A-F only; Periodic Summer)

May term summer study abroad program in Lima, Peru. Study of Spanish language, literature, art history, and culture. Home stay with a family in Lima. Taught in Spanish. prereq: completion of SPAN 1202 or higher and instructor consent; admission to an approved study abroad program requires consent from the Study Abroad Office

**SPAN 3894. Language and Culture in Spain - Study Abroad.** (GLOBAL PER; 6 cr. ; A-F only; Periodic Summer)

Month long summer study abroad program in Salamanca, Spain. Study of Spanish language, literature, art history and culture at

the University of Salamanca. Home stay with a Salamanca family. Taught in Spanish. prereq: instructor consent & completion of SPAN 1202 or higher; admission to an approved study abroad program requires consent from the International Programs and Services Office

**SPAN 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPAN 4011. Latin American Prose.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Prose fiction with emphasis on twentieth and twenty-first centuries. Attention also to cultural background. Taught in Spanish. prereq: 2301 with C or better or instructor consent; no grad credit

**SPAN 4013. Latin American Poetry and Drama.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Emphasis on twentieth and twenty-first centuries. Attention also to cultural background. Taught in Spanish. prereq: 2301 with C or better or instructor consent

**SPAN 4017. Latin American Cinema and Culture.** (FINE ARTS; 4 cr. ; A-F or Audit; Fall Odd Year)  
Exploration of the production of cinema paired with the analysis of and insight into Latin American cinema and culture. Taught in Spanish. prereq: 2301 with C or better or instructor consent; no grad credit

**SPAN 4018. Latin America From Within.** (HUMANITIES; 4 cr. ; A-F or Audit; Every Spring)  
Study of selected Latin American countries: historical, political, cultural, and other defining moments and literary expressions of those moments, with the goal of seeing the country from within. Taught in Spanish. prereq: 2301 with C or better or instructor consent; no grad credit

**SPAN 4019. Seminar: Latin America in the 21st Century.** (HUMANITIES; 4 cr. ; A-F only; Fall Even Year)  
A study of longer, newer, or less studied (yet important) literary works, as well as their relevant cultural background. Taught in Spanish. prereq: 2301 with C or better or instructor consent; no grad credit

**SPAN 4022. Medieval and Golden Age Literature and Culture of Spain.** (HUMANITIES; 4 cr. ; A-F or Audit; Spring Even Year)  
Survey of Spanish literature from the Middle Ages through the Baroque. Relies on written tradition but will also delve into other types of cultural production (pictorial, sculptural, architectural, etc.). Also reviews current renditions (textual and filmic) of some of the texts. Strong focus on academic writing and research. Taught in Spanish. prereq: 2301 with C or better or instructor consent, no grad credit

**SPAN 4027. Contemporary Literature and Culture of Spain.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)  
The study of twentieth and twenty-first century literature and culture of Spain from the Second

Republic until the present day. Strong focus on academic writing and research. Taught in Spanish. prereq: 2301 with C or better or instructor consent; no grad credit

**SPAN 4028. Literature and Culture of Spain 18th to the 20th Century.** (HUMANITIES; 4 cr. ; A-F or Audit; Spring Even Year)  
Literature and culture (art, film, music, architecture, popular culture) of the Spanish Enlightenment through the twentieth century. Texts will be studied within their historical, political and social contexts and will shed light on the author/composer/artist's ideology vis-a-vis dominant philosophical and political climates. Strong focus on academic writing and research. Taught in Spanish. prereq: 2301 with C or better or instructor consent; no grad credit

**SPAN 4030. Cinema and Culture of Spain.** (FINE ARTS; 4 cr. ; A-F or Audit; Spring Odd Year)  
Overview of cinema of Spain. Examines a variety of filmic genres. Spanish national identity will be the main axis of inquiry. Strong focus on academic writing and research. Taught in Spanish. prereq: 2301 with C or better or instructor consent; no grad credit

**SPAN 4090. Aspects of the Hispanic World.** (HUMANITIES; 4 cr. ; A-F or Audit; Periodic Fall & Spring)  
Sociopolitical, historical, literary, and cultural events of major importance in Latin America, Spain, or in Latino communities in the United States. Strong focus on academic writing and research. Taught in Spanish. prereq: 2301 with C or better or instructor consent; no grad credit

**SPAN 4091. Independent Study.** (1-4 cr. [max 8 cr.]; A-F only; Every Fall, Spring & Summer)  
Students devise programs of reading and research in consultation with instructor to expand upon a topic related to one studied in regular coursework. Strong focus on academic writing and research. Taught in Spanish. prereq: 2301 with C or better, instructor consent; no grad credit

**SPAN 4095. Special Topics: (Various Titles to be Assigned).** ( ; 4 cr. [max 12 cr.]; A-F or Audit; Periodic Fall, Spring & Summer)  
Literature and/or culture of Spanish-speaking populations: Spaniards, Latin Americans, or Latinos in the United States. Taught in Spanish. prereq: 2301 with C or better or instructor consent; no grad credit

**SPAN 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPAN 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Special Area Projects (SPEC)

**SPEC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPEC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**SPEC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPEC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPEC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Special Education (SPED)

**SPED 1357. Individuals with Disabilities in Society.** ( ; 3 cr. ; A-F or Audit; Every Spring)  
Major types of disabilities and giftedness, including definitions, causes, characteristics, and educational implications. Disability perspectives. Social, legal, and educational considerations of disability issues.

**SPED 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPED 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPED 3103. Infants and Toddlers with Special Needs.** ( ; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Causation and development of disabling conditions in infants and toddlers. Effective intervention techniques in a variety of settings involving interagency collaboration and family involvement. Practicum. prereq: Minimum 30 credits

**SPED 3105. Young Children with Special Needs: Ages Three-Eight.** ( ; 4 cr. ; A-F or Audit; Every Fall)  
Identification, assessment, and classification of young children with special needs. Effective intervention techniques for use in a variety of settings, emphasizing integration and teaming strategies. Practicum. prereq: instructor consent

**SPED 3106. Working with Young Children with Low Incidence Disabilities.** (4 cr. ; A-F or Audit; Every Fall)  
Skills and information useful in the provision of quality services for young children with low incidence disabilities. Class sessions and field-based experiences will address supporting young children with low incidence disabilities. prereq: Admitted to UECH program

**SPED 3109. Supporting Social/Emotional Development Birth-8.** ( ; 3 cr. ; A-F or Audit; Every Fall & Spring)  
This course supports understanding the developmental trajectory of social and emotional competence from birth to age eight. Typical development as well as the developmental consequences of stress and trauma will be addressed. Protective factors and resilience, the development of mental health, and the importance of supportive relationships will also be explored. This course will also provide information needed to evaluate and implement behavior change programs that

are appropriate for young children who exhibit maladaptive behaviors. A key assessment strategies will include Functional Behavioral Assessment (FBA) procedures and a range of trauma informed behavioral supports. pre-req: Minimum 30 credits

**SPED 3205. Foundations in Early Childhood Assessment.** (; 2 cr. ; A-F or Audit; Every Fall) This course provides information about informal and formal assessment properties and their application. Included is information about statistical properties inherent in norm referenced tests, the exploration of criterion referenced test, and discussion of informal assessment strategies such as observation and portfolio work. This course is a prerequisite to SPED 3206 Methods in Early Childhood Special Education Assessment. prereq: Admitted to UECH program

**SPED 3206. Methods of Assessment in Early Childhood Special Education.** (; 2 cr. ; A-F or Audit; Every Fall) This course is the second of two assessment courses in the ECSE licensure requirements. The course expands and builds upon the Foundations of ECSE Assessment (SPEC 3205). In the course students practice administration and implementation of norm- and criterion-referenced assessment tools for young children. Further, participants practice developing assessment reports and corresponding Individualized Family Service Plans (IIFSP) and Individualized Education Plans (IEP). prereq: admitted to UECH program

**SPED 3415. Special Education in the Secondary School.** (; 3 cr. ; A-F only; Every Fall & Spring) Exploration of topics in exceptionality for pre-service secondary education majors. Topics include universal design, instructional strategies, characteristics of students, special education law, and differentiated instruction.

**SPED 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; ) Non Direct Equivalent

**SPED 4204. Assessment in the General and Special Education Classroom.** (4 cr. ; A-F or Audit; Every Fall & Spring) Exploration of topics in responsive and responsible assessment of student learning. Candidates will be introduced to use of assessment strategies and making decisions about exceptionality, eligibility, and educational programming. Topics include types of assessment strategies, large-scale and high stakes testing, rubrics, checklists and other evaluative tools and techniques. This course has a 30-hour practicum. prereq: SPED 4433, admission to IESE program and successful completion of Block One courses and associated field experience or SPED post bac, no grad credit

**SPED 4250. Foundations of Autism Spectrum Disorders.** (; 3 cr. ; A-F or Audit; Periodic Summer) Includes history, definitions, assessment, characteristics, legal aspects, varying

perspectives, and etiology of the Autism Spectrum Disorders. prereq: No Grad cr

**SPED 4260. Language and Social Skills for Children and Youth with Autism Spectrum Disorders.** (; 3 cr. ; A-F or Audit; Periodic Spring)

Specialized instruction in the foundation of language development, social stories, augmented and alternative communication systems, theory of mind, social skill development and play. prereq: 4250 or 5250 and 4270 or 5270; no grad credit

**SPED 4270. Methods for Teaching Children and Youth with Autism Spectrum Disorders.** (; 4 cr. ; A-F or Audit; Periodic Fall)

In-depth assessment, environmental factors, curricular options, instructional strategies, behavioral programming, material for teaching, sensory integration strategies, IEP/IIP development and implementation, and technology on the continuum of placements for children and youth with ASD. prereq: 4250 or 5250 or instructor consent, no grad credit

**SPED 4280. Assessment of Students with Autism Spectrum Disorders.** (; 2 cr. ; A-F or Audit; Fall Even Year)

This course will focus on assessment procedures used by practitioners in the field of special education - specifically in Autism. Students will learn a variety of standardized and informal assessment procedures, referral, evaluation, planning, and programming. Students will also learn to interpret and integrate evaluation results in the planning and programming process in working with students with Autism. prereq: 4250, 4260 and 4270; no grad credit

**SPED 4310. Response to Intervention in the General Education Classroom.** (; 3 cr. [max 4 cr.] ; A-F or Audit; Every Fall & Spring)

Understanding the use of the response to intervention (RtI) procedure to identify students with learning disabilities. Use of formal and informal assessment processes for monitoring progress to make decisions about changes in instruction or goals and apply child response data to important educational decisions. Students will identify valid research-based interventions and their application in educational settings. prereq: Admission to IESE program or post bac special education; credit will not be granted if already received for 5310

**SPED 4381. Classroom and Behavior Management.** (; 4 cr. ; A-F or Audit; Every Fall & Spring)

Classroom management and behavior change for P-12 students; identification and assessment of problem behaviors; proactive and reactive strategies for managing disruptive behavior; application of applied behavior analysis to modifying behaviors; legal and ethical issues in behavior change. Concurrent with 5381. Practicum prereq: 4433, Admission to IESE program or postbac sped; no grad credit

**SPED 4433. Foundations in Special Education.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

This is a foundational course in special education focusing on an overview of children with disabilities. Special emphasis will be placed on characteristics of exceptional children, the legal aspects of educating students with disabilities, and assessment, instructional, and collaborative strategies. prereq: pre-IESE major or IESE major or pre-UECH major or UECH major or post bac brad or special education minor or DAPE minor, no grad credit

**SPED 4435. Parent and Professional Communication and Collaboration.** (; 4 cr. ; A-F or Audit; Periodic Fall & Spring)

Group process, problem solving, decision-making, collaboration, and teamwork applied to the special education process. Techniques for working with parents, professionals, paraprofessionals, and community agencies when planning and implementing Individualized Education Plans. prereq: 4433, 45 cr, postbac or sped minor or instructor consent, no grad credit

**SPED 4452. Academic Interventions for Students with Disabilities.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

Understanding various models for teaching students with reading, writing, or math difficulties; development of intervention plan based on assessment and observation. Practicum. prereq: SPED 4433, admission to IESE program and successful completion of Block One courses and associated field experience or SPED postbac or instructor consent

**SPED 4455. Transitional Planning for Adolescents with Disabilities.** (; 3 cr. [max 4 cr.] ; A-F or Audit; Periodic Fall & Summer)

Assessment procedures, planning and instructional methods to help students with disabilities make the transition from school to postsecondary training, education, and employment. Practicum. prereq: Successful completion of Block Four, which is Student Teaching in a general education setting or postbac or instructor consent, no grad credit

**SPED 4585. Individual Education Plans: Development and Implementation.** (; 3 cr. ; A-F or Audit; Periodic Fall)

Historical perspective of the Individual Education Plan (IEP), its professional significance in education and the impact of the IEP on students and teachers in special education. Explores procedural guidelines, develop an IEP based on best practice. prereq: Admission to IESE program and successful completion of Blocks One and Two courses and associated field experiences, no grad credit

**SPED 4600. Student Teaching.** (1-12 cr. ; S-N or Audit; Every Fall, Spring & Summer) Observational, evaluative, and instructional experience with students with disabilities in K-12 settings. pre-req: Successful completion of Block Four, which is Student Teaching in a general education setting, or postbac or instructor consent. No grad credit.

**SPED 4610. Professional Issues.** (; 1 cr. ; A-F only; Every Spring)



Reflections on current issues and ethical dilemmas in the field of early childhood special education, birth through age eight. prereq: No grad credit

**SPED 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPED 5204. Assessment in the General and Special Education Classroom.** (; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Exploration of topics in responsive and responsible assessment of student learning. Candidates will be introduced to use of assessment strategies and making decisions about exceptionality, eligibility, and educational programming. Topics include types of assessment strategies, large-scale and high stakes testing, rubrics, checklists and other evaluative tools and techniques. This course has a 30-hour practicum. prereq: sped post-bac

**SPED 5250. Foundations of Autism Spectrum Disorders.** (; 3 cr. [max 4 cr.] ; A-F or Audit; Periodic Fall)  
Includes history, definitions, assessment, characteristics, legal aspects, varying perspectives, and etiology of the Autism Spectrum Disorders.

**SPED 5260. Language and Social Skills for Children and Youth with Autism Spectrum Disorders.** (; 4 cr. ; A-F or Audit; Periodic Spring & Summer)  
Specialized instruction in the foundation of language development, social stories, augmented and alternative communication systems, theory of mind, social skill development and play. prereq: 4250 or 5250 and 4270 or 5270

**SPED 5270. Methods for Teaching Children and Youth with Autism Spectrum Disorders.** (; 4 cr. ; A-F or Audit; Periodic Spring & Summer)  
In-depth assessment, environmental factors, curricular options, instructional strategies, behavioral programming, material for teaching, sensory integration strategies, IEP/IIIP development and implementation, and technology on the continuum of placements for children and youth with ASD. prereq: 4250 or 5250 or instructor consent

**SPED 5280. Assessment of Students with Autism Spectrum Disorders.** (2 cr. ; A-F or Audit; Fall Even Year)  
This course will focus on assessment procedures used by practitioners in the field of special education - specifically in Autism. Students will learn a variety of standardized and informal assessment procedures, referral, evaluation, planning, and programming. Students will also learn to interpret and integrate evaluation results in the planning and programming process in working with students with Autism. prereq: 4250, instructor consent

**SPED 5361. Characteristics of Developmental Disabilities.** (; 4 cr. ; A-F or Audit; Periodic Summer)  
Overview of children with moderate to severe developmental disabilities. Special emphasis will be placed on characteristics, etiology,

implications of medical conditions, and the legal aspects of educating students with developmental disabilities. Assessment, instructional, and collaborative strategies will be introduced. prereq: Departmental consent

**SPED 5381. Classroom and Behavior Management.** (; 4 cr. ; A-F or Audit; Every Fall & Spring)  
Classroom management and behavior change for P-12 students; identification and assessment of problem behaviors; proactive and reactive strategies for managing disruptive behavior; application of applied behavior analysis to modifying behaviors; legal and ethical issues in behavior change. Concurrent with 4381; requires an additional paper, research project or field based practicum (option for post baccalaureate students at the 5000 level). prereq: 4433, postbac grad

**SPED 5433. Foundations in Special Education.** (; 3 cr. ; Student Option; Every Fall, Spring & Summer)  
This is a foundational course in special education focusing on history, philosophy, theories, and issues of special education. Topics include: overview of special education rules and processes, and survey of exceptionalities, including disability perspectives. Because this course is taught concurrently with 4433, it will require one or more of the following: paper or project. prereq: Postbac grad student

**SPED 5435. Parent and Professional Communication and Collaboration.** (; 4 cr. ; Student Option; Periodic Fall)  
Group process, problem solving, decision making, collaboration, and teamwork applied to the special education process. Techniques for working with parents, professionals, paraprofessionals, and community agencies when planning and implementing Individualized Educational Plans. Because this course is taught concurrently with 4435, it will require one or more of the following: paper or project. prereq: 4433 or 5433, postbac grad or instructor consent

**SPED 5452. Academic Interventions for Students with Disabilities.** (; 3 cr. [max 4 cr.] ; A-F or Audit; Every Spring)  
Understanding various models for teaching students with reading, writing, or math difficulties; development of intervention plan based on assessment and observation. Practicum. prereq: 4433 or 5433, postbac grad or instructor consent

**SPED 5455. Transitional Planning for Adolescents With Disabilities.** (; 3 cr. [max 4 cr.] ; A-F or Audit; Periodic Spring & Summer)  
Assessment procedures, planning and instructional methods to help students with disabilities make the transition from school to postsecondary training, education, and employment. Practicum. prereq: 5433 or 4433, postbac grad or instructor consent

**SPED 5585. Individual Education Plans: Development and Implementation.** (; 3 cr. ; A-F or Audit; Every Fall & Summer)  
Historical perspective of the Individual Education Plan (IEP), its professional

significance in education and the impact of the IEP on students and teachers in special education. Explores procedural guidelines, develop an IEP based on best practice and develop lesson and unit plans.

**SPED 5600. Student Teaching.** (1-12 cr. ; S-N or Audit; Every Fall, Spring & Summer)  
Observational, evaluative, and instructional experience with students with disabilities in K-12 settings. Seminar included. prereq: instructor consent

**SPED 5870. Professional Methods for Working with Fetal Alcohol Spectrum.** (; 4 cr. ; A-F or Audit; Every Fall)  
Exploration of the continuum of placements of living, education, and vocational settings for individuals with FASD. Advocacy issues, in-depth assessment, environmental factors, curricular options, IEP/IIIP development and implementation and programming of the lifespan of individuals with FASD. prereq: 5850 or instructor consent; credit will not be granted if already received for 4870

**SPED 5991. Independent Study.** (1-6 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Directed independent study, readings, or projects of interest to student. prereq: Department approval

**SPED 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Speech (SP)

**SP 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SP 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SP 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SP 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SP 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Speech Education (SPE)

**SPE 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPE 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPE 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPE 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

**SPE 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Speech Pathology Audiology (SPA)

**SPA 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPA 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPA 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPA 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPA 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Speech-Communication (SPCH)

**SPCH 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPCH 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPCH 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPCH 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SPCH 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Statistics (STAT)

**STAT 1411. Introduction to Statistics.** (LOGIC & QR; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Statistical ideas involved in gathering, describing, and analyzing observational and experimental data. Experimental design, descriptive statistics, correlation and regression, probabilistic models, sampling, and statistical inference. prereq: Math ACT 21 or higher or a grade of at least C- in MATH 0103 or department approval

**STAT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**STAT 2411. Statistical Methods.** (LOGIC & QR; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Graphical and numerical descriptions of data, elementary probability, sampling distributions, estimations, confidence intervals, one-sample and two-sample t-test. prereq: Math ACT 24 or

higher or a grade of at least C- in Math 1005 or higher or department approval

**STAT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**STAT 3411. Engineering Statistics.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Statistical considerations in data collection and experimentation. Descriptive statistics, least squares, elementary probability distributions, confidence intervals, significance tests, and analysis of variance as applied analysis of engineering data. prereq: MATH 1297 with a grade of C- or better, cannot be applied to a math or statistics major

**STAT 3611. Introduction to Probability and Statistics.** (; 4 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Basic probability, including combinatorial methods, random variables, mathematical expectation. Binomial, normal, and other standard distributions. Moment-generating functions. Basic statistics, including descriptive statistics and sampling distributions. Estimation and statistical hypothesis testing. prereq: A grade of at least C- in Math 1290 or Math 1296

**STAT 3612. Introduction to Probability and Statistics II.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
An introduction to statistics. Sample distributions, point and interval estimation, hypothesis testing, linear regression, one- and two-way analysis of variance, goodness-of-fit and non-parametric statistics. prereq: 3611 and Math 1297 or equivalent or instructor consent

**STAT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**STAT 4040. Introduction to Survey Sampling.** (3 cr. ; A-F or Audit; Every Spring)  
Simple random sampling, systematic sampling, cluster sampling, stratified sampling, probability proportional to size sampling, ratio and regression estimation, sampling frames, sample size determination, sources of bias, cost models, and nonresponse. Data analysis using computer software. prereq: A grade of at least C- in MATH 1290 or 1296 or 1596 and STAT 2411 or 3411 or 3611 or instructor consent

**STAT 4050. Introduction to Statistical Computing.** (3 cr. ; A-F or Audit; Every Fall)  
Statistical, graphical and numerical data analysis using modern statistical software. Database management and statistical modeling including regression and categorical data analysis. Topics in data generation and simulation. prereq: A grade of at least C- in STAT 3411 or 3611 or instructor consent.

**STAT 4060. Introduction to Biostatistics.** (3 cr. ; A-F or Audit; Every Spring)  
Introduction to statistical methods applicable to biological and biomedical data. Analysis of bioassay, case-control, and disease/expose data. Introduction to statistics in clinical trials. Use of regression and logistic regression in analyzing biological/biomedical data.

Categorical data analysis with application to the life sciences. Basic survival analysis. prereq: Math 1290 or 1296 or 1596 and STAT 2411 or 3411 or 3611 with grade of C- or better or consent of instructor.

**STAT 4101. Actuarial Probability.** (1 cr. ; S-N or Audit; Every Fall)  
Problem-solving techniques in probability used in the mathematical foundations of actuarial science. prereq: 3611, Math 3298 a grade of C- or better is required in all prerequisite courses; credit cannot be applied to math major or minor; no grad credit

**STAT 4511. Regression Analysis.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Simple, polynomial, and multiple regression. Matrix formulation of estimation, testing, and prediction in linear regression model. Analysis of residuals, model selection, transformations, and use of computer software. prereq: STAT 3611, Math 3280 or Math 4326, a grade of C- or better is required in all prerequisite courses; credit will not be granted if already received for STAT 5511; no grad credit.

**STAT 4531. Probability Models.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Development of probability models and their applications to science and engineering. Classical models such as binomial, Poisson, and exponential distributions. Random variables, joint distributions, expectation, covariance, independence, conditional probability. Markov processes and their applications. Selected topics in stochastic processes. pre-req: STAT 3611, MATH 1297 or 1597. A grade of C- or better is required in all prerequisite courses, no grad credit, credit will not be granted if already received for STAT 5531.

**STAT 4571. Probability.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Axioms of probability. Discrete and continuous random variables and their probability distributions Joint and conditional distributions. Mathematical expectation, moments, correlation, and conditional expectation. Normal and related distributions. Limit theorems. pre-req: STAT 3611, MATH 3298; a grade of C- or better is required in all prerequisite courses; credit will not be granted if already received for STAT 5571; no grad credit.

**STAT 4572. Statistical Inference.** (4 cr. ; A-F or Audit; Every Fall & Spring)  
Mathematical statistics; Bayes' and maximum-likelihood estimators, unbiased estimators' confidence intervals; hypothesis testing, including likelihood ratio tests, most power tests, and goodness-of-fit tests. pre-req: STAT 3612 and STAT 4571 or 5571. A grade of C- or better is required in all prerequisite courses; no grad credit, credit will not be granted if already received for STAT 5572.

**STAT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**STAT 5411. Analysis of Variance.** (3 cr. ; Student Option; Every Fall)

Analysis of variance techniques as applied to scientific experiments and studies. Randomized block designs, factorial designs, nesting. Checking model assumptions. Using statistical computer software. prereq: 3411 or 3611; a grade of C- or better is required in all prerequisite courses

**STAT 5511. Regression Analysis.** (3 cr. ; A-F or Audit; Every Fall & Spring)

Simple, polynomial, and multiple regression. Matrix formulation of estimation, testing, and prediction in linear regression model. Analysis of residuals, model selection, transformations, and use of computer software. prereq: 3611, Math 3280 or Math 4326, a grade of C- or better in is required in all prerequisite courses

**STAT 5515. Multivariate Statistics.** (; 3 cr. ; Student Option; Fall Odd Year)

Multivariate normal distribution, MANOVA, canonical correlation, discriminate analysis, principal components. Use of computer software. prereq: 5411 or 5511, Math 3280 or Math 4326, a grade of C- or better in is required in all prerequisite courses

**STAT 5521. Applied Time Series Analysis.** (3 cr. ; A-F or Audit; Every Spring)

Characteristics of time series; time series regression and exploratory data analysis; introduction of ARIMA models, including model building, estimation and forecasting; spectral analysis and filtering. Use of statistical software R. prereq: Math 3280, Stat 3612 or 5511 or instructor consent

**STAT 5531. Probability Models.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Development of probability models and their applications to science and engineering. Classical models such as binomial, Poisson, and exponential distributions. Random variables, joint distributions, expectation, covariance, independence, conditional probability. Markov processes and their applications. Selected topics in stochastic processes. prereq: 3611, Math 1297 or Math 1597, a grade of C- or better in is required in all prerequisite courses, credit will not be granted if already received for STAT 4531.

**STAT 5571. Probability.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Axioms of probability. Discrete and continuous random variables and their probability distributions. Joint and conditional distributions. Mathematical expectation, moments, correlation, and conditional expectation. Normal and related distributions. Limit theorems. prereq: 3611, Math 3298, a grade of C- or better in is required in all prerequisite courses

**STAT 5572. Statistical Inference.** (; 4 cr. ; A-F or Audit; Every Spring)

Mathematical statistics; Bayes' and maximum-likelihood estimators, unbiased estimators; confidence intervals; hypothesis testing, including likelihood ratio tests, most powerful tests, and goodness-of-fit tests. prereq: STAT 3612 and 5571 with a grade of C- or better, credit will not be granted if already received for STAT 4572

**STAT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Student's College (SC)

**SC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

### Supportive Services Program (SSP)

**SSP 1001. Reading Hacks for College.** (; 1 cr. ; A-F or Audit; Every Fall & Spring)  
Reading Hacks for College will help maintain your focus and better manage time so you retain more information and get through academic texts faster. Based on proven learning theories, the course materials will change the way you look at reading assignments and help you develop an effective, efficient, personalized active reading system.

**SSP 1002. Managing Time and Stress.** (; 1 cr. ; A-F or Audit; Every Fall & Spring)  
This course introduces various time and stress management tools and techniques, including planning, prioritizing, minimizing procrastination, avoiding switch-tasking, and practicing mindfulness.

**SSP 1004. Studying, Note Taking, and Test Taking.** (; 1 cr. ; A-F or Audit; Every Fall & Spring)

Students will understand, analyze, and apply more effective ways to learn and retain information. Topics of focus will include: various note-taking systems, research-based study techniques, and before-during-, and after-test taking strategies.

**SSP 1050. Independent Study in Individualized Approaches to Learning.** (; 1 cr. ; Student Option; Every Fall & Spring)

This independent study provides students who are feeling challenged by the academic demands of college with an opportunity to consult with SSP faculty and to develop an individualized approach to learning in response to those challenges. Students are given the tools necessary to take ownership of their learning experience, so that they might persevere and persist in their studies at UMD.

**SSP 1052. Academic Reading and Writing at the College Level.** (; 3 cr. ; A-F or Audit; Every Fall & Spring)

This course teaches students to read and respond to texts at the college level. In a supportive and active classroom, students will develop critical thinking and rhetorical skills they can immediately apply to any activity that requires college-level reading and/or writing. Students will use these active reading strategies to deepen their understanding of a wide variety of texts. Student will also respond to these texts in multiple ways.

**SSP 1101. Personal Development.** (; 2 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to some of the components of the human personality and the relationship of the individual to the environment. Focuses on such topics as human relations, values, interpersonal skills and competencies, decision making, and conflict resolution.

**SSP 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SSP 2001. UMD Campus Tour Guide Training.** (; 1 cr. ; A-F or Audit; Every Fall & Spring)

SSP led training for new Admissions tour guides. Students learn how to be effective communicators with a wide variety of audiences, how to address sensitive topics and how to build relationships across the university in the tour guiding role. Students are informed about campus facilities, programs activities, services and policies and how to communicate these concepts to prospective students and visitors. pre-req: instructor consent

**SSP 2002. UMD Campus Tour Guide Practicum.** (; 1 cr. [max 4 cr.] ; S-N or Audit; Every Fall & Spring)

SSP led leadership and communication training for experience tour guides. Students reflect upon prior experiences to continue development as a UMD tour guide. Responsibilities will be described in a graded contract provided by course instructor. pre-req: SSP 2001 or SSP 3001 and instructor consent

**SSP 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SSP 3003. Peer Tutor Pedagogy.** (; 2 cr. ; A-F only; Every Fall & Spring)

Introduction to contemporary learning theory and its application to one-on-one and small group learning situations (tutorials). Emphasis on philosophy, procedures, and practices known to be effective in improving learning. prereq: instructor consent

**SSP 3004. Peer Tutor Practicum.** (1-2 cr. [max 6 cr.] ; Student Option; Every Fall & Spring)

Supervised practicum for students leading one-on-one and small group tutorials. Tutor responsibilities outlined in contract with instructor. prereq: 3003 or instructor consent

**SSP 3005. UMD Seminar Peer Leader Training.** (; 1 cr. ; A-F or Audit; Every Spring)

Training course designed to provide both a theoretical understanding of student development in higher education and a

practical collection of skills in working with faculty to foster this development. pre-req: minimum 2.5 GPA, instructor consent

**SSP 3006. Peer Leader Practicum for UMD Seminar.** ( ; 1 cr. [max 3 cr.] ; Student Option; Every Fall & Spring)

As the practicum component to the Teaching Assistant experience, this course provides both opportunity and context for T.A.s to implement elements of their training in order to work with first year university students. pre-req: SSP 3005 with minimum grade of B

**SSP 3010. Supplemental Instruction**

**Leadership Training.** ( ; 2 cr. ; A-F or Audit; Every Fall & Spring)  
Provides training to lead supplemental instruction (SI) sessions for SI support courses. Students develop leadership skills to lead group study sessions using the Supplemental Instruction model and learn best practices for fostering students learning. pre-req: instructor consent

**SSP 3014. Financial Peer Mentor Leadership Training.** ( ; 2 cr. ; A-F or Audit; Every Spring)

Provides training to mentor peers in financial literacy. Students develop leadership skills and learn to examine and document their understanding of individual learning, mentoring and personal finance processes and outcomes. pre-req: full time UMD student, instructor consent

**SSP 3015. Financial Peer Mentor Leadership Practicum.** ( ; 1 cr. [max 3 cr.] ; S-N or Audit; Every Fall & Spring)

Supervised practicum for student mentors wishing to continue to work with UMD's Financial Peer Mentor Program (FPMP). Mentors' responsibilities outlines in a contract with their instructor. pre-req: SSP 3014 and instructor consent

**SSP 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SSP 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**SSP 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## THEO (THEO)

**THEO 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**THEO 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**THEO 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**THEO 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**THEO 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )

Non Direct Equivalent

## THL (THL)

**THL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**THL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**THL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**THL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**THL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Theatre (TH)

**TH 1001. Introduction to Theatre Arts.** (FINE ARTS; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Appreciation of theatre arts. Developing sensitivity and critical sophistication as articulate, discriminating theatregoers. Play viewing, play reading, critiques, and term projects.

**TH 1021. Celebrities in Society.** (HUMANITIES; 3 cr. ; A-F or Audit; Every Spring)

A historical survey of celebrity icons in the performing arts, the engineered media used to market stardom, and the examination of the social, economic, and political power celebrity icons have on our culture.

**TH 1031. Introduction to Theatrical Design.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
Course will introduce students to the fundamental elements and principles of design and how they apply to the theatre experience of scenery, costumes, lighting and sound.

**TH 1041. Introduction to Technical Theatre.** (3 cr. ; A-F or Audit; Every Fall & Spring)  
This course will introduce the student to the various disciplines collectively known as technical theatre. These areas include but are not limited to, scenery construction and painting, costume construction, lighting and sound production.

**TH 1051. Introduction to Film.** (FINE ARTS; 3 cr. ; A-F or Audit; Every Spring)  
History and genres of film; how movies are made. Watching and analyzing films and developing an articulate and discerning viewpoint.

**TH 1053. Film and Society.** ( ; 3 cr. ; A-F or Audit; Every Spring)  
An examination of how films influence the moral and cultural life of our time, and how culture affects film.

**TH 1071. Musical Theatre History.** (HUMANITIES; 3 cr. ; A-F or Audit; Every Spring)

Musical theatre genre focusing on integration of theatre, music, and dance. Major librettists, composers, directors, choreographers, and performers.

**TH 1111. Introduction to Acting.** (FINE ARTS; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Developing the ability to respond to imaginative situations with sincerity, individuality, and effectiveness; projects in elementary acting techniques.

**TH 1112. Acting I.** (3 cr. ; A-F or Audit; Every Spring)  
Introduction to fundamental skills of acting: objectives, actions, given circumstances, activities. Focus on freeing natural impulses through imagination and improvisation. prereq: TH 1118 or instructor consent

**TH 1114. Music Theory and Sight Singing for the Musical Theatre Performer.** (3 cr. ; A-F or Audit; Every Fall)

This course presents the technical musical tools needed by the Musical Theatre performer to prepare the musical elements of his/her audition and/or role. It is designed to teach the performer how to read music and music terminology, musical theatre song form analysis, how to play a melody line on the piano, how to respond and communicate with a musical director and/or conductor, and how to transpose a song into another key other than its original. The courses ultimate goal is to produce a musically literate actor, and one who can self-sufficiently learn and prepare any song or harmony part, be it for an audition or a performance. prereq: Theatre BA or Theatre BFA or instructor consent

**TH 1115. Musical Theatre Singing I.** (1 cr. [max 2 cr.] ; A-F or Audit; Every Fall & Spring)  
First-year course that serves as an introduction to singing technique and interpretation for students with an emphasis in musical theatre. It will address the basic technical elements including breathing, support, practice habits, resonance, registration, placement, and performance practices. In addition, we will study a variety of beginning repertoire from the legit eras of musical theatre. This course consists of a 50-minute group voice lab and a 15-minute private diagnostic per student, per week. pre-req: Theatre BFA or instructor consent repeatable: Allow up to 2 repetitions totalling up to 2 credits.

**TH 1116. Audition Techniques I.** (2 cr. [max 3 cr.] ; A-F or Audit; Every Spring)  
Theory, technique, and application of audition skills for the actor. prereq: TH 1118 or instructor consent

**TH 1118. Voice and Movement for the Actor.** (3 cr. ; A-F or Audit; Every Fall)  
Introduction to voice and movement techniques designed to liberate, develop, and strengthen actor's body and voice. prereq: instructor consent

**TH 1199. Performance Practicum I.** ( ; 1 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Rehearsal and performance of minor role, as determined by instructor, in a play or dance performance before a public audience in UMD

Theatre productions. prereq: instructor consent repeatable: Allow up to 12 repetitions totalling up to 12 credits.

**TH 1301. Stagecraft.** (3 cr. [max 5 cr.] ; A-F or Audit; Every Spring)  
Introduction to methods of planning, constructing, painting, rigging, and shifting stage scenery. pre-req: TH 1041 or instructor consent

**TH 1312. Musical Theatre Voice Lessons.** (1 cr. [max 4 cr.] ; A-F or Audit; Every Fall & Spring)  
30-minute private lesson designed as a survey of the singing voice for the theatre addressing basic technical elements including breathing, support, practice habits, resonance, registration placement and performance practices. A variety of repertoire from all musical theatre eras will be reviewed. pre-req: Theatre BA or BFA major and instructor consent

**TH 1351. Stage Rendering Techniques.** (3 cr. ; A-F or Audit; Every Spring)  
Practical course in study of different rendering mediums, styles, and techniques for the theatrical designer. prereq: 1001 or 1801 or instructor consent

**TH 1399. Scenery and Properties Practicum.** (2 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
Practical experience constructing and painting scenery and properties for theatrical productions. (90 hrs work) prereq: Th major or minor

**TH 1401. Costume Construction I.** (3 cr. [max 5 cr.] ; A-F or Audit; Every Fall)  
Introduction to study and practice of methods and materials used in building costumes for theatrical productions. pre-req: TH 1041 or instructor consent

**TH 1451. Stage Makeup.** (3 cr. ; A-F or Audit; Every Spring)  
Introduction to principles and materials of stage makeup and their application in developing a character makeup for theatrical productions. prereq: 1001 or 1801 or Theatre Design and Production Certificate or instructor consent

**TH 1499. Costume Practicum.** (2 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
Practical experience working on costume construction and costume crafts for theatrical productions. (90 hrs work) prereq: Th major or minor

**TH 1501. Introduction to Lighting and Sound.** (3 cr. [max 4 cr.] ; A-F or Audit; Every Fall)  
The study of the methods and practices used in the design, installation, and implementation of lighting and sound for theatrical productions. pre-req: TH 1041 or instructor consent

**TH 1551. Sound Design.** (3 cr. ; A-F or Audit; Spring Odd Year)  
Principles and practice of choosing, editing, and running sound cues for theatrical productions. prereq: 1001 or 1801 or instructor consent

**TH 1599. Lighting/Sound Practicum.** (1 cr. [max 3 cr.] ; A-F or Audit; Every Fall & Spring)

Practical experience working on lighting and sound for theatrical productions. (45 hrs work) prereq: Th major or minor or Theatre Design & Production Certificate

**TH 1601. Stage Management.** (3 cr. ; A-F or Audit; Spring Even Year)  
Theory and practice of stage management techniques applicable to a variety of theatre forms and situations.

**TH 1699. Running Crew Practicum.** (2 cr. [max 16 cr.] ; A-F or Audit; Every Fall & Spring)  
Practical experience working backstage during the run of theatrical productions. (90 hrs work) prereq: instructor consent

**TH 1801. Elements of Theatre.** (3 cr. ; A-F or Audit; Every Fall)  
Intensive study in rudimentary theatre vocabulary, research methods, principles of play production, preproduction script analyses, performance criticism, and postproduction assessment. Play viewing, play reading, critiques, and term projects. prereq: th major

**TH 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**TH 2112. Acting II: American Realism.** (3 cr. ; A-F or Audit; Every Fall)  
Continuation of acting with a concentration on American realism, characterization, and living truthfully in the moment. Students are expected to have the following: TH 1112, 1116, Theatre BFA, and BFA mainstage audition requirements. prereq: TH 1112 and 1116 or instructor consent

**TH 2113. Acting III: Shakespeare.** (3 cr. ; A-F or Audit; Every Spring)  
Acting Shakespearean text, with an emphasis on scansion, verse, and imaging. Continued focus on objectives, actions, given circumstances, and imagination. Students are expected to have the following: TH 2112 and the BFA mainstage audition requirements. prereq: instructor consent

**TH 2114. Acting: Musical Theatre.** (3 cr. ; A-F or Audit; Every Spring)  
Application of theories and techniques of musical theatre performance. Students are expected to have the following: TH 2112 and Theatre BFA. prereq: instructor consent

**TH 2115. Musical Theatre Singing II: The Modes.** (1 cr. [max 2 cr.] ; A-F or Audit; Every Fall & Spring)  
Private singing lessons (45 minutes each week) designed specifically for the second year Theatre BFA Acting and Musical Theatre students. Emphasizing the song modes utilized for the Broadway musical theatre stage. Students are expected to have the following: TH 1112 and Theatre BFA. pre-req: instructor consent repeatable: Allow up to 2 repetitions totalling up to 2 credits.

**TH 2118. Speech for the Actor.** (3 cr. ; A-F or Audit; Every Fall)  
Ear training and articulation (in anticipation of dialects); acquisition of nonregional dialect for the stage through use of phonetics and

classical texts. Students are expected to have the following: TH 1112, TH 1116, TH 1118, and Theatre BFA. prereq: instructor consent

**TH 2119. Stage Accents.** (3 cr. ; A-F or Audit; Every Spring)  
Facilitates actor's acquisition and performance of stage dialects. Students are expected to have the following: TH 2112, TH 2118 and Theatre BFA. prereq: instructor consent

**TH 2399. Production Practicum II.** (1 cr. [max 4 cr.] ; A-F or Audit; Every Fall & Spring)  
Practical experience working in technical areas of theatrical production, providing management and leadership in all areas of theatre production. prereq: 1301 or 1401, instructor consent

**TH 2400. Survey of the History of Costume.** (3 cr. ; A-F or Audit; Spring Even Year)  
Course will explore the history of costume from ancient civilization through the 19th century. prereq: TH 1031 or instructor consent

**TH 2451. Hair and Wig Styling Techniques for the Theatre.** (3 cr. [max 6 cr.] ; A-F or Audit; Spring Odd Year)  
This course is designed to explore techniques for styling actors' hair and wigs for specific hairstyles required in theatrical production. prereq: TH 1041 or instructor consent repeatable: Allow up to 2 repetitions totalling up to 6 credits.

**TH 2801. Play Analysis: Dramatic Theory and Theatre Research.** (3 cr. ; A-F or Audit; Every Fall)  
Exploring how to analyze a play from the perspective of those preparing for the production process. Beginning with play structure and theory, the course will examine plays form various periods and styles, using different perspectives to frame the analysis. Student will write analysis papers, learn to do research on various topics from several creative perspectives, and engage in classroom discussions. prereq: 1001 or 1801

**TH 2841. The Theatre Experience.** (3 cr. ; A-F or Audit; Spring Even Year)  
Course provides students with opportunities to explore various approaches to theatre-making by studying the methods and missions of influential contemporary theatre companies, and seeing their work in productions. Emphasis will be placed on how such collectives define their work, communicate with audiences, and further theatre practices in the US and around the world by focusing on theatre as a commercial enterprise, artistic expression, and/or mode of cultural communication.

**TH 2851. Film History.** (3 cr. ; A-F only; Every Spring)  
Survey of American and international cinema from 1870s to present day, with special focus on filmmakers, genres, and styles. prereq: soph or instructor consent

**TH 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**TH 3111. Introduction to Scene Study.** (3 cr. ; A-F or Audit; Every Spring)

Continuation of 1111. Development of acting skills beyond the fundamental level for non-BFA theatre majors. Project work emphasis on characterization and contemporary scene study. prereq: 1111 or 1112 or instructor consent; not open to BFA th majors

**TH 3112. Acting IV: Improvisation.** (3 cr. ; A-F or Audit; Every Fall)

Freeing the actor's natural impulses through in-depth, hands-on exploration of improvisational theatre. Emphasis placed on actor's learning to create without fear. Students are expected to have the following: TH 1112, TH 1116, TH 1118, and 60 credits. prereq: instructor consent

**TH 3114. Musical Theatre Repertoire.** (1 cr. ; A-F or Audit; Every Fall)

This course enables third year Theatre BFA-Musical Theatre students to discover, research, and perform musical theater repertoire. In addition, students will explore the concepts of type and brand within the business of professional musical theatre. This course will also address style within performance practice, including historical context, value systems, relationship, fashions, and vocal stylings. Students are expected to have the following: TH 1114, TH 2114, and Theatre BFA-Musical Theatre. prereq: instructor consent

**TH 3115. Musical Theatre Singing III.** (1 cr. [max 2 cr.] ; A-F or Audit; Every Fall & Spring)  
Private study (45 minutes each week) of the singing voice for the musical theatre actor. The focus will be on the exploration and execution of vocal styles found in musical theatre for the singing actor. Designed to be taken in the third year of study for the Theatre BFA-Musical Theatre student. Students are expected to have the following: TH 2115 and Theatre BFA-Musical Theatre. pre-req: instructor consent repeatable: Allow up to 2 repetitions totalling up to 2 credits.

**TH 3118. Voice Release.** (1 cr. ; S-N or Audit; Every Spring)

The course will focus on the actor's ability to free the vocal instrument during the phonation demands of training, warm-ups, and performance, and will be dedicated to the further development of the vocal instrument's freedom, power, range, and flexibility through the study of resonance, projection, and the ability to 'sense' physical sound. Students are expected to have the following: TH 1118, TH 2118, and Theatre BFA. prereq: instructor consent

**TH 3151. Stage Combat/Circus.** (3 cr. ; A-F or Audit; Every Fall)

Intensive study of techniques and principles of stage combat focusing on armed (rapier/dagger/broadsword) and unarmed combat. Physical development through various circus skills: juggling, tumbling, and balancing. Students are expected to have the following: TH 2113 and Theatre BFA. prereq: instructor consent

**TH 3199. Performance Practicum II.** (2 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Rehearsal and performance of major role, as determined by instructor, in a play or dance before a public audience of UMD

Theatre productions. prereq: instructor consent repeatable: Allow up to 6 repetitions totalling up to 12 credits.

**TH 3201. Stage Direction.** (3 cr. ; A-F or Audit; Every Fall, Spring & Summer)  
Comprehensive, portfolio approach focusing on interpretive role of director in contemporary theatre. Major tasks facing director as collaborator; lecture, written assignments, workshops, and projects. prereq: 1111 or 1112, 60 cr, Th major or minor or instructor consent

**TH 3218. Acting V: Physical Theatre.** (2 cr. ; A-F or Audit; Every Spring)

This course will explore theatrical character, collaboration, and storytelling with a focus on corporeal expression. Students are expected to have the following: TH 1118 and 60 credits. prereq: instructor consent

**TH 3301. Stagecraft II.** (3 cr. [max 9 cr.] ; A-F or Audit; Spring Odd Year)

This course will explore construction techniques such as metal working and finish carpentry. These skills are needed for anyone interested in pursuing a job in the field of scenery and/or properties construction. prereq: TH 1301 repeatable: Allow up to 3 repetitions totalling up to 9 credits.

**TH 3331. Scenic Design I.** (3 cr. ; A-F or Audit; Every Spring)

Elements of design used in creation of scenery for theatre. prereq: 1301 or instructor consent

**TH 3341. Properties Construction.** (3 cr. [max 6 cr.] ; A-F or Audit; Spring Even Year)  
Course looks at the specialized techniques and methods used in the construction of stage properties. Major focus will be placed on the areas of metalworking, casting, carving, furniture construction, and upholstery. Explore research techniques in period, style, and chronology. prereq: 1301

**TH 3351. Theatrical Drafting.** (3 cr. ; A-F or Audit; Every Fall)

Principles and practice in techniques of drafting traditional and nontraditional types of stage scenery. prereq: 1301

**TH 3352. Stage Rendering Techniques II.** (3 cr. ; A-F or Audit; Spring Odd Year)  
Practical course in study of different rendering mediums, styles, and techniques for the theatrical designer. Continuation of TH 1351. prereq: 1351

**TH 3355. Computer-Aided Theatrical Design.** (3 cr. ; A-F or Audit; Spring Even Year)

Computer-aided drafting and design with technical applications to scenic design, lighting design, and technical direction. prereq: TH 3351 or instructor consent

**TH 3371. Scene Painting.** (3 cr. ; A-F or Audit; Fall Even Year)

Advanced work in use of both traditional and modern methods of painting stage scenery emphasizing practical lab work. (2 hrs lect, 2 hrs lab) prereq: 1301

**TH 3375. Mechanical Design for Stage.** (3 cr. ; A-F or Audit; Spring Even Year)

The course looks at how mechanical design principles are applied to common stage effects. Topics covered will include theatrical rigging, understanding forces and loads, material selection, fluid power mechanics, winches and motors. prereq: TH 1301 or instructor consent

**TH 3399. Production Practicum III.** (2 cr. [max 8 cr.] ; A-F or Audit; Every Fall & Spring)  
Practical experience working in technical areas of theatrical production, providing management and leadership in all areas of theatre production. prereq: TH 1699 and instructor consent

**TH 3401. Costume Construction II.** (3 cr. ; A-F or Audit; Spring Even Year)

Advanced principles and practices of costume construction techniques emphasizing pattern drafting and draping and a study of advanced craft techniques. prereq: TH 1401 or instructor consent

**TH 3441. Costume Design I.** (3 cr. ; A-F or Audit; Every Fall)

Principles and practice of costume design with emphasis on designing and rendering costumes from various historical periods. prereq: TH 1031 or 1401 and TH 1001 or 1801 or instructor consent

**TH 3501. Advanced Digital Technology for the Theatre.** (3 cr. ; A-F or Audit; Spring Even Year)

Advanced techniques of computer technology for theatre production including operation and functionality of digitally controlled equipment for lighting, sound and stage equipment. prereq: 1301 or instructor consent

**TH 3699. Production Management.** (2 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Participation in management and leadership in all areas of theatre production. (90 hrs work) prereq: instructor consent

**TH 3851. Screenwriting.** (3 cr. ; A-F or Audit; Every Fall)

Introduction to and practice in fundamentals of screenwriting. Dialogue, character, structure, story development, writing for a visual medium, formatting. prereq: instructor consent

**TH 3871. Playwriting.** (FINE ARTS; 3 cr. ; A-F or Audit; Spring Even Year)

Instruction and practice in fundamentals of playwriting, including dialogue, character, and scenario development; traditional and experimental formal structures; emphasizes theatre format with peripheral screenplay information. prereq: WRIT 1120

**TH 3991. Independent Study in Theatre.**

(1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall & Spring)  
Directed readings and projects arranged between student and faculty mentor. prereq: instructor consent; undergrads max 6 cr in 3991 and 5991 combined

**TH 3995. Special Topics: (Various Titles to be Assigned).** (1-3 cr. [max 9 cr.] ; A-F or Audit; Periodic Fall, Spring & Summer)

Intensive study of special topics falling outside usual theatre or dance courses. Topic

announced before course offered. prereq: Instructor consent

**TH 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**TH 4112. Acting VI: Scene Study.** (3 cr. [max 6 cr.] ; A-F or Audit; Spring Even Year)  
Concentrated exploration of realistic acting through use of scene study and other text work, with special focus on scenes and characters dealing with heightened emotions and situations. Students are expected to have the following: TH 3112, Theatre BFA, and BFA mainstage audition requirements. prereq: instructor consent repeatable: Allow up to 2 repetitions totalling up to 6 credits.

**TH 4113. Acting VII: Period Styles.** (2 cr. ; A-F or Audit; Every Fall)  
Study and practice of acting in plays from selected periods prior to the 20th century. Themes may include Greek, Roman, Restoration, and Georgian periods. Students are expected to have the following: TH 3112, Theatre BFA, and BFA mainstage audition requirements. prereq: instructor consent

**TH 4115. Musical Theatre Singing IV: Transition Into the Profession.** (1 cr. [max 2 cr.] ; A-F or Audit; Every Fall & Spring)  
Private study (45 minutes each week) of the singing voice for the musical theatre actor. Designed as a capstone course to be taken in the fourth year of study for the Theatre BFA-Musical Theatre student. The focus will be on the transition from formal training to professional application in the business of musical theatre for the singing actor. Students are expected to have the following: TH 3115, Theatre BFA, and BFA mainstage audition requirements. prereq: instructor consent repeatable: Allow up to 2 repetitions totalling up to 2 credits.

**TH 4116. Audition Techniques II.** (1 cr. ; A-F or Audit; Every Fall)  
Preparation for the actor entering the work force. The student will establish a repertoire of prepared audition monologues as well as develop advanced skills in cold readings. The student will also develop self-marketing skills. Students are expected to have the following: TH 3112, Theatre BFA, and BFA mainstage audition requirements. prereq: instructor consent

**TH 4171. Acting VIII: Acting for the Camera.** (3 cr. ; A-F or Audit; Every Spring)  
Contemporary acting adjustments necessary for film, television, and commercials. Students are expected to have the following: TH 4113, TH 4116, Theatre BFA, and BFA mainstage audition requirements. prereq: instructor consent

**TH 4300. Theatre History in England.** (GLOBAL PER; 4 cr. ; A-F or Audit; Periodic Summer)  
This short-term study abroad course will explore Shakespeare's theatre world in London and his birthplace in Stratford-upon-Avon, allowing students to experience, first-hand, how Shakespeare's plays were shaped by

his environment in his own day, and how they were modified, adapted, and marketed over the next four centuries. By attending performances at modern reconstructions of the Globe and Blackfriars, students will see how Shakespeare wrote his plays to capitalize on the strengths (and minimize the limitations) of the physical theatre. Students will also tour the areas where Shakespeare lived and worked, such as Southwark and Blackfriars, and visit historic landmarks, such as The Tower, Westminster Abbey, and the Inns of Court, that figure prominently in his plays. A side-trip to Stratford-upon-Avon will help students better understand his upbringing—they will visit his birthplace and grammar school—and also see where he returned to retire early, live extravagantly, and die. Stratford-upon-Avon is also the home of the Royal Shakespeare Company, the world-famous acting troupe devoted to promoting Shakespeare's works. A principal focus of this course is to consider why Shakespeare is more popular today than he has ever been. Seeing Shakespeare performed by a range of actors (A-list to amateur), in a variety of theatres (West End to fringe), in a range of dramatic styles (period performance to avant-garde) will bring to life how Shakespeare is transformed from the page to the stage, how his works have been suited to changing tastes across the centuries, and why, despite the challenges posed by the language and subject matter of his plays, he continues to have a commanding presence in theatres and classrooms across the world. pre-req: instructor consent; also visit the UMD Study Abroad office

**TH 4331. Scenic Design II.** (; 3 cr. ; A-F or Audit; Fall Odd Year)  
Advanced study in creating scenic designs for a variety of theatrical forms, including musical comedy, opera, dance, and legitimate theatre. prereq: 3331

**TH 4351. Portfolio Preparation and Presentation.** (3 cr. ; A-F or Audit; Every Fall)  
Capstone course utilizes presentation of student's work in technical theatre/design to assess design/technical skills. Analysis of portfolio, job applications, resume development, and portfolio development techniques. prereq: instructor consent; no grad credit

**TH 4371. Scene Painting II.** (3 cr. ; A-F or Audit; Fall Even Year)  
This course will explore advanced techniques in theatrical painting, dimensional texture and surface treatment. prereq: 3371; no grad credit

**TH 4399. Theatre: Special Projects.** (2 cr. [max 12 cr.] ; A-F or Audit; Every Fall & Spring)  
Projects in directing, choreography of individual or groups, or designing of costumes, lighting, scenery, or sound. prereq: instructor consent

**TH 4441. Costume Design II.** (3 cr. ; A-F or Audit; Spring Odd Year)  
Advanced principles and practice of costume design with emphasis on designing and rendering costumes from various historical periods. prereq: 3441 or instructor consent

**TH 4501. Advanced Stage Lighting.** (3 cr. ; A-F or Audit; Spring Odd Year)

Advanced theories and techniques used in designing lights for traditional and nontraditional theatre works. prereq: 1301 or instructor consent; no grad credit

**TH 4801. History of the Theatre I.** (HUMANITIES; 3 cr. ; A-F or Audit; Every Fall)  
Survey of selected styles, theories, performance, and production techniques of world theatre from theoretical origins to the present. prereq: TH 2801 or instructor consent

**TH 4802. History of the Theatre II.** (3 cr. ; A-F or Audit; Every Spring)  
Seminar exploring the style, theory, performance, and production techniques of selected eras or traditions in world theatre from theoretical origins to present. prereq: 4801 or instructor consent

**TH 4841. Creative Collaboration.** (3 cr. ; A-F or Audit; Spring Odd Year)  
An advanced course in which students work collaboratively to develop original performance pieces from concept to production. The practice-based class will focus on alternative approaches to storytelling, using the theories and methodologies of physical and devised theatre, as well as theatre as social activism. Students work independently to create fully-staged productions. prereq: 2841 or instructor consent; no grad credit; credit will not be granted if already received for TH 2831

**TH 4901. Intern Teaching in Theatre.** (3 cr. [max 9 cr.] ; A-F or Audit; Every Fall & Spring)  
Practical experience teaching beginning courses in department. Students serve as intern teachers, assisting instructor in administration of course. prereq: instructor consent, no grad credit

**TH 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**TH 5991. Independent Study in Theatre.** (1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Directed, advanced readings and projects arranged between student and faculty mentor. prereq: Sr, department approval; undergrads max 6 cr in 3991 and 5991 combined

**TH 5997. Internship in Professional Theatre.** (1-12 cr. ; S-N or Audit; Every Fall, Spring & Summer)  
Internship with a cooperating professional, commercial, or repertory theatre. prereq: department approval; 1 cr for each 45 hrs work

**TH 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Transfer Pseudo Courses (TRNS)

**TRNS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**TRNS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent



**TRNS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**TRNS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**TRNS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Tribal Admin and Governance (TAG)

**TAG 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**TAG 2801. Introduction to Tribal Administration and Governance.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course will provide an overview of tribal administration and governance. It will introduce students to principles of tribal sovereignty, tribal self-determination, and self-governance. Students will learn the significance of tribal constitutions, tribal jurisdiction and tribal laws. Students will be introduced to the interaction of federal, state, and tribal governments and how these interactions impact the governance of Native Nations. Students will be introduced to a variety of tribal government systems, and some common practices and problems in the administration of a tribal government. pre-req: TAG major

**TAG 2820. Foundations of Indigenous Leadership.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Foundations of Indigenous Leadership includes a historical survey of Indigenous leaders with special emphasis on the Great Lakes region. In addition, students will explore and examine their leadership qualities, identify strengths, and develop leadership goals. pre-req: TAG major

**TAG 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**TAG 3206. Federal Indian Policy.** (CDIVERSITY,SOC SCI; 3 cr. ; A-F only; Periodic Fall & Spring)  
Examination of the formulation, implementation, evolution, and comparison of Indian policy from pre-colonial to self-governance. Introduces students to the theoretical approaches structuring research of federal Indian policy, views, and attitudes of the policy-makers and reaction of indigenous nations. Discussion of the policies and the impact related to those policies. pre-req: minimum 30 credits and TAG major

**TAG 3230. American Indian Tribal Government and Law.** (CDIVERSITY,SOC SCI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
American Indian tribal governments and leadership, historically and today, have aimed at the promotion and protection of the nation, overseen domestic and foreign affairs, and provided for the basic needs and

desires of their citizens. This course provides students a general background of the history, development, structure, and politics associated with indigenous governments, analyzing how these institutions have been modified to meet ever-changing internal needs and external pressures. pre-req: minimum 30 credits and TAG major

**TAG 3810. Fundamentals of Tribal Strategic Management.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course examines the theory and practice of strategic planning and management for tribal governments, public agencies, nonprofit organizations, collaborations, and tribal communities. pre-req: TAG major

**TAG 3820. Fundamentals of Tribal Project Management.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course covers the processes of project management based upon the Project Management Institute (PMI) standards and knowledge areas. By the completion of the course, students will be able to demonstrate knowledge of project management terms and techniques such as: the triple constraint of project management and project management knowledge areas. They will also have have the tools and techniques of project management such as: selection methods; work breakdown structures; Gantt charts, network diagrams, critical path analysis; cost estimates; earned value management; and motivation theory and team building. pre-req: TAG major

**TAG 3997. Internship in American Indian Studies.** (; 4 cr. [max 8 cr.]; S-N only; Every Fall, Spring & Summer)  
Supervised experience in a workplace relevant to a student's academic and career interests; work plan and assignments must be approved by instructor. pre-req: Tribal Administration & Governance major, completion of at least 90 credits and instructor consent

**TAG 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**TAG 4230. Introduction to Federal Indian Law.** (CDIVERSITY,SOC SCI; 3 cr. ; A-F only; Periodic Fall & Spring)  
Federal Indian law has had a profound effect on our lives, liberties, and properties of indigenous peoples. At times, U.S. policy and Supreme Court ruling have worked to protect aboriginal rights, while at other times they have had devastating consequences. This course examines the role of the U.S. Supreme Court as a policy-making institution in their dealings with Indigenous nations, requiring us to ask about the origins of federal judicial power and their application indigenous peoples. pre-req: TAG major and minimum 60 credits; credit will not be granted if already received for AMIN 3333

**TAG 4250. American Indian Diplomacy: Treaties, Compacts, and Agreements.** (GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Indigenous Nations have long engaged in diplomatic arrangements with one another,

foreign nations, colonial/state governments, and the United States. Such political engagements affirm the inherent sovereignty of First Nations, recognizing the distinctive rights and power unique to Native peoples and were used to forge friendships, end wars, cede lands and resources, create reservations, and reserve hunting and fishing rights. This course examines the history of First Nations treaty making, the legal and political status of Indian treaties and agreement, the ambiguities and problems in indigenous-state diplomacy and treaty litigation. pre-req: TAG major and minimum 60 credits

**TAG 4810. Business Processes in Tribal Administration.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course examines fundamental business "best practices" in accounting, economics, operations, organizational management, statistics, financial management, marketing, and human resources within the specific context of Tribal enterprises and government. pre-req: TAG major

**TAG 4840. Current Issues and Opportunities in Tribal Administration and Governance.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course will explore contemporary issues, challenges, and opportunities for tribal governments and consider innovative administrative/governance approaches. The significance of how external decisions by the federal or state government might impact tribal decision making will be examined. pre-req: Tribal Administration & Governance major

**TAG 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**TAG 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Tribal Resource & Env Steward (TRES)

**TRES 5100. Foundations of Indigenous Environmental Systems and Worldviews (Bioregionalism).** (; 3 cr. ; A-F or Audit; Every Fall)

This introductory course explores environmental resources, practices, and stewardship from tribal perspectives. A variety of instructional experiences including sharing circles, guest lectures and field study introduce students to related Indigenous knowledge, management systems and stewardship practices. The current needs of tribal communities are examined through studying the idea of Native scholars, traditional teachers and environmental activists. pre-req: admission to MTRES program or instructor consent

**TRES 5101. Tribal Natural Resource Program Management 1.** (; 3 cr. [max 6 cr.]; A-F or Audit; Every Fall)  
This course is the first in a series of two that will examine topics and issues that a natural resource manager will face in the

day-to-day operation of a comprehensive tribal natural resource and environmental management program in Indian Country. These courses will provide an overview of a tribal natural resources director's basic functions and responsibilities, the types of programs and projects that tribal natural resources department might implement, the agencies and other sources that provide funding and the knowledge and skills that a director will need to operate an overall successful program. These courses will be taught from a practical, on-the-ground perspective to facilitate an understanding of the realities and typical circumstances that a tribal natural resource program director encounters. pre-req: admission to MTRES program or instructor consent

**TRES 5102. Tribal Natural Resource Program Management 2.** ( ; 3 cr. ; A-F or Audit; Every Spring)

This second course in tribal natural resource management will delve into greater detail on many of the topics covered in the first course and focus on case studies and evaluation of day operation of a comprehensive tribal natural resource and environmental management program in Indian Country. This course will address aspects of intergovernmental relations with other tribes and with federal, state, local and other agencies. pre-req: TRES 5101

**TRES 5201. Integrated Ecosystems Stewardship 1.** ( ; 3 cr. ; A-F or Audit; Every Spring)

This course is the first in a series of two that will provide the student with the understanding of the biological, chemical, and physical processes necessary to support Native American ways of life in balance with pressures of economic development. The course emphasizes practices that will provide sustainable subsistence foods and medicines for tribal member harvest and to support cultural activities. An integrated natural resource management approach will be used to discuss the reasons why clean air, water, and land are required to support a healthy environment, which in turn supports a healthy human population. Specific topics in this course may include geological setting, surface water and groundwater interaction, physical environment of lakes and streams, aquatic food webs, biodiversity, fisheries management, wild rice management, assessment of water quality trends, carrying capacity, environmental regulations and standards. Concepts of mineral stewardship on tribal lands will also be explored. This includes principles of the occurrence, extraction, and processing. pre-req: Admission to MTRES program or instructor consent

**TRES 5202. Integrated Ecosystems Stewardship 2.** ( ; 3 cr. ; A-F or Audit; Every Fall)

This course is the second in a series of two that will provide the student with the understanding of the biological, chemical, and physical processes necessary to support Native American ways of life in balance with pressures of economic development. Specific

topics in this course may include wildlife management, range management, land use planning, terrestrial food webs, sustainable agriculture/forestry practices, assessment of air quality, biodiversity, and land use planning. Concept so energy stewardship on tribal lands will be explored. Carbon-based energy resources, with emphasis on coal and petroleum/gas; fundamentals of nuclear energy; technology of extraction, production, refinement, consumption, and byproduct treatment/disposal; importance of carbon-based energy in global industrialization; limits of population growth imposed by energy requirements? principles and associated technologies of renewable energy and energy conversion, with focus on solar, geothermal, tidal, and biofuel energy resources. pre-req: TRES 5201

**TRES 5301. Tribal Natural Resource Economics.** ( ; 3 cr. ; A-F or Audit; Every Fall)

Through consideration of multiple perspectives regarding value and exchange, this course pursues micro- and macroeconomic analyses of natural resources under tribal stewardship. Key topics can include modes of valuation, resource markets, sustainability, pollution control, benefit-cost analysis, air and water quality, waste management, and conservation. pre-req: admission to MTRES program or instructor consent

**TRES 5400. Directed Project Seminar.** ( ; 1 cr. ; A-F or Audit; Every Fall)

This course provides students an opportunity to plan for their directed project and receive feedback on written and oral communication skills. Students plan and submit the directed project for approval as part of this course. pre-req: TRES 5102, admission to MTRES program or instructor consent

**TRES 5994. Tribal Natural Resource Stewardship Directed Project.** ( ; 3 cr. ; S-N only; Periodic Fall, Spring & Summer)  
Tribal Natural Resource Stewardship Directed Project pre-req: MTRES student

## Undergraduate Summer Research (UGRD)

**UGRD 4999. Undergraduate Summer Research.** ( ; 0 cr. ; No Grade Associated; Every Summer)  
Undergraduate Summer Research

## University College (UC)

**UC 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**UC 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**UC 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**UC 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**UC 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## University Studies (UST)

**UST 1000. Learning in Community.** ( ; 1-2 cr. ; A-F or Audit; Every Fall & Spring)  
Facilitates the successful transition into college learning and student life at UMD. Credit will not be granted if already received for EHS 1000.

**UST 1001. Undesignated University Course.** (0.5-6 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Undesignated University transfer course

**UST 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**UST 2001. Undesignated University Course.** (0.5-6 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Undesignated University transfer course

**UST 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**UST 3001. Undesignated University Course.** (0.5-6 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Undesignated University transfer course

**UST 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**UST 4001. Undesignated University Course.** (0.5-6 cr. ; Student Option; Periodic Fall, Spring & Summer)  
Undesignated University transfer course

**UST 4916. Research Study Abroad Preparation.** (4 cr. ; A-F only; Periodic Fall & Spring)

This course provides students with the preparatory work necessary to conduct research abroad. The course is designed to prepare students to conduct research abroad via the development of a research proposal, cultural and language preparation for the host country, and establishing connections with faculty mentors both at UMD and the host country to support the research project. UST 4916/4917 comprise the Research Abroad Program at UMD. Students will be expected to write a final research paper. Students will be accepted via an application process. See instructor for details. pre-req: instructor consent

**UST 4917. Research Abroad Practicum - Study Abroad.** (GLOBAL PER; 6 cr. ; A-F only; Periodic Summer)  
Study Abroad. This course provides credit for six-week directed research abroad part of the Undergraduate Research Study Abroad (URSA) program. Students enrolled in the course, will be working with UMD faculty and an URSA advisor to conduct on-site research in their chosen field. Students will also take part in weekly meetings with local faculty, weekly meetings with the UM faculty advisor, attend cultural seminars and excursions and

provide weekly updates on their research. pre-req: UST 4916, instructor consent. Students will be approved only after the application and interview process and the subsequent successful completion of UST 4916. No grad credit.

**UST 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**UST 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Urban Studies (US)

**US 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**US 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**US 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**US 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**US 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Urban and Regional Studies (URS)

**URS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**URS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**URS 3097. Internship.** (3 cr. [max 6 cr.] ; S-N only; Every Fall, Spring & Summer)  
Practical experience in some field of urban and regional studies work, under direction of a faculty adviser and a work-site adviser. pre-req: instructor consent

**URS 3991. Independent Study.** (1-3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)  
For students interested in doing advanced work in the area of urban and regional studies. pre-req: instructor consent

**URS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**URS 4001. Cities and Citizenship.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)  
This course explores the relationship between urbanization and democracy by examining how urban policy is created in cities around the world. The course examines the questions given the increasing pace of urban growth and the growing multiculturalism in cities around the world, how are cities responding, and how are community voices being included in the decision making process? Particular attention

will be paid to infrastructure, transportation, participatory democracy, sustainability and urban resiliency, urban activism, tensions between the urban, national, and global scales, multiculturalism, and modernization. no grad credit

**URS 4910. Teaching Assistantship.** (1-3 cr. [max 6 cr.] ; S-N only; Periodic Fall, Spring & Summer)  
Practical experience in teaching beginning courses in the program. Students serve as intern teachers assisting the instructor with the administration of the course. pre-req: instructor consent

**URS 4999. Honors Project.** (1-3 cr. [max 4 cr.] ; A-F only; Periodic Fall, Spring & Summer)  
Advanced individual project in any area of urban and regional studies demonstrating sound theoretical and research foundations and resulting in a written report or other expression of scholarly production. pre-req: instructor consent

**URS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**URS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## WOST (WOST)

**WOST 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**WOST 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**WOST 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**WOST 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**WOST 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Water Resources Science (WRS)

**WRS 5050. Special Topics in Water Resources Science.** (1-3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Special topics in Water Resources Science

**WRS 5101. Water Policy.** (3 cr. ; A-F or Audit; Every Fall)  
Socio-cultural, legal, and economic factors that affect water resources management. Historical trends in water policy, resulting water laws in the United States. Federal state and local institutional structures for water management. pre-req: Grad student or instructor consent; credit will not be granted if already received for CE 5201

## Women's Studies (WS)

**WS 1000. Introduction to Women's and Gender Studies.** (SOC SCI,CDIVERSITY; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Introduction to discipline of Women's Studies - key concept, issues, and debates. Examination of the interaction of gender with class, race, ethnicity, sexual orientation, ability, and geographic location; and the way each of these is socialized. Examination of historical and current national and transnational issues as they relate to women and gender, and of the institutions that shape and impact women and gender roles and relations, including academia. Critical analysis skills.

**WS 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**WS 2001. Introduction to Lesbian Gay Bisexual and Transgender Studies.** (CDIVERSITY; 4 cr. ; A-F or Audit; Periodic Fall)  
Examines identity politics, LGBT popular media images and analysis, birth and history of LGBT social movement and intersections with other social movements, HIV/AIDS, policy/legislative issues especially immigration, marriage, adoption, and U.S. military policy; all with international comparative analysis. pre-req: credit will not be granted if already received for CST 2001

**WS 2101. Women, Race, and Class.** (CDIVERSITY,SOC SCI; 3 cr. ; A-F or Audit; Every Fall & Spring)  
Racism, sexism, and classism are major factors which have influenced human relations from past to present. This course examines how the social-historical construction of race, class and gender continues to affect the experience of all people in particular people of color. This course seeks to enable students to understand the processes through which these social oppressions are created, normalized, internalized, maintained and perpetuated. A core element to this course is provoking students to recognize their own contribution in perpetuating oppressive systems, and their responsibility creatively to develop individual and collective acts of resistance to all of the "isms" and to societal transformation towards the just society.

**WS 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**WS 3000. Transnational Perspectives on Feminism.** (GLOBAL PER,SOC SCI; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Examination of feminist movements worldwide. Focuses on feminist theories and research, and feminist non-governmental organization in a transnational perspective, and specifically on the effects of and resistance to such realities as racism, neo-colonialism, nationalism, imperialism, militarization, globalization, poverty, war, reproductive control, and violence against women in its many manifestations. pre-req: 1000 or 2101 or instructor consent

**WS 3001. Gender Relations in the Global South.** (GLOBAL PER; 3 cr. ; A-F or Audit; Every Fall & Spring)

Using comparative historical, political, socioeconomic and feminist perspectives this course critically examines how factors such as colonialism, imperialism, and globalization continue to impact, construct, and reconstruct gender relations in post-colonial cultures with adverse consequences for women in Third World countries. It also examines how conditions in Third World countries are shaped by global economic systems, which lead to massive migrations of Third World women into the United States. It critically evaluate the concepts of universal subordination, particularly, a consciousness which categorizes women in the Global South as "overall victims," the other, or exotic.

**WS 3002. Latin American Women: Culture and Politics.** (3 cr. ; A-F or Audit; Periodic Spring)

Examination of contemporary economic and socio-political issues affecting Latin American women. prereq: 1000 or 2101 or instructor consent

**WS 3080. Cultural Constructions of the Body.** (4 cr. ; A-F or Audit; Every Fall & Spring)

Contemporary cultural constructions of the human body. How biology and culture intersect in body building, menstruation, childbirth, and tattooing. Students gain skills in reading the body as social text and learn core theoretical approaches to cultural studies of the body. prereq: minimum 30 credits or instructor consent

**WS 3100. Feminist Thought.**

(CDIVERSITY,HUMANITIES; 4 cr. ; A-F or Audit; Every Fall)  
Examination and analysis of central ideas and concepts within diverse feminist theories - liberal, socialist, radical, multicultural, postcolonial, ecofeminist, lesbian, maternalist, and others - historical and contemporary. Theoretical debates surrounding issues of the bases of women's liberation and oppression; the nature and construction of gender, sexuality, and the body; feminist epistemologies; and ethical issues within feminism. prereq: 1000 or 2101, 45 cr or instructor consent

**WS 3150. Women-Identified Culture.**

(CDIVERSITY; 3 cr. ; A-F or Audit; Every Spring)  
Chronological survey introducing a relatively new body of knowledge in women's studies about lesbian cultures. Lesbian studies in literature, history, law, sociology, aesthetics, and philosophy; international perspectives.

**WS 3156. Feminist Research Methods Across Disciplines.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

This course seeks to assess knowledge-generating strategies, analysis and gendering of methods, how methods impact outcomes and develop critical awareness in doing research. This interdisciplinary course provides opportunities to practice and understand the advantages and disadvantages of multiple research methods; how research is positioned within the intersectionality of social, cultural,

historical and political contexts that conditions the process of knowledge formation; and what makes a research feminist, queer, postcolonial, postmodern, and anti-racist.

**WS 3200. Women's Autobiographies.**

(GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Women's self-concepts as expressed in autobiographical writings. Meanings women give their lives as women; impact of race and class; choices for artistic, political, intellectual, and/or private lives. Autobiographical techniques and style.

**WS 3250. Women, Peace and War.**

(GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Feminist analysis of war and peace; debates regarding the gendered nature of war and peace; analysis of the interrelationships of patriarchy, masculinity, and militarism. Women's role in warfare as soldiers, mothers, wives, munitions makers, etc. and effects of war on women including disease, displacement, rape, trafficking and prostitution, etc. Feminism and peace: Feminist peace activism and peacemaking efforts. prereq: 1000 or 2101 or 3750 or 3775 or instructor consent

**WS 3300. Women and Spirituality.**

(CDIVERSITY,HUMANITIES; 3 cr. ; A-F or Audit; Fall Odd Year)

Issues of spirituality, particularly as they relate to women, but inclusive of all genders. Examination of the impact of gender on spirituality, as well as the nature of women's diverse spiritual experiences, practices, and paths. Non-sectarian, though inclusive of multicultural religious traditions, goddess, Jungian, and earth-based perspectives. The course includes conceptual and textual analyses, as well experiential learning and practices.

**WS 3350. Women and the Law.**

(CDIVERSITY; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Examination of how U.S. laws have and continue to affect women's and men's lives on the basis of gender, with particular attention to their impact on women. Examination of current legal issues, including gender equity in education and employment, marriage and family relationship's violence against women, and reproductive issues. Feminist jurisprudence, evaluation, and analysis of the laws from various feminist perspectives.

**WS 3400. Women and Film.** (GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

American and foreign films screened, analyzed, and reviewed from a feminist perspective. Role of women in history, economics, and politics of filmmaking.

**WS 3450. Motherhood and Mothering: Institution and Experience.** (3 cr. ; A-F only; Periodic Spring)

An examination of the institution, experience, and practices of motherhood and mothering, including the social, legal, medical, cultural, and economic factors shaping motherhood in

the U.S. and elsewhere, and feminist analyses of the experience and practice of mothering across cultures. prereq: 1000 or 2101 or instructor consent

**WS 3455. American Indian Women.**

(CDIVERSITY; 3 cr. ; A-F or Audit; Fall Odd, Spring Even Year)

American Indian women in tribal societies before and after European contact; Indian women as stewards of knowledge, tradition, and society; impact of colonization; traditional and contemporary female leadership. pre-req: minimum 30 credits

**WS 3595. Special Topics: (Various Titles to be Assigned).** (; 3 cr. [max 9 cr.] ; A-F or Audit; Periodic Fall & Spring)

Topics that fall outside current curriculum. Topic announced before course is offered.

**WS 3600. Ecofeminism: Theories and Sustainable Practices.** (SUSTAIN; 3 cr. ; A-F or Audit; Spring Even Year)

In-depth study of ecofeminist theories that explore the interlocking oppressions of women, the earth/nature/other animals, and colonized Others. Scientific, economic, religious, philosophical issues examined. Applied ecofeminist analysis of individual, local, regional, national and transnational ethical, social and environmental issues, such as food and farming, animals, toxins, birthing and reproductive technologies, water quality, and privatization, etc. prereq: 1000 or 2101 or instructor consent

**WS 3628. Women in Cross-Cultural Perspective.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Cross-cultural survey of gender systems, focusing on contemporary women's lives around the world. prereq: minimum 30 credits

**WS 3750. Voices of African Women.**

(GLOBAL PER; 3 cr. ; A-F or Audit; Periodic Spring)

This course critically examines African women's daily-lived experiences. It explores the impact of global, historic, economic, and political forces, such as colonialism, neocolonialism, and current globalization impacts on their lives. This course studies the challenges of universalizing Western feminism, as a panacea to Africa women's problems. Using African eyes through African voices in texts, novels films photograph and living history, African women will be studies as knowing subject, social actors, and change agents but not as universal victims. Differences between women on the basis of class, ethnicity, religion, age sexuality, rural/urban residence, levels of education and marital status will be examined. The course will explore the rich diversity of African cultures, peoples, and natural resources. It will answer such important question as Why are African women portrayed as the poorest of the poor, victims of their cultures, traditions and African male sexism?

**WS 3775. Gender, Globalization and Food.** (SUSTAIN; 3 cr. ; Student Option; Periodic Spring)

This course offers a critical feminist examination of the impact of globalization and economic restructuring on the tangled roots and route of women's work in the food chain in both the First World and Global South. The course also offers firsthand experiences by visiting origins of food, small and large-scale farms, community gardens, organic food stores and large corporate food chain stores as well as preparing meals from ingredients that students select based on tastes and affordability. Additionally, the course brings globalization to our doorsteps through meals that students prepare and serve by answering the question What is on your plate for dinner, lunch, or breakfast, and from what countries and whose labor? Finally, the course offers in-depth analysis of the processes through which current corporate industrial mega farms lead to hunger and water famine, environmental degradation and poor health, not only the Third World but also in the First World.

**WS 3800. Feminist Activism and Community Organizing.** (4 cr. ; A-F or Audit; Every Spring)

In-depth exploration of feminist activism from practical, scholarly and historical perspectives. Integration of theory and practice on local, national and international levels. History of feminist movement, and skills, strategies, and resources for effective feminist community organizing. Understand and participate in coalition building, nonviolent communication, cross-cultural dialogue, public policy process, feminist leadership skills. Field work component. prereq: 1000 or 2101

**WS 3891. Independent Study.** (1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer)

Directed readings, research, and/or projects on topics of interest to the student not covered in regular course offerings. Students contract with an individual faculty member. prereq: 1000 or 2101, instructor consent

**WS 3897. Internship.** (1-9 cr. ; S-N or Audit; Every Fall, Spring & Summer)

Work in public agency, private organization, or service agency offering practical application of women's studies theories and/or experience not available in classroom. Students must contract with an individual faculty member and with a site supervisor, set goals, fulfill requirements for credit earned, and submit written and oral evaluations of experience. Consult the Women's Studies website and internship Moodle site for information on local agencies and internship requirements and forms. prereq: 1000, 2101, 3100, 15 cr WS or WS-related courses, WS major or minor, 53 cr, instructor consent

**WS 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**WS 4000. Seminar.** (4 cr. ; A-F or Audit; Every Spring)

Senior capstone project, as well as examination and application of feminist inquiry and research methodologies. Seminar topic varies, to be determined by students in seminar

and/or instructor. prereq: 1000, 2101, 3100, 15 cr WS or WS-related courses, WS major or minor, or instructor consent

**WS 4323. Women and Justice.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Women's involvement in the civil and criminal justice systems, both historic and contemporary, primarily in the United States. Attention given to women as criminal and civil defendants, issues of women's civil rights, and to women practitioners within each system. Intersection of social class, gender and race/ethnicities. prereq: ANTH 1604 or CRIM 1301 or SOC 1101 or WS 1000 and 60 credits, or instructor consent; no grad credit

**WS 4925. Sociology of Rape.** (3 cr. ; A-F or Audit; Periodic Spring & Summer)

Social, moral, and legal definitions and implications of rape. prereq: ANTH 1604 or CRIM 1301 or SOC 1101 or WS 1000 and 60 cr earned, or instructor consent

**WS 4947. Sociology of Gender.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Status and experiences in society through the exploration of gender identities, systems, and social structures. Topics include politics, discrimination, family, education, workplace, popular culture, and changing definitions of gender. Emphasis on the expectations and performance of masculinity/femininity and the intersection of gender, race, and class. Some consideration given to global explorations and international comparisons. prereq: 1101 or CRIM 1301 or ANTH 1604 or WS 1000 and min 60 cr, or instructor consent

**WS 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**WS 5595. Special Topics: (Various Titles to Be Assigned).** (; 3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall & Spring)

Advanced topics that fall outside current curriculum. Topic announced before course is offered. prereq: 90 cr or grad student or instructor consent

**WS 5897. Teaching Internship.** (1-2 cr. [max 4 cr.] ; S-N only; Periodic Fall & Spring)

Practical experience assisting in teaching a course within the program. Before interning for a WS course, students must obtain a grade of at least a B+ in the course they are requesting to assist. prereq: instructor consent

**WS 5991. Independent Study.** (1-3 cr. [max 6 cr.] ; A-F only; Every Fall, Spring & Summer)

Readings, research, and/or projects on topics concerning women and women's issues. prereq: 90 cr or graduate student; instructor consent

**WS 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Writing Studies (WRIT)

**WRIT 1006. Journal and Memoir Writing.**

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

Study various published and unpublished journals and memoirs, write journals and memoirs entries, and read about social context of journals and memoirs.

**WRIT 1120. College Writing.** (WRITING; 3

cr. ; A-F or Audit; Every Fall, Spring & Summer)  
New: Instruction and practice in developing information literacy and skills in critical thinking, argumentation, revision, and documentation to prepare students for writing tasks they will encounter throughout college, work, and the rest of their lives. Course assignments present challenges designed to hone competence and confidence in making writing decisions for any audience, purpose, or genre. prereq: Students speaking English as a second language must have TOEFL iBT score of 80. Students who score below 80 should be directed to AEL.

**WRIT 1506. Literacy, Technology and Society.** (HUMANITIES; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Historical survey of cultures without writing systems and cultures with writing systems and then later with printing, telegraph, radio, telephone, television, computers as well as other forms of technology. Survey of attitudes toward technology from Thoreau to Gandhi and beyond.

**WRIT 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**WRIT 2400. Language of Advertising.** (; 3

cr. ; A-F or Audit; Periodic Fall & Spring)  
Our linguistic landscape has never been more saturated with advertising, branding, messaging, and media. This course will explore the links between the markets and masses through a variety of linguistic aspects. Students will scrutinize film, journalism, podcasts, comics, and interactive experiences for language play, genderspeak, teenspeak, emerging changes in use, and representation of time and perspective.

**WRIT 2506. Theories of Writing Studies.** (; 3

cr. ; A-F or Audit; Periodic Fall & Spring)  
Considers writing itself as both a practice and an object of study. Drawing on composition, journalism, linguistics, literary studies, and rhetoric, the course offers a survey of historical, critical, and theoretical issues in writing studies. Writing assignments ask students to apply a writing studies framework to produce and analyze specific texts. prereq: WRIT 1120

**WRIT 2595. Special Topics: (Various Titles to be Assigned).** (; 3 cr. [max 6 cr.] ; A-F or Audit; Periodic Fall & Spring)

Writing studies topics not included in regular curriculum. prereq: WRIT 1120 or equivalent or instructor consent

**WRIT 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**WRIT 3100. Advanced Writing: Language and Literature.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study of writing for those invested in the disciplines involving language and literature.

Exploration of academic and professional rhetorical situations. Practice with research methods, document design, editing, effective collaboration, and ethical issues in the production of documents in multiple genres for multiple audiences. pre-req: 1) WRIT 1120 or MNTC or AA completed 2) minimum 60 credits earned

**WRIT 3110. Advanced Writing: Arts and Letters.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study of writing for those invested in the disciplines of art, design, and performing arts. Exploration of academic and professional rhetorical situations. Practice with research methods, document design, editing, effective collaboration, and ethical issues in the production of documents in multiple genres for multiple audiences. pre-req: 1) WRIT 1120 or MNTC or AA completed 2) minimum 60 credits earned

**WRIT 3121. Advanced Writing: Business and Organizations.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study of writing for those invested in the disciplines involving business and management of organizations. Exploration of academic and professional rhetorical situations. Practice with research methods, document design, editing, effective collaboration, and ethical issues in the production of documents in multiple genres for multiple audiences. pre-req: 1) WRIT 1120 or MNTC or AA completed 2) minimum 60 credits earned

**WRIT 3130. Advanced Writing: Engineering.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study of writing for those invested in the disciplines of engineering or computer science. Exploration of academic and professional rhetorical situations. Practice with research methods, document design, editing, effective collaboration, and ethical issues in the production of documents in multiple genres for multiple audiences. pre-req: 1) WRIT 1120 or MNTC or AA completed 2) minimum 60 credits earned

**WRIT 3140. Advanced Writing: Human Services.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study of writing for those invested in the disciplines of education and other fields related to human services. Exploration of academic and professional rhetorical situations. Practice with research methods, document design, editing, effective collaboration, and ethical issues in the production of documents in multiple genres for multiple audiences. pre-req: 1) WRIT 1120 or MNTC or AA completed 2) minimum 60 credits earned

**WRIT 3150. Advanced Writing: Science.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study of writing for those invested in the disciplines of mathematics and life and physical sciences. Exploration of academic and professional rhetorical situations. Practice with research methods, document design, editing, effective collaboration, and ethical issues in the production of documents in multiple genres for

multiple audiences. pre-req: 1) WRIT 1120 or MNTC or AA completed 2) minimum 60 credits earned

**WRIT 3160. Advanced Writing: Social Sciences.** (; 3 cr. ; A-F or Audit; Every Fall, Spring & Summer)

Study of writing for those invested in the disciplines of social sciences and related fields. Exploration of academic and professional rhetorical situations. Practice with research methods, document design, editing, effective collaboration, and ethical issues in the production of documents in multiple genres for multiple audiences. pre-req: 1) WRIT 1120 or MNTC or AA completed 2) minimum 60 credits earned

**WRIT 3170. Advanced Writing: Professional Writing.** (3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Study and practice of writing tasks in professional and technical writing careers, particularly in the field of medical writing. Exploration of rhetorical situations in professional practice, including research methods, document design, editing, effective collaboration, and ethical issues in the production of professional documents, such as instructions, proposals, short and long reports, and career documents. pre-req: 1) WRIT 1120 or MNTC or AA completed 2) minimum 60 credits earned

**WRIT 3180. Honors: Advanced Writing.** (; 3 cr. ; A-F only; Periodic Fall & Spring)

Study of writing for those currently enrolled in UMD's Honors Program. Exploration of academic and professional rhetorical situations. Practice with research methods, document design, editing, effective collaboration, and ethical issues in the production of documents in multiple genres for multiple audiences. pre-req: 1) WRIT 1120 or MNTC or AA completed 2) minimum of 60 credits earned 3) UMD honors student, or instructor consent

**WRIT 3190. Advanced Writing: Professional Writing.** (3 cr. ; A-F or Audit; Periodic Fall, Spring & Summer)

Study and practice of writing tasks in professional writing careers. Exploration of rhetorical situations in professional practice, including research methods, document design, editing, effective collaboration, and ethical issues in the production of professional documents, such as instructions, proposals, short and long reports, and career documents. pre-req: WRIT 1120, MNTC or AA completed; minimum of 60 credits

**WRIT 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**WRIT 4100. Introduction to Grant Writing and Project Planning.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Introduction to basic grant writing principles, including common types of grants, project planning, locating and researching funders, and writing effective narratives, preparing budgets, and evaluating program outcomes. Course utilizes lectures, discussion, group work, and

guest speakers. pre-req: 1120, min 60 cr, no grad credit

**WRIT 4197. Internship in Writing.** (1-3 cr. [max 6 cr.] ; S-N only; Every Fall, Spring & Summer)

Practical writing experience with a media organization, publisher, business, or government agency. pre-req: instructor consent, no grad credit

**WRIT 4200. Writing and Cultures.** (; 3 cr. ; A-F only; Spring Odd Year)

Through historical, theoretical and applied lenses, examines the dialectic between writing and culture, that is, how writing shapes culture and, conversely, how culture shapes writing. Specific concepts (access, agency, community, identity and power) relevant to understanding how cultures and the social relations that constitute them are constructed and maintained will be examined in detail. pre-req: 1120, minimum 60 cr

**WRIT 4220. Document Design and Graphics.** (; 3 cr. ; A-F or Audit; Periodic Spring)

Principles and practice of using computer programs to design, create, and print documents that effectively integrate verbal and graphic texts. pre-req: 1120, min 60 cr, no grad credit

**WRIT 4222. Electronic Publication.** (; 4 cr. ; A-F or Audit; Periodic Fall)

Introduces students to recent developments in the creation of books, journals and newsletters in electronic form and acquaints them with the conversion of print into electronically distributed form.

**WRIT 4230. Web Design and Digital Culture.** (3 cr. ; A-F or Audit; Periodic Fall & Spring)

Practice in the aesthetic, cultural, and rhetorical uses of Web-design techniques, including discussion and writing about the theoretical and historical contexts of digital culture. pre-req: Min 30 cr, no grad credit

**WRIT 4250. New Media Writing.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Combines the theory and production of new media writing--digital, verbal practices in converged media--through the application of readings and discussion to five projects that progress from written, print-based genres to new-media presentation. pre-req: minimum 60 cr, no grad credit

**WRIT 4260. Visual Rhetoric and Culture.** (; 3 cr. ; A-F only; Every Fall)

In addition to teaching the mechanics of graphic production, this class draws widely on the disciplines of digital design, statistics, narrative literature, engineering, and technical writing to enable students to conceive, produce, and write about visual texts critically and effectively. pre-req: minimum 60 cr, no grad credit

**WRIT 4300. Research Methods for the Study of Writing.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)

Provides students with instruction and practice in critiquing research, generating research questions, designing research projects, and

reporting research results in the study of writing. prereq: 1120, min 60 cr, no grad credit

**WRIT 4506. Capstone Course: Senior Portfolio Preparation.** (; 1 cr. ; S-N or Audit; Every Fall & Spring)  
Required capstone course for all writing studies majors. Portfolios for multiple purposes will be prepared under the guidance of the student's adviser. prereq: Min 90 cr, writing studies major

**WRIT 4591. Independent Study.** (1-3 cr. [max 6 cr.] ; A-F or Audit; Every Fall, Spring & Summer)  
Students choose projects with their instructor. prereq: instructor consent, no grad credit

**WRIT 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

**WRIT 5100. Introduction to Grant Writing and Project Planning.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Introduction to basic grant writing principles, including common types of grants, project planning, locating and researching funders, and preparing effective narratives and budgets. Course utilizes lectures, discussion, group work, and guest speakers. prereq: Credit will not be granted if already received for Comp 5100, Coll Grad or Grad student

**WRIT 5197. Internship in Writing.** (1-3 cr. ; S-N only; Every Fall, Spring & Summer)  
Practical writing experience with a media organization, publisher, business, or government agency. prereq: instructor consent, Coll Grad or Grad student

**WRIT 5220. Document Design and Graphics.** (; 3 cr. ; A-F or Audit; Every Spring)  
Principles and practice of using computer programs to design, create, and print documents that effectively integrate verbal and graphic texts. prereq: Credit will not be granted if already received for Comp 5220, max 3 cr may be applied to Grad prog

**WRIT 5230. Web Design and Digital Culture.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Practice in the aesthetic, cultural, and rhetorical uses of Web-design techniques, including discussion and writing about the theoretical and historical contexts of digital culture. prereq: Credit will not be granted if already received for Comp 5230, Grad student

**WRIT 5250. New Media Writing.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Combines the theory and production of new media writing--digital, verbal practices in converged media--through the application of readings and discussion to five projects that progress from written, print-based genres to new-media presentation. prereq: Credit will not be granted if already received for WRIT 4250, Grad student

**WRIT 5260. Visual Rhetoric and Culture.** (; 3 cr. ; A-F only; Every Fall)  
In addition to teaching the mechanics of graphic production, this class draws widely on the disciplines of digital design, statistics, narrative literature, engineering, and technical

writing to enable students to conceive, produce, and write about visual texts critically and effectively.

**WRIT 5300. Research Methods for the Study of Writing.** (; 3 cr. ; A-F or Audit; Periodic Fall & Spring)  
Provides students with instruction and practice in critiquing research, generating research questions, designing research projects, and reporting research results in the study of writing. prereq: Coll Grad or Grad student

**WRIT 5591. Independent Study.** (1-3 cr. [max 6 cr.] ; Student Option; Every Fall, Spring & Summer)  
Students choose projects with their instructor. prereq: College grad or grad student, credit will not be granted if already received for Comp 5991, max 3 cr may be applied to Grad prog, instructor consent

**WRIT 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Zoology (ZOO)

**ZOO 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Zoology (ZOOL)

**ZOOL 1999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Zoology (ZOO)

**ZOO 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Zoology (ZOOL)

**ZOOL 2999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Zoology (ZOO)

**ZOO 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Zoology (ZOOL)

**ZOOL 3999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Zoology (ZOO)

**ZOO 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Zoology (ZOOL)

**ZOOL 4999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Zoology (ZOO)

**ZOO 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent

## Zoology (ZOOL)

**ZOOL 5999X. Non Direct Equivalent.** (0-999 cr. ; Transfer Grading Basis; )  
Non Direct Equivalent